

BULLETIN OF THE UNIVERSITY OF NEW MEXICO

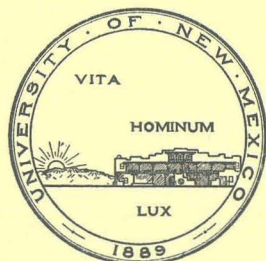
CATALOGUE SERIES NO. 31. WHOLE NO. 90

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THE  
UNIVERSITY OF NEW MEXICO

TWENTY-SEVENTH ANNUAL CATALOGUE

1917



ANNOUNCEMENTS

1918

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ALBUQUERQUE  
PUBLISHED BY THE UNIVERSITY  
JANUARY, 1918

## 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.

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.

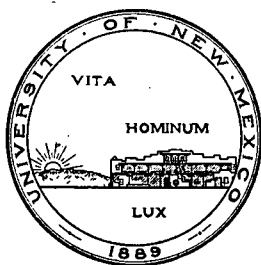
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PRESS OF THE EVENING HERALD  
ALBUQUERQUE, N. M.  
1918

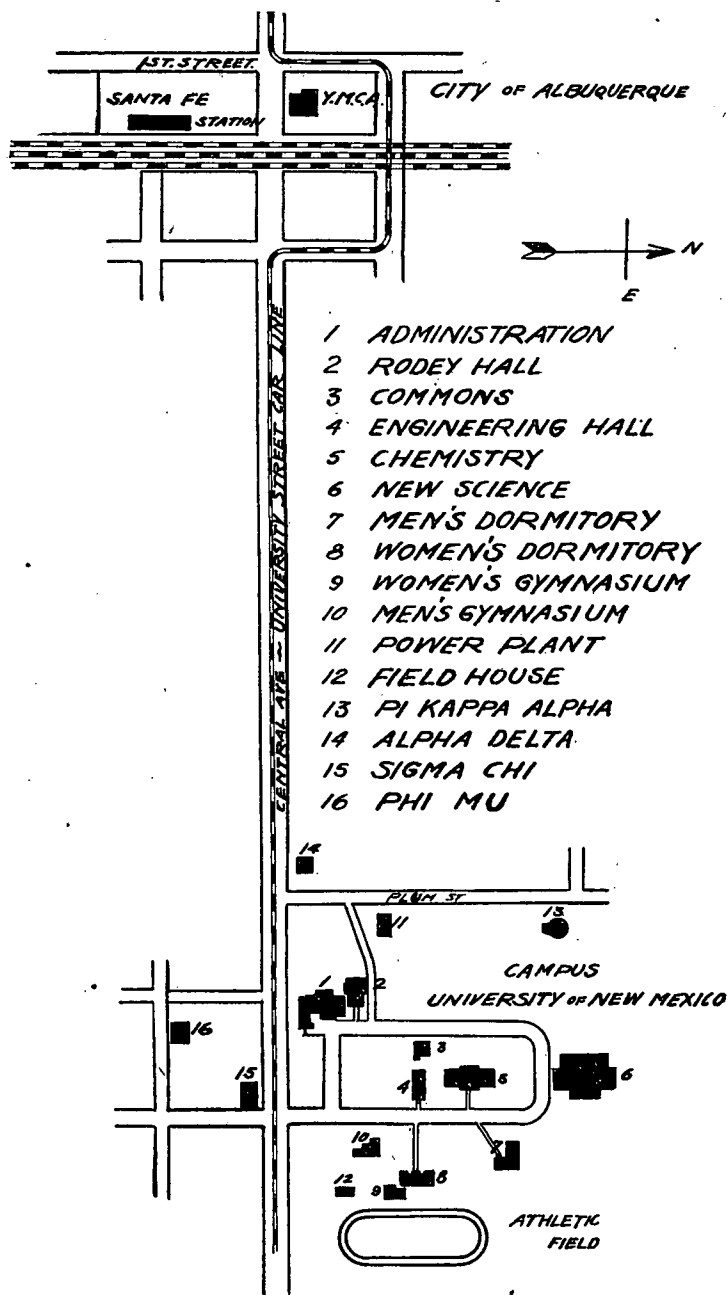
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# MAP OF THE UNIVERSITY AND ALBUQUERQUE.



OCTOBER, 1917							NOVEMBER, 1917							DECEMBER, 1917						
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	6	..	..	..	..	1	2	3	..	..	..	..	..	..	1
7	8	9	10	11	12	13	4	5	6	7	8	9	10	..	3	4	5	6	7	8
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
28	29	30	31	..	..	..	25	26	27	28	29	30	..	23	24	25	26	27	28	29
..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..
JANUARY, 1918							FEBRUARY, 1918							MARCH, 1918						
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
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23
27	28	29	30	31	..	..	24	25	26	27	28	..	..	24	25	26	27	28	29	30
..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	..	..	..	..	..	..
APRIL, 1918							MAY, 1918							JUNE, 1918						
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	6	..	..	1	2	3	4	..	..	..	..	..	..	1	2
7	8	9	10	11	12	13	5	6	7	8	9	10	11	..	3	4	5	6	7	8
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
28	29	30	..	..	..	..	26	27	28	29	30	31	..	23	24	25	26	27	28	29
..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	..	..	..	..	..	..
JULY, 1918							AUGUST, 1918							SEPTEMBER, 1918						
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	6	..	..	..	1	2	3	4	1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31	..	..	..	25	26	27	28	29	30	31	29	30	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
OCTOBER, 1918							NOVEMBER, 1918							DECEMBER, 1918						
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	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31	..	..	24	25	26	27	28	29	30	29	30	31	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

## UNIVERSITY CALENDAR

1917.

### Autumn Quarter.

October 1, Monday—Registration Day for new students resident in Albuquerque.

October 2, Tuesday—Registration Day for all other new students.

October 3, Wednesday—Instruction begins in all departments.

November 29-December 2, Thursday-Saturday—Thanksgiving Recess.

December 13-19, Thursday-Wednesday—Registration Week for old students for Winter Quarter.

December 20-22, Thursday-Saturday—Quarter Examinations.

1918.

### Winter Quarter.

January 7, Monday—Registration Day for new students.



January 8, Tuesday—Instruction begins in all departments.

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

March 21-27, Thursday-Wednesday—Registration Week for old students for Spring Quarter.

March 28-30, Thursday-Saturday—Quarter Examinations.

#### Spring Quarter.

April 1, Monday—Registration Day for new students.

April 2, Tuesday—Instruction begins in all departments.

May 10-11, Friday-Saturday—Annual Interseholastic Track and Field Meet.

May 30, Thursday—Memorial Day, holiday.

June 3-8, Monday-Saturday—Registration Week for old students for Summer Quarter.

June 9, Sunday—Baccalaureate Sunday.

June 10-12, Monday-Wednesday—Quarter Examinations.

June 13, Thursday—Phi Kappa Phi Address, and University Concert.

June 14, Friday—Last University Assembly, Commencement, Alumni Association Annual Meeting and Dinner, and University Dramatic Association Play.

#### Summer Quarter—First Term.

June 15, Saturday—Registration Day for new students resident in Albuquerque.

June 17, Monday—Registration Day for all other new students.

June 18, Tuesday—Instruction begins in all departments.

July 4, Thursday—Independence Day, holiday.

July 24-25, Wednesday-Thursday—Examinations for First Term of Summer Quarter.

#### Summer Quarter—Second Term.

July 24-25, Wednesday-Thursday—Registration Days for new students.

July 26, Friday—Instruction begins in all departments for Second Term of Summer Quarter.

August 22-28, Thursday-Wednesday—Registration Week for old students for Autumn Quarter.

August 29-31, Thursday-Saturday—Examinations for Second Term of Summer Quarter.

#### Autumn Quarter.

September 30, Monday—Registration Day for new students resident in Albuquerque.

October 1, Tuesday—Registration Day for all other new students.

October 2, Wednesday—Instruction begins in all departments.

November 28-December 1, Thursday-Sunday—Thanksgiving Recess.

December 12-18, Thursday-Wednesday—Registration Week for old students for Winter Quarter.

December 19-21, 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 VIOLIN.

CURRICULUM IN VOICE.

CURRICULA IN EDUCATION.

FOUR-YEAR CURRICULUM IN EDUCATION.

TWO-YEAR CURRICULUM IN EDUCATION.

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.

CURRICULUM IN HOME ECONOMICS.

DIVISION OF UNIVERSITY EXTENSION.

DIVISION OF PHYSICAL TRAINING AND ATHLETIC SPORTS.

DIVISION OF PREPARATORY STUDIES.

## REGENTS OF THE UNIVERSITY.

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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

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## OFFICERS OF ADMINISTRATION.

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### 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. University Hill.

Dean: LYNN BOAL MITCHELL. Adm. 10, 10 and 2. University Hill.

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

Registrar, and Executive and Student Employment Secretary: A. S. HUNT. Adm. 10, 10-12. University Hill.

Librarian: DELLA J. SISLER. Adm. 14, 9-12. University Hill.

Assistant Librarian: DAPHNE HARRIET FORTNEY. Adm. 14, 9-12. University Hill.

Director of the College of Fine Arts: E. STANLEY SEDER. Ro. M W F 3. 710 East Central.

Chairman of the Curricula in Education: CHARLES E. HODGIN. Adm. A, 9:30. University Hill.

Chairman of the College of Engineering: WARD L. RAY. Eng. 3a, 11. Occidental Building.

Chairman of the Curriculum in Home Economics: FRANCES E. LATHROP. Adm. B, 10. University Hill.

Director of the Division of University Extension: CLARENCE E. BONNETT. Adm. 20, 1. 120 South Edith.

Student Adviser: ETHEL HICKEY. Adm. 25, T Th 10 and M W F 1. 111 North Walter.

Proctor of the Men's Dormitory: A. W. WAND. Adm. 30, 8 and 10. University Hill.

Matron of the Women's Dormitory: FRANCES E. LATHROP. Adm. B, 10. 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, and Chairman of the Curricula in, 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. 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.

**\*CHARLES T. KIRK, Professor of Geology.**

Eng. 6a, M T W Th 11.

406 South High.

B. S. (Geology), University of Oklahoma, 1904, M. A. (Geology), 1905; Ph. D. (Geology), University of Wisconsin, 1911. Superintendent of Schools, Norman, Oklahoma, 1904; Instructor in Geology, State School of Mines, Butte, Montana, 1906-1908; Fellow and Extension Instructor in Geology, University of Wisconsin, 1908-1910; Instructor and Assistant Professor of Geology, Hunter College, New York, 1910-1913; Professor of Geology, University of New Mexico, 1913—. Field Assistant, Statistician, Junior Geologist, U. S. Geological Survey, 1903-1911; Geologist, Oklahoma Oolite Stone Co., Oklahoma City, Oklahoma, 1906; Mine research, Butte, Montana, 1909; Director, University of New Mexico Land Survey, 1913—; State Geologist, New Mexico, 1913—; consultation work. Sigma Xi, Phi Kappa Phi, Geological Society of America, American Institute of Mining Engineers, New York Academy of Sciences (Secretary, Geological Section, 1913), New Mexico Geographic Society (Secretary, 1915-1916), New Mexico Association for Science (President, 1915-1916), New Mexico Committee of American Mining Congress.

\*Resigned.

**LYNN BOAL MITCHELL**, Professor of the Latin and Greek Languages and Literatures, 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—, 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.

**CLARENCE ELMORE BONNETT**, Professor of Economics and Government, and Director of Division of University Extension.

Adm. 22, 1.

120 South Edith.

Student, Grand River College, 1901-1903; B. Pd., Missouri State Normal School, 1906; B. S. in Education, University of Missouri, 1908, A. B., 1909, Graduate Student in Economics, 1909-1910; University of Chicago, 1910-1913. Teaching Fellow, University of Missouri, 1909-1910; Assistant in Economics, University of Chicago, 1910-1913, Extension Instructor, 1909-1914; Professor of Economics and Government, University of New Mexico, 1913—. Psi Xi.

**\*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.

\*On leave of absence, first half-year, 1917-1918.

**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.

**DEAN A. WORCESTER**, Professor of Psychology and Philosophy.

Eng. 2a, 10.

112 South Harvard.

A. B. University of Colorado, 1911, Graduate Student, Summer Sessions, 1912, 1915. Supervisor of Schools, District of Zamboanga, Philippine Islands, 1913-1914; Associate Professor of Psychology and Philosophy, University of New Mexico, 1914-1915, Professor, 1915—. Assistant, Juvenile Psychopathic Institute, Chicago, 1916; Professor of General Psychology, Kansas State Normal School, Summer Session, 1917. Phi Kappa Phi.

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

Adm. 25, 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—.

**DELLA J. SISLER**, Librarian, and Professor of Library Economy.

Adm. 14, 9-12.

1717 East Gold.

B. L. S., University of Illinois, 1905. Graduate Student, University of Colorado, Summer Session, 1914; University of Wisconsin, Summer Session, 1916. Library Cataloguer, Kansas State Normal School, 1900-1903; Librarian and Instructor in History, University of New Mexico, 1905-1906, Librarian and Associate Professor of Library Economy, 1906-1916, Professor, 1916—. Phi Kappa Phi.

**ANTHONY W. WAND**, Professor of Civil Engineering, and Proctor.

Adm. 30, 8 and 10.

University Hill.

B. S., University of Illinois, 1912. Assistant Superintendent of Construction, General Cement Gun Company, Chicago, Illinois, 1912-1914; Instructor in Civil Engineering, University of New Mexico, 1914-1915, Associate Professor, 1915-1916, Professor, 1916—. Phi Kappa Phi; Associate Member, American Society of Civil Engineers.

**WARD L. RAY**, Professor of Physics and Electrical Engineering, and Chairman of the College of Engineering.

Eng. 3a, 11.

Occidental Building.

A. B., University of Oregon, 1908; A. M., University of Wisconsin, 1910. Graduate Student, University of Berlin, 1910-1911; University

of Michigan, Summer Sessions, 1913, 1917. Principal of Silverton (Oregon) High School, 1908-1909; Professor of Physics and Chemistry, William and Vashti College, 1911-1917, Dean, 1913-1914, Acting President, 1914-1915, President, 1915-1917; Professor of Physics and Electrical Engineering, University of New Mexico, 1917—.

**FRANCES E. LATHROP**, Associate Professor of, and Chairman of the Curriculum in, Home Economics, and Matron.  
Adm. B, 10. University Hill.

Ph. B., Des Moines College; Student, University of Colorado, Summer Session; University of Iowa, Summer Session; Iowa Agricultural College, Summer Session; B. S., Colorado Agricultural College, 1915. Associate Professor of Home Economics, University of New Mexico, 1916—. Extension Demonstrator, New Mexico Agricultural College, 1917.

**ARNO K. LEUPOLD**, Associate 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—.

**BENITO FRANCES**, Associate Professor of the Romance Languages and Literatures.

Adm. 23a, T Th 10-12.

B. L., University of Madrid, 1903. Graduate Student, University of Liege, 1904-1909. Instructor in Spanish and French, Berlitz School, New York and Chicago, 1911-1913; Gordon Detwiler Institute, New York, 1914-1915; H. Tilden Technical High School, Chicago, 1915-1916; Frances Institute, New York, 1916; Pan-American Institute, Philadelphia, 1917; Associate Professor of the Romance Languages and Literatures, University of New Mexico, 1917—.

**WALTER PRICHARD**, Associate Professor of History.

Adm. 20, 11 and 2.

Y. M. C. A.

A. B. (History), Indiana University, 1914, A. M. (History), 1915. Graduate Student in History, University of Chicago, Summer Quarter, 1914; Indiana University, 1914-1916; University of Illinois, 1916-1917. Teaching Fellow in European History, Indiana University, 1914-1915, Assistant in History and Political Science, 1915-1916; Research Assistant in Illinois History, University of Illinois, 1916-1917; Associate Professor of History, University of New Mexico, 1917—. Foreign travel, 1909.

**FRANK EDWIN WOOD**, Associate Professor of Mathematics.

Adm. 31.

University Hill.

A. B., Baker University, 1912; A. M., Kansas University, 1914. Graduate Student, Kansas State Agricultural College, Summer Quarter, 1912; University of Chicago, Summer Quarter, 1917. Graduate Fellow in Mathematics, Kansas University, 1912-1914; Princeton University,



1914-1916; Instructor in Mathematics, Northwestern University, 1916-1917; Associate Professor of Mathematics, University of New Mexico, 1917—. Alpha Delta Sigma, Sigma Xi.

**E. STANLEY SEDER**, Assistant Professor of Piano, Theory of Music, and Voice, and Director of the College of Fine Arts.

Ro., M W F 3.

710 East Central.

B. A., University of New Mexico, 1914. Assistant Professor of Piano, Theory of Music, and Voice, and Director of the College of Fine Arts, University of New Mexico, 1914—. Fellow, American Guild of Organists; Phi Kappa Phi.

**E. LEROY YOTT**, Instructor in Violin.

Ro.

Student, American Conservatory, Chicago, 1910-1911, Summer, 1915. Instructor in Violin, University of New Mexico, 1916—.

**ROSALINA ESPINOSA**, Instructor in the Romance Languages and Literatures.

Adm. 23a, —

B. A., University of Colorado, 1917. Instructor in the Romance Languages and Literatures, University of New Mexico, 1917—.

**JOHN WALTER GRUNER**, Instructor in Geology and the German Language and Literature.

Eng. 1a, M W F 9.

University Hill.

Graduate, Gymnasium, Breslau, 1911; B. A., University of New Mexico, 1917. Assistant Civil Engineer, New York Central Lines, 1913-1915; Instructor in Geology and the German Language and Literature, University of New Mexico, 1917—.

**ETHEL LOUISE KIEKE**, Instructor in Home Economics.

Adm. B.

B. S. in Home Economics, University of New Mexico, 1917. Instructor in Home Economics, University of New Mexico, 1917—. Phi Kappa Phi.

**PAUL LYNN MENAUL**, \*Instructor in Animal Biology and Botany.

Chem. 8, 1.

B. A., University of New Mexico, 1915, M. A., 1917. Instructor in Science, Alamogordo High School, 1915-1916; Instructor in Animal Biology and Botany, University of New Mexico, 1917—.

**JOSEPH BERNHARDT ROSENBACH**, Instructor in Mathematics.

Adm. 31, T Th 10 and M W F 1.

801 North Fourth.

B. A., University of New Mexico, 1917. Graduate Student, University of Colorado, Summer Session, 1917. Engineer of Maintenance, Atchison, Topeka and Santa Fe Railway, Summers, 1916, 1917; Instructor in Mathematics, University of New Mexico, 1917—. American Mathematical Society, Mathematical Association of America.

\*First half-year, 1917-1918.

## COMMITTEES OF THE FACULTY.

The first named member of each committee is chairman.

Admission and Standing: MITCHELL, WEESE, RAY, SHERWIN.

Schedule and Curriculum: RAY, BONNETT, MITCHELL, WAND, FRANCES.

Graduate Study: CLARK, MITCHELL, WEESE, RAY, PRICHARD, WOOD.

Publications: HODGIN, BOYD, SHERWIN.

Catalogue: SHERWIN.

University News: HODGIN.

Library: SISLER.

Relations with Secondary Schools: HODGIN, MITCHELL, WORCESTER.

Public Exercises: CLARK, HICKEY, SEDER.

Student Affairs: CLARK, WEESE, HICKEY, SHERWIN, RAY.

Audit of Student Accounts: PRICHARD, WAND, WOOD.

Student Eligibility: WORCESTER, PRICHARD, WOOD.

Athletic Council (Faculty Representatives): WEESE, CLARK.

Literary Contests (Faculty Representatives): WORCESTER, PRICHARD.

# 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 called 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 was very attractive to Dr. Tight as it seemed 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 began to formulate 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. Dr. Gray's 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 1909-10 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, a man of the West, 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 to make 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 was secured 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 the confederate states 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 and President Boyd, 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. Less emphasis has been placed on the preparatory studies, as high schools in the state have been increasing in numbers and improving the character of their work. However, to accommodate students from communities where high schools are not established, or are not adequate, preparatory students are yet admitted for the third and fourth years' work. A beginning has been made in university extension and correspondence work 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.

During the administration of President Boyd the University has become better known both within and without the state than ever before, and the college enrollment has been materially increased. Publicity, through printed matter and letters sent out from the University, and through press articles, has brought about this wider acquaintance, the newspapers of the state having aided liberally in advancing the interests of the institution. By the president's frequent visits to New Mexico high schools and to various communities throughout the state, and by his public addresses, he has personally and persistently brought the University to the attention of the people, and has constantly emphasized the fact that the institution is not a local school at Albuquerque, but that it is the State University belonging to all the people of New Mexico.

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. The enrollment of men in the University is more than cut in half and may be still further reduced by the numbers of those now engaged and in the near future to be engaged in agricultural and industrial services and in the military and naval forces of the nation. Many alumni and former students are similarly engaged.

## 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 high schools 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, at the disposal of any person who desires and has sufficient qualifications to use them, all with the least possible restriction.

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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Authorities upon the climatic conditions of the American continent in their relation to health and disease, are agreed in declaring that 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 very 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.

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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, the swimming pool, and the UNIVERSITY FIELDHOUSE, the latter 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 contains at present over 16,000 volumes, exclusive of duplicates and unbound pamphlets. This number includes both the main library and the departmental libraries which are shelved in rooms adjoining the lecture rooms.

In exchange for the Bulletins of the University the Library receives a large number of valuable scientific publications. There are now more than one hundred and fifty societies and universities on the exchange list. In addition, over one hundred learned and semi-popular magazines and periodicals are subscribed for.

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

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

The main 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 1917 were: Daphne Harriet Fortney, Ethel Louise Kieke, Fern Hazel Reeves, Pryor Brown Timmons.

## STUDENT ORGANIZATIONS.

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There is in the University a general Student Body organization to the control of which all lesser organizations of general interest are subordinate. These include the editorial and managerial boards of the newspaper, *The U. N. M. Weekly*, and the year-book, *The Mirage*. The Dramatic Association presents each year a play or a musical comedy. Several musical organizations,—the Orchestra, the Band, the Chorus, and the Glee Club—have been built up under the leadership of Assistant Professor Seder. Oratorical and debating contests occupy the attention of those interested for several months of the year. Debates are held with the Universities of Arizona and Southern California, and the New Mexico Agricultural College. Representatives of other institutions will be met in the future. The University takes part in the oratorical contest held each year at the meeting of the State Educational Association. All students are members of the Athletic Association, which, under the control of the Athletic Council, directs all local and intercollegiate athletic events. The University was admitted to the Rocky Mountain Conference in 1916.

Besides these organizations of general interest, there are others independent of the general Student Body control. These include the Y. M. C. A., the Y. W. C. A., *El Circulo Espanol*, the German Club, the Tennis Club, and the Rifle Club, which is affiliated with the National Rifle Association, and holds shoots at various times throughout the year.

There are two national fraternities and one local fraternity among the men of the University, and one national and two local fraternities among the women. They have organized a local Panhellenic Association to regulate "rushing" and other matters of common interest. Several of the fraternities own houses.

# ADMISSION TO THE UNIVERSITY.

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## 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 or Curriculum in which the student desires to matriculate.

## ADMISSION TO THE COLLEGES AND CURRICULA.

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 or Curriculum of the University. But conditional admission is granted students offering not less than thirteen 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, AND THE  
CURRICULUM IN HOME ECONOMICS.

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).....	$\frac{1}{2}$ -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 CURRICULA IN EDUCATION.

List A.

English .....	3 units
Foreign Language (in one language).....	2 units
History and Civics (Ancient and U. S. History and Civics).....	2 units
Algebra .....	1 unit
Geometry, Plane .....	1 unit
Laboratory Science .....	1 unit
Physiology .....	$\frac{1}{2}$ unit
Total prescribed .....	10 $\frac{1}{2}$ units
From List B.....	2 $\frac{1}{2}$ -4 $\frac{1}{2}$ units
From List C .....	$\frac{1}{2}$ -2 units
Total, to make.....	15 units

FOR ADMISSION TO THE COLLEGE OF ENGINEERING.

List A.

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



The matriculant must offer the subjects contained in List A for admission to the College or Curriculum 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 or Curriculum. 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, but the maximum amount from this list accepted for entrance to the Curricula in Education is two units.

#### 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 and Curricula of the University is indicated above. The maximum that will be accepted in any one subject contained in the group is shown below.

Agriculture .....	$\frac{1}{2}$ -2 units
Home Economics (Domestic Science).....	$\frac{1}{2}$ -3 units
Manual Training and Arts .....	$\frac{1}{2}$ -2 units
Commercial Subjects .....	$\frac{1}{2}$ -4 units
Musie .....	$\frac{1}{2}$ -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 wil 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: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

**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, XVII.

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—Shakespeare.

Midsummer Night's Dream,	Richard II,	
Merchant of Venice,	Richard III,	
As You Like It,	Henry V,	
Twelfth Night,	Coriolanus,	
Tempest,	Julius Caesar,	} If not chosen
Romeo and Juliet,	Macbeth,	} for study
King John,	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 to 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.  
 Blackmore: Lorna Doone.  
 Hughes: Tom Brown's Schooldays.  
 Stevenson: Treasure Island, or Kidnapped, or Master of Ballantrae.  
 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.  
 A collection of Short-Stories by various standard writers.

#### Group IV—Essays, Biography, 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.  
 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 essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arbly.  
 Trevelyan: Selections from the Life of Macaulay (about 200 pages).  
 Ruskin: Sesame and Lilies, or Selections (about 150 pages).  
 Dana: Two Years Before the Mast.  
 Lincoln: Selections, including at least 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.  
 Thoreau: Walden.  
 Lowell: Selected Essays (about 150 pages).  
 Holmes: The Autocrat of the Breakfast Table.  
 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.  
 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).

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, Ivry.

Tennyson: The Princess; or Gareth and Lynette, Lancelot and Elaine, 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, and The Forsaken Merman.

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

**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 either Comus or Lycidas.

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

The selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's Golden Treasury (First Series).

**Group III—Oratory.**

Burke: Speech on Conciliation With America.

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

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

**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 and the Curriculum in Home Economics 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.

It is recommended that pupils 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. No attempt is made in what follows to give more than a general outline for the work of successive years, but the department of German Language and Literature welcomes inquiries from teachers who wish further suggestions in the planning of courses.

**First year's work.**—At the end of the year pupils should be able 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 500 pages of modern writers should be read, preference being given to material which has a distinctly German atmosphere and which lends itself readily to conversational treatment in the classroom. The regular 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 still be devoted to good modern prose. There should be some work in advanced prose composition—based on German models—and the daily recitations should continue to afford abundant oral practice. Pupils ought by this time to understand spoken German fairly well.

**Fourth year's work.**—At the end of this year a pupil should be able to read at sight any prose or verse of moderate difficulty. He should also be able to express himself orally or in writing with considerable readiness and a high degree of accuracy. It is recommended that work in composition take the form of free reproduction of portions of the texts studied rather than translation of English selections. The reading should be divided about equally between modern and classical authors.

## 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's work.**—Elementary grammar, including thorough drill in the irregular verbs; careful training in pronunciation, and translation of simple Spanish when spoken; reading of about 100 pages of easy prose; simple composition and dictation.

**Second year's work.**—In addition to the foregoing, about 300 pages of modern prose; elementary syntax; dictation, composition, and translation of spoken Spanish continued.

### 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. Two units are required for admission to the Curricula in Education: namely, Ancient History, 1 unit, and American History and Civics, 1 unit. 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', Ancient, 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 Burch and Nearing: *Economics*. One of these must be mastered. Reference books should be available to the students.

## 4. GROUP OF MATHEMATICS.

One unit of Algebra and one unit 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 as far as Quadratics, including the elementary operations of polynomials and fractions, the solution of linear equations, simple factoring, simple powers, and roots. It is expected that the work be accompanied by graphical methods in the solution of equations of all types, and in the explanation of other topics.

**2. Algebra.**—One and one-half units. Complete elements of algebra, including the above, and, in addition, thorough work on quadratic equations, such as is given by textbooks like those of Young and Jackson or Slaughter and Lennes.

**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.

**5. Algebra.**—Additional half unit. This is to be taken after the completion of the unit and a half outlined above in 2 and should cover all work included in the usual advanced courses.

**6. Trigonometry.**—One-half unit. The work should cover the field

of plane trigonometry, as given in standard textbooks, including the solution of right and oblique triangles. Special emphasis should be placed upon the solution of practical problems, trigonometric identities, and trigonometric equations.

## 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 will be considered as part of the examination.

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 in 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 motions, 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 except that only two units in industrial subjects are accepted towards entrance to the Curricula in Education. 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 possible. 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 Huffcut: *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.

Candidates for the Master's degree 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.....	\$2.00
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.

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

College of Arts, Philosophy, and Sciences:

Freshmen and Sophomores: Committee on Admission and Standing.

Juniors and Seniors: Major Instructor.

Curriculum Preparatory to Law: Professor BONNETT.

Curriculum Preparatory to Medicine: Professor WEESE.

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

College of Fine Arts: Assistant Professor SEDER.

Curricula in Education: Professor HODGIN.

College of Engineering:

Curriculum in Chemical Engineering: Professor CLARK.

Curriculum in Civil Engineering: Professor WAND.

Curriculum in Electrical Engineering: Professor RAY.

Curriculum in Geological Engineering: Professor KIRK.

Curriculum Preparatory to Mechanical Engineering: Professor RAY.

Curriculum Preparatory to Mining Engineering: Professor KIRK.

Curriculum Preparatory to Sanitary Engineering: Professor WAND.

Curriculum in Home Economics: Associate Professor LATHROP.

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, language practice, orchestra, chorus, or Physical Training earns a maximum of one-half credit hour. One class hour in Piano, Violin, 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 B. A. or B. F. A. degree may register for more than 17 credit hours, nor any candidate for a B. S. degree for more than 20 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 20 or 21 credit hours respectively.

#### MINIMUM SCHEDULE

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

### 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 respec-

tively 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.

#### 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 two credit hours. For every 15 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 and Curricula 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.

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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.

PAUL LYNN MENAUL, Instructor.

**Group IIIB, Biology.**—The requirement in this group may be met by any 11 hours, chosen from the courses open to Freshmen, in Animal Biology and Botany.

**Major course.**—To obtain recognition for a major course in this department the student must present credits in courses 1, 2, 3, and 191 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 18 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: Animal Biology 1 and Chemistry 1-2. Laboratory work, 1h. 4 hours, spring 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. (Not given in 1918-1919.)

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, spring quarter.

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

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, winter quarter.

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 1918-1919.) 5 hours, winter quarter.

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, winter quarter.

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 plant and animal life. Prerequisites: Animal Biology 1, 2, and 3, and Botany 14, or their equivalent. Laboratory and field work, 3h. 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, winter quarter.

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

191, 192, 193. **Thesis** for students whose major has been elected in this department, and research for graduates.

## BOTANY.

ASA ORRIN WEESE, Professor.

PAUL LYNN MENAUL, Instructor.

**Group IIIB, Biology.**—The requirement in this group may be met by courses 14, 15, and 19 (3 hours), or 14 and 91. For other combinations see Animal Biology.

**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 18 hours in Biology, of which at least 15 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, 1h. 4 hours, autumn quarter.

### For Advanced Undergraduates and Graduates.

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 Biology. 3 hours, spring quarter.

171, 172. **Advanced work** along the lines indicated by the above introductory courses may be elected by students having proper preparation. Problems. Semi-independent work. Details must be arranged in consultation with the professor in charge.



## CHEMISTRY.

JOHN D. CLARK, Professor.

**Group requirements.**—The requirements in Group IIIA may be satisfied by courses 1-2.

**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, 5h. 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. Practice experiments will be performed with the aid of students in the determination of vapor density, molecular weights, specific heats, etc., and the study of isomorphisms, the phase rule, etc., will take up much of the time. Prerequisites: 1, 2, 51, and 52. (Given in alternate years.) 4 hours each.

**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.**

**171, 172. Thesis.**—5 hours each.

## CIVIL ENGINEERING.

ANTHONY W. WAND, Professor.

**Equipment.**—The department of Civil Engineering is located at present in the Administration Building. The draughting room is equipped with desks and drawing boards, but each student is required to furnish his own instruments, T-square, and triangles. There is also complete equipment for surveying, consisting of transits, levels, chains, plane tables, rods, compasses, pantograph, planimeter, etc.

#### 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 1 and 2. 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 1918-1919.)

**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 1918-1919.)

**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 1918-1919.)

**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 each. (Not given in 1918-1919.)

**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 1918-1919.)

**159. Advanced bridge analysis.**—The theory of continuous, cantilever, draw, suspension, and metal arch bridges. The history of large bridges of the world, erection and cost. Prerequisite: 155. 3 hours. (Not given in 1918-1919.)

**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. (Not given in 1918-1919.)

**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 1918-1919.)

**180. Contracts and specifications.**—The law of contracts as applied to engineering work; the study of engineering specifications. Each student prepares a contract and a complete set of specifications for some engineering structure. Prerequisite: 151. 3 hours. (Not given in 1918-1919.)

**190. Seminar.**—Reading and discussion of important articles on engineering topics. Each student presents papers upon assigned topics and participates in the discussion of others. Prerequisite: full senior standing in Civil Engineering. 3 hours. (Not given in 1918-1919.)

## ECONOMICS.

CLARENCE ELMORE BONNETT, Professor.

**Group requirements.**—This department, with the departments of Government and History, falls in Group II. To meet the requirement in this group, Economics 1 and Government 2 are recommended for 10 of the 18 hours. The other 8 hours may be elected from courses 61, 62, or 64, by permission of the department.

**Major course.**—For a major course in this department, Economics 1 and Government 2 are required as preliminary. Economics 61, Government 52 and 73, and History 21, 22, and 23 are also required for a major course. Other work in related departments may be included.

**Minor study.**—A minor study consists of 18 hours in the department, in addition to Economics 1 and Government 2, which are required as preliminary.

### Primarily for Undergraduates.

**1. Economic history of the United States.**—The main purpose of this course is to give the student an elementary knowledge of the economic phases of our national history. It deals with the development of industry and the origin of most of our modern economic, political, and social problems. 5 hours.

**5, 6. Accounting.**—The first part of this course takes up a rapid review of bookkeeping. This is followed by elementary and, in the second quarter, more advanced problems in accounting. 5 hours each.

**61. Principles of economics.**—Economic principles are studied intensively in this course. It presents a comprehensive view of these principles in operation in the commercial and industrial world. 5 hours.

**62. Business organization and management.**—The manner in which modern commercial and industrial organizations are formed, and their functions in the present industrial system, are the main subjects of this course. 5 hours.

**64. Current economic problems.**—A continuation of 61, given over to a more intensive study of current problems. 5 hours.

**65. Salesmanship.**—In this course the problems of selling are considered in their fundamental aspects. 5 hours.

**66. Applied salesmanship.**—Application of the fundamentals of selling is made to particular businesses, especially to retailing. Buying is also considered. 5 hours.

**For Advanced Undergraduates and Graduates.**

**101. Statistical methods.**—Methods of accumulating, formulating, and drawing conclusions from data, especially in the economic and social fields, form the chief considerations of this course. 5 hours.

**111, 112. Money, credit, and banking.**—Besides dealing with standard money and currency, this course investigates the operation of the extended credit system of today; the bank is taken as the typical credit institution. In the second quarter, a study of credit in its commercial aspects is given more consideration, and the work of the credit man and the commercial agencies is examined. 5 hours each.

**113. Public finance.**—Methods of raising funds by the various sorts of taxes, and the ways in which these funds are expended, form the subject matter of this course. 5 hours.

**114. History of economic thought.**—This course aims to relate the history of economic thinking to the stages of industrial evolution, and to show the origin of many of the popular economic fallacies of the present day. 5 hours.

**115, 116. Economics of advertising.**—In this course, the economic principles relating to human wants, the proper proportioning of factors, and other economic laws, are brought to bear on the problems of advertising. 5 hours each.

**117, 118. Business law.**—The common law governing business relations, and the statutes of New Mexico dealing directly with business—contracts, agency, etc.—constitute the subject matter of this course. 5 hours each.

**121, 122. Railway economics.**—The general character of the railroad business, the various methods of rate-making, and the effects of rate regulation upon railway finance and the channels of trade, constitute the main topics in this course. 5 hours each.

**161. Industrial combinations—trusts.**—The organization, methods, and problems of trusts are here studied and the proposed solutions appraised. 5 hours.

**162. Corporation finance.**—Through this course the student is expected to obtain an understanding of the methods—illegitimate as well as legitimate—practised in the financing of corporations. Prerequisites: 5-6 or the equivalent thereof. 5 hours.

## EDUCATION.

CHARLES E. HODGIN, Professor.

**Restrictions.**—The following courses may not be counted towards the Bachelor of Arts degree: 9, 10, 52, 57, 58, and 72.

### Primarily for Undergraduates.

**1. History of education.**—Education in the Orient, among the ancient classical nations, and in Europe from the beginning of Christian education to the present, with special consideration of the school systems of England, Germany, and France. The course includes a study of the great educational theorists and leaders. Special texts: Graves: *A Student's History of Education*; Monroe: *Brief Course in the History of Education*; and Painter: *History of Education*. 5 hours.

**2. Education in America.**—This course makes a survey of the educational conditions in colonial, revolutionary, and reorganization periods.

It takes into account the development and influence of academies and high schools, and includes a study of the leading educators, of the higher educational institutions, state systems, educational extension work, and modern systems, including the Montessori method. Special texts: Dexter: History of Education in the United States; and Brown: Making of Our Middle Schools. 5 hours.

**9. Study of spoken language.**—The purpose of this course is to give a scientific basis for teaching the sounds of the language and an intelligent use of the dictionary. The subject is viewed under the following topics: vocal physiology as the basis for the voice production; phonology; analysis and classification of vocal elements; diacritical marking; imperfections of English orthography; noted attempts at perfect phonetic representation; orthoepic elements—syllabication, accentuation, articulation, vowels and consonants in unaccented syllables; special dictionary study; comparisons of systems of dictionary markings; onomatopoeia; theories of the origin of speech and language; difference between speaking and singing tones. Special reading work will involve a consideration of rhythm in human speech and animal utterances, the discovery and significance of inflection, and the employment of gesture. Text: Hodgkin: A Study of Spoken Language. 5 hours.

**10. Professional course in grammar.**—In view of the importance of the subject for teachers and to conform to the requirements of the State Board of Education for the professional state certificate this special review course in grammar is given. 5 hours. (To be discontinued after the spring quarter, 1918.)

**15. Education and school law in New Mexico.**—History of education in New Mexico as a territory. Early school laws. The change of education with statehood. The present school laws. The modern school system: its organization, rural schools, city graded schools, high schools, state institutions, and summer institutes. Early work of the denominational schools. Growth and influence of the State Educational Association. The library movement and educational extension work. 2 hours.

**18. Child study.**—This course considers the value of child study for educators, methods of studying the child, historical accounts of child study movement, records of results from experiments and observation, children of uncivilized peoples, child character in history and fiction, abnormal conditions in children; physical characteristics, plays, secret languages, fears, affections, ideas of punishment and reward, and religious notions. Lectures, readings, discussions. 2 hours. (To be discontinued after the spring quarter, 1918.)

**51. Principles of education.**—Consideration is given to education as physiological, sociological, and psychological adjustment; the nature and principles of education; analysis and synthesis; induction and deduction; concentration; the educational value of apperception; the doctrine of interest; correlation and the "culture epochs" theory. Text: Klapper: Principles of Educational Practice. 5 hours.

**52. Professional course in arithmetic.**—Conforming to the requirements of the State Board of Education for the professional state certificate, this special course is given as a review in arithmetic with reference to teaching the subject. Text: Kelso: Arithmetic. 5 hours. (To be discontinued after the spring quarter, 1918.)

**57. Special methods.**—In this course application of the general principles is made, and steps pointed out in the following school subjects: Reading: nature of reading, its general and comparative value. Analysis of the reading process. Mental steps in expression. Reading as a mode of thinking. Relative importance of silent and oral reading. Various methods of teaching supplementary reading. Text: Klapper: *Teaching Children to Read*. Language: theories of language origin. Means of communication preceding language. Relation of language to thought. How the child learns his vernacular. Methods of presenting language in the grades. Spelling and penmanship will receive attention from the standpoint of method. Arithmetic: special stress is placed upon the development and close relation of the various phases of arithmetic. Psychical nature, origin, and development of number, which is the measurement of energy. Form, size, and weight defined as results of energy. The decimal system. Roman notation; its regular varying scale. Merits and demerits of the "Grube method" of numbers. Practical presentation of the subjects of fractions, decimals, percentage, interest, and other phases. Physiology and hygiene: the need of practical work in this subject. Relation of health to the work of life. Study of physical defects. School room hygiene. Need of exercise, rest, and recreation. Suggestions for right living in the home. Causes and effects of common diseases, and precautions to be taken. 5 hours. (To be discontinued after the spring quarter, 1918.)

**58. Special methods.**—General principles applied to the following subjects: Geography: the scheme of concentration with geography as a center. Logical and chronological analysis of geographical facts. The earth as a whole and as a member of the solar system. Knowledge to be gained by observation, by inference, by testimony. Study of geographic controls, responses, and type forms. Use and abuse of textbooks and maps. Importance of local geography. Dynamic ideas in geography. Value of newspapers and government publications in geography teaching. Consideration of a course of study in geography for the grades. Correlation of history with geography. Reference texts: Sutherland: *The Teaching of Geography*; and Holtz: *Principles and Methods of the Teaching of Geography*. History: the method work in history seeks to turn the student from the lifeless forms of memorized dates and diagrams to the dynamical interpretation of history as the movement of a people toward freedom. The two factors involved are mind and the facts of history. Historical forces. The organizing principle—the growth of institutional life. Educational and ethical value of interpretation. History in the grades. Use of biography. Historical reading for grades, and comparison of textbooks in history. 5 hours. (To be discontinued after the spring quarter, 1918.)

**64. Seminar in current educational problems.**—This course will discuss modern ideas and tendencies in education, and current problems. Some of the subjects considered will be: the changed conception of the school and its function, recent tendencies in correlating home work with that of the school, rural school development, socializing school centers, the modern playground movement, open air schools, vocational education and guidance, work of the Bureau of Education of the United States, and studies in current educational literature. 2 hours.

**65. School management and administration.**—The fundamental laws of the school. The different factors to be held in unity. School incentives. School economy. The ideal school building and study room. The

class and the class individual method of grading. The Batavia and other plans. Relation of the school and the home. Special texts: Dutton: School Management; and Holmes: School Organization and the Individual Child. 5 hours. (To be discontinued after the spring quarter, 1918.)

72. **Observation and conference.**—The course will consist of observation of classroom work in various grades and schools under the direction of the professor in charge, or by special assignment. Conferences will be held for discussion of school visits, and for studying standards for judging class work. Prescribed readings and written reports will be required. The assignment for observation will be made with special reference to the particular interests of the individual students. 2 hours.

## ELECTRICAL ENGINEERING.

WARD L. RAY, Professor.

**Equipment.**—The Electrical Engineering laboratory is located at present in Engineering Hall. Appropriation has been made for a new Engineering Building, to house Physics, Electrical Engineering, Civil Engineering, and Practical Mechanics. It is expected that the new location will be ready in the near future. The library contains a good collection of the latest text and reference books in Electrical Engineering, which are used continually in connection with the laboratory courses. 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 very much reduces the laborious task of connecting apparatus for experiments and makes the laboratory one of the most convenient to be found anywhere.

### For Advanced Undergraduates.

55. **Mechanism.**—The motions and velocities of machine parts. Design of cams, gears, and belts. Prerequisites: Physics 51, and Practical Mechanics 11. 3 hours.

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

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.



**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.

**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.

**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.

**152. Alternating current theory and practice.**—Intended to supplement course 102 for Electrical Engineering students. A study of the theory, regulation, and operation of the various types of alternating current machines and apparatus—single-phase and polyphase generators, synchronous and induction motors, rotary converters, transformers, etc. The solution of special problems by both graphical and analytical methods. Laboratory tests and experiments. Prerequisite: 102. 5 hours.

**171. Direct current design.**—This course is intended to give the student practice in the application of the fundamental theory of electricity and magnetism to the calculation and proportioning of direct current machinery. Prerequisite: 151. 3 hours.

**172. Alternating current design.**—Principles of design of alternating current apparatus. Prerequisite: 152. 3 hours.

**181. Electrical applications.**—(a) Electro-chemistry and electro-metallurgy. (b) Illumination and photometry. Prerequisites: 151; 152 must be elected at the same time. 5 hours.

**182. Electrical applications.**—(a) Electric railways. A study of the various direct current and alternating current systems. (b) The application of electric motors to industries and their competition with other forms of power. Prerequisites: 151, 152. 5 hours.

**183. Central stations.**—Their design, equipment, and operation. Cost analysis. Prerequisites: 151, 152. 5 hours.

**184. Transmission and distribution.**—A comparative study of the various systems of transmission and distribution of electrical energy. Prerequisites: 151, 152. 3 hours.

**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 18 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. 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. (Not given in 1918.)

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 writing course papers or theses in other departments. Prerequisite: 1. 1-6 hours, autumn and spring quarters.

**64. Informal argumentative writing.**—Practice in writing editorials, sales letters, advertisements, and similar informal arguments. Prerequisite: 1. 1-6 hours, spring quarter. (Not given in 1918.)

**67, 68. Descriptive and narrative writing.**—Practice in writing brief descriptions and narratives, and the short-story. Prerequisite: 1. 1-6 hours, autumn quarter. (Not given in 1918.)

**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.

#### For Advanced Undergraduates and Graduates.

**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. 4 or 5 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, medieval, 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 study.**—A minor in the department of English Literature consists of a minimum of 18 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.

## GEOLOGY.

CHARLES T. KIRK, Professor.

JOHN WALTER GRUNER, Instructor.

**Group requirements.**—Geology falls in Group IIIB. Courses meeting group requirements are: 1-2, 5-7, 5-8, or 7-8.

**Major course.**—The requirements for the major course are: 1-2, 3-4 or 101, 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 either 3-4 or 101.

**Equipment.**—The laboratory for determinative mineralogy has been resupplied to accommodate the increasing number of students. To the

glass crystal and Kranz axial models there are added numerous natural crystals, and a student set of minerals of wide range. Modern petrographic microscopes and improved apparatus for the study of opaque minerals and metals by reflected light are available, as well as projectoscope with reflecting device and petrographic accessories. Camera lucida, and the best type of photo-micrographic apparatus are at hand, together with complete dark room laboratory equipment. About 300 thin sections of rocks and minerals and as many lantern slides are used with these devices. A Westphal balance and heavy solutions, and a spectroscope, make for refined determinations. Geologic slide rules are in stock for the computation of mineral and rock components. For field work there are both telescopic and sight alidades with plane-tables, geologists' compasses, Locke level, aneroid barometer, field kit for determinative mineralogy, hammers, etc., and a complete camping outfit. The highest obtainable grade of equipment for microscopic, petrographic, lantern slide, and opaque projection has been installed. These presentation devices are supplemented by complete sets of paleontologic and geologic wall charts. The American Museum of Natural History, at New York City, and the National Museum, at Washington, D. C., have sent extensive collections of fossils and rock specimens. Mr. Hugh Bryan, of Albuquerque, has collected and arranged for the University a complete collection of British types. The John Lee Clarke collection of minerals, rocks, and fossils forms a valuable lot of material. The Pratt and the John R. Lee collections of minerals are available for handling and study. The Connecticut series of rocks, a set catalogued and sent out by Yale University, is representative of that region which is called the "cradle of American geology." The University laboratories and library are at the service of the New Mexico Geological Survey, which has its headquarters at the University, and in turn the University museums and library are the depositories of the State Survey collections of specimens and books. The University library is the depository for Federal Public Documents, so that the publications of the United States Geological Survey, Bureau of Mines, Reclamation Service, and Forestry Service are at hand. The first named consists of a series of extremely high grade monographs, professional papers, bulletins, folios, and maps. In the University series of bulletins are discussed many of the local geologic problems. In addition there are kept on the shelves all the latest and best books in the various branches of geology. The University is also the headquarters of the New Mexico Geographic Society, which has for its chief purpose the improvement of the maps of the state, the development of its geographic resources, and the study of its trade relations with other states and countries. The maps, geographic writings, relics, etc., are accessible for reference and study, under proper care.

#### Primarily for Undergraduates.

1a. **Physical geology.**—Physiographic, structural, and dynamic processes are considered in a general way, to be applied more specifically during course 1b in the winter quarter. One-fourth of the time is devoted to studies of topographic and geologic maps and the handling, identification, and interpretation of illustrative minerals, rocks, fossils, models. Elementary chemistry, physics, and mineralogy are desirable prerequisites. 4 hours, autumn quarter.

**1b. Physical geology.**—Continuation of 1a. Occasional field trips are required to areas reasonably accessible from the campus. 3 hours, winter quarter.

**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. A large collection of accurately labeled fossils is available for laboratory work. An area near the campus is mapped topographically and its geologic problems discussed by the class. Acquaintance with modern geologic field instruments and methods is insisted upon. Prerequisites: 1a and 1b. 5 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. Each student is equipped with a laboratory blowpipe and chemical set for work preliminary to determinative mineralogy. 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. See also course 55. 6 hours.

**4. Mineralogy, determinative.**—Over one-half of the time is devoted to the determination of unknowns in the laboratory. After sufficient training in this means of identification is had, sight identification is practised, followed by use of the spectroscope, gravity separations, and preparation and microscopic examination of opaque minerals by reflected light. Occurrence, origin, uses, conservation, and, where applicable, the principles of metallurgy of the minerals are considered in lectures and recitations. Prerequisites: Geology 3 and Chemistry 1-2. Chemistry 2 may accompany, if high school chemistry is presented for entrance. 6 hours.

**5. 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. Regional comparisons are made of Eastern and Western physiographic features of the United States and the development of resources and industries, from a knowledge of geology, topography, soil, and climate. Extensive use is made of maps and models in the laboratory, and various short field trips are required. During these the student is acquainted with the use of compass, clinometer, plane-table, alidade, rod, and methods of constructing topographic maps and sketches. This course may be elected by all students in the College of Arts, Philosophy, and Sciences and is required of those doing major work in Geology. 5 hours.

**6. Climatology.**—Recent researches into prehistoric climatic variation are opening new fields in this subject. The modern advances in the methods of the United States Weather Bureau are likewise of extreme interest and importance. Unusual opportunities are presented in New Mexico for the application of theory and its checking with practical observation. Prerequisite: 5, or equivalent. 3 hours.

**7. Commercial geography.**—This course is intended primarily for students interested in the political, social, and especially environmental factors in the development of man. It forms a connection between the natural sciences on the one hand and the social sciences on the other. De-

scriptions and mnemonic exercises are reduced to a minimum, the end being to correlate facts and events so as to show concrete commercial, physical, historical, and social relations as constituting geography in the broader use of that term. 6 hours, autumn quarter.

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. 4 hours, spring quarter. (Not given in 1918.)

#### For Advanced Undergraduates and Graduates.

51. **Economic geology.**—This may be otherwise described as applied geology. Occurrence, geographic and geologic distribution, origin, alterations, uses, and conservation of useful geologic products are investigated. Both non-metallic and metallic resources receive attention, particularly those common to the United States. The principles of mining and metallurgy are dealt with to some extent. Publications and maps of the Federal 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 102a and 102b; elementary chemistry and mineralogy. 5 hours. (Not given in 1917-1918.)

52. **Economic geology.**—Continuation of 51, with special emphasis upon the geology of oil and gas. 58 gives the field work that supplements this theoretic course. 5 hours. (Not given in 1917-1918.)

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, probable 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 102a and 102b. 5 hours. (Not given in 1917-1918.)

54. **Paleontology.**—Studies of those plant and animal forms useful in representing geologic history and biologic development. Attention is confined mainly to the extinct marine invertebrate animals. The influence of enemies, barriers, migration, and commingling are investigated. Development of species and recapitulation are considered through study of interior structure as well as of exterior form. Characteristic or index species receive especial attention. Prerequisites: 1a, 1b, and 2, or 102a and 102b. 6 hours. (Not given in 1917-1918.)

55. **Petrography.**—This work is intended especially to familiarize the student with applied crystallography through drills on crystal forms, crystal projection, and the use of the goniometer, both crystal models and natural crystals being used. Preliminary study of microscopic technique and the preparation of thin sections and polished surfaces of opaque minerals are taught in connection with light phenomena as seen in the petrographic microscope, and microchemical phenomena in the reflection microscope. It may be given with course 4, in which case the latter course deals

largely with blowpipe determinations. Prerequisites: physics and chemistry. See also course 3. 4 hours.

56. **Petrology.**—The ultimate aim of this course is training in rock classification as arrived at through petrographic, chemical, and field studies of the rock-forming minerals and their possible combinations. Igneous rocks are studied in particular, but the petrology of sediments and paragenesis of metalliferous minerals are also investigated. Thin sections, polished surfaces, cleavage fragments, gravity separations, and field evidences are made use of. Much emphasis is placed upon the manipulation of petrographic and reflection microscopes, and other laboratory devices. Prerequisites: 3-4, or 55, or 101, and preferably either 1a and 1b or 102a and 102b. 6 hours.

57. **Interpretation of maps.**—This is otherwise called indoor field geology. Topographic and geologic maps and folios are its bases. Training is had in detecting topographic and geologic form. Field operations are planned as if to meet the conditions implied by the maps. The making and criticism of contour and geologic maps and of geologic cross-sections is practised. Prerequisites: 1a, 1b, and 2, or 102a and 102b. 4 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—both surface and sub-surface—and general geologic mapping problems. Prerequisites: plane trigonometry, and either 1a and 1b or 102a and 102b. 3 hours, winter quarter.

101. **Engineering mineralogy.**—This is designed as a short course in determinative mineralogy and rock identification and classification, primarily for engineers and chemists. It consists mainly of laboratory work, but a brief treatment of crystallography is given. Microscopic observations of polished surfaces of minerals and metals are included. Prerequisites: Chemistry 1-2 and Physics 1-2. 6 hours.

102a, 102b. **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. Geologic field instruments are made use of, and reconnaissance methods and mapping practised briefly. Prerequisites: Chemistry 1-2 and Physics 1-2. 3 hours each. (Not given in 1917-1918.)

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.

151. Thesis.—5-7 hours.

## GERMAN LANGUAGE AND LITERATURE.

JOHN WALTER GRUNER, Instructor.

**Group requirements.**—German Language and Literature falls under Group IB. German 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 German may enroll in course 51, and students who enter with four units may enroll in course 101.

**Major course.**—To complete a major course in German Language and Literature, it is necessary for the student to earn at least 25 credit hours in this department above courses 1, 2, and 3, which may not be counted toward his major course. The remainder of the 48 credit hours shall be taken in additional foreign language, under the direction of the major professor.

**Minor study.**—A minor study in German Language and Literature consists of a minimum of 18 credit hours earned in this department, not counting courses 1, 2, and 3.

### Primarily for Undergraduates.

1. **Elementary German.**—Grammar, translation, and conversation, and memorizing simple German verse. Text: Bierwirth: Beginning German; and some selected prose. 5 hours.

2. **Elementary German.**—Grammar continued. Reading about 100 pages of prose. Memorizing German poetry. 5 hours.

3. **Elementary German.**—Grammar completed. Reading of prose. 5 hours.

51. **Second-year German.**—Prerequisite: one year of German in college or two years of German in high school. Prose composition, conversation, memorizing, and reading of modern novels. 5 hours.

52. **Second-year German.**—Sight translation; composition and conversation continued. 5 hours.

53. **Second-year German.**—Wilhelm Tell. Composition and conversation continued. 5 hours.

101. **Schiller: life and works.**—Life and times of Schiller discussed. Reading of several of his dramas, and one of Lessing's for comparison of technique. Original composition based on the reading. 3 hours.

102. **Goethe: life and works.**—Reading of Goetz, Iphigenie, Tasso, and selections from Dichtung und Wahrheit, etc. Original composition. 3 hours.

103. **Scientific German.**—Translation of scientific periodicals, etc. Prerequisites: 1, 2, 3, 51, 52. 3 hours.

151. **History of German literature.**—German literature of the Eighteenth century. Open to college students who have had at least two years of German. Discussion and reports based on the reading of typical classics. Kluge: Deutsches Nationalliteratur will furnish the guiding outline. 3 hours.

152. **History of German literature.**—German literature of the Nineteenth century. 3 hours.

GOVERNMENT  
AND SOCIOLOGY.

CLARENCE ELMORE BONNETT, Professor.

**Group requirements.**—This department, with the departments of Economics and History, falls in Group II. To meet the requirement in this group, Economics 1 and Government 2 are recommended for 10 of the 18 hours. The other 8 hours may be elected by permission from any of the other courses in the department.

**Major course.**—For a major course in this department, Economics 1 and Government 2 are required as preliminary. Government 52 and 73, Economics 61, and History 21, 22, and 23 are also required for a major course. Other work in related departments may be included.

**Minor study.**—A minor study consists of 18 hours in the department in addition to Economics 1 and Government 2, which are required as preliminary.

## Primarily for Undergraduates.

2. **American government and politics.**—This course offers a thorough-going study of our governmental institutions as to origin, the methods used in making and administering laws, and the means of securing an expression of the will of the people. While constitutions are here studied intensively, the actual workings of the government through the party system are given as much attention, since the actual operation is as important as the principles upon which the government is based. 5 hours.

4. **Government of New Mexico.**—This course in the government of New Mexico is offered in connection with the course in the history of New Mexico, for students enrolled in the Curricula in Education. 3 hours.

52. **Sociology.**—As an introduction to the study of society, of groups and group relations, interests, associations, and conflicts, this course is designed to form a basis for the investigation of our most pressing social problems. Social conditions, problems, and proposed solutions will be considered briefly. 5 hours.

71. **Introduction to political science.**—In this course a study is made of the origin and the nature of the state, and the principles of government, as found in a brief survey of the governments of the leading nations. 5 hours.

72. **Governments of Europe.**—A comparison of governments in Europe is made in this course in order to determine the best methods of government and the underlying principles of each. 5 hours.

73. **Political parties and politics.**—This course investigates party structure, platforms, machinery, methods, functions, and abuses. Proposed reforms for securing efficiency in government and insuring a clear expression of the will of the people will also be examined. 5 hours.

74. **Municipal government.**—Such problems of city government as taxation, regulation, or ownership of public utilities, health, etc., will be studied and comparisons made between American and European municipal governments. 5 hours.

80. **Relations of government to property and industry.**—A course designed primarily to show the varied relations of government to business and business administration, and to be of especial value to students who plan to assume duties of business administration. 5 hours.

**For Advanced Undergraduates and Graduates**

**53. Labor problems and conditions.**—Under this head a study will be made of the conditions of labor, as to hours, wages, and the workshop; of the organizations of workmen and of employers, and their relations; and of the various problems that have grown out of the factory system. 5 hours.

**54. The family.**—The family as the primary group in society, the problems of society in their evolution, and the functions of the family in modern society, with some attention to the educational phases of these subjects, are here studied for the light they throw on sociological principles and problems. 5 hours.

**56. Employers' associations.**—A study of typical associations, their attitudes and activities, and the problems which they are trying to solve, is made in this course. It is intended to afford a knowledge of the most important, yet neglected, phases of industrial organization. 5 hours.

**58. Immigration.**—This course treats of immigration in both its good and its bad aspects, the problems that the immigrant has brought us, and his contributions to our institutions. 5 hours.

**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 18 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.

WALTER PRICHARD, Associate Professor.

**Group requirements.**—Courses in history are accepted toward fulfillment of the requirement in Group II.

**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 30 credit hours, so arranged as to give a knowledge of the general field of history; with special reference to one chosen field. In addition, 18 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 shall consist of 18 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.

21. **American colonial history, 1492-1789.**—From the earliest discoveries to the adoption of the Constitution. 5 hours, autumn quarter. (Not given in 1918.)

22. **American history, 1789-1850.**—The first half of the national per-

iod, 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.

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. (Not given in 1918.)

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, spring quarter.

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. (Not given in 1918.)

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. (Not given in 1918.)

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. (Not given in 1919.)

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

141. **Elements of international law.**—Laws of peace, war, and neutrality. 5 hours, winter quarter.

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.

FRANCES E. LATHROP, Associate Professor.

ETHEL LOUISE KIEKE, Instructor.

**Major course.**—For a major course in Home Economics, students must present credits in courses 1, 2, 3, 55, 56, 73, 132, 194, either 62-63 or 105, and either 115-116 or 126-127.

**Minor study.**—For a minor in Home Economics, students must present at least 18 credit hours in the department.

**Equipment.**—The Home Economics laboratories are located in the Administration Building and are up to date in every respect. The cooking laboratory has an entire electrical equipment with appliances of latest model which are satisfactory in every way. The work in chemistry, biology, physiology, and bacteriology is given in the regular departmental laboratories under the heads of the various departments. The general library is provided with a list of reference books, all of which represent the latest authoritative work.

### Primarily for Undergraduates.

**1. Textiles and sewing.**—Study of textiles and textile industries. Consideration of economic and hygienic aspect of textiles. Care and repair of clothing. Study of the elements of handsewing and their application to practical problems. Laboratory work: two 2-hour periods; lecture: 1 hour. Required of all students in the department. Fee, \$1.00. 3 hours, autumn quarter. (KIEKE)

**2, 3. Textiles and sewing.**—Continuation of 1. Study of dyeing, weaves, laundering, machine work, and principles underlying the same. Study of patterns, altering, interpreting, drafting, and testing. Use of commercial patterns. Laboratory work: two 2-hour periods; lecture: 1 hour. Prerequisite: 1. Required of all students in the department. Fee, \$1.00. 3 hours, winter and spring quarters. (KIEKE)

**62, 63. Advanced sewing.**—Practical work in the making of undergarments, using patterns. Study of materials from the standpoint of suitability, cost, and durability. Laboratory work: three 2-hour periods. Prerequisites: 1, 2, and 3. Fee, \$1.00. 3 hours, winter and spring quarters. (KIEKE)

**115, 116. Dressmaking.**—Importance of artistic dress. Economics of dress. Designing and making of one wool dress or tailored skirt. Laboratory work: three 2-hour periods. Prerequisites: 1, 2, 3, 62, and 63. Fee, \$1.00. 3 hours, winter and spring quarters. (KIEKE)

**55. Foods.**—This course is intended as a preparation for later courses in foods. Emphasis is placed on manual dexterity, economy of labor

through proper use of utensils, speed and quiet in carrying them out. Principles of cookery are studied and applied in the preparation of simple foods; cooking of cereals, vegetables, and eggs. Laboratory work: three 2-hour periods; class work: 2 hours. Fee, \$3.00. 5 hours, autumn quarter. (LATHROP)

**56. Foods.**—Continuation of 55. Composition and characteristics of foodstuffs. Cooking of vegetables, meats, and breads. Study of milk and its products with the combinations of milk and eggs. Laboratory work: three 2-hour periods; class work: 2 hours. Prerequisites: 55, and Inorganic Chemistry. Fee, \$5.00. 5 hours, winter quarter. (LATHROP)

**105. Advanced foods.**—Study of food preservation and Pure Food Laws. Extensive work with flour mixtures, including bread, cake, and pastry. Laboratory work: three 2-hour periods; lecture: 2 hours. Prerequisites: 55 and 56, and Bacteriology. Fee, \$5.00. 5 hours, autumn quarter. (LATHROP)

**126, 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: 55 and 56, and Bacteriology. 3 hours, winter and spring quarters. (LATHROP)

**181. Serving of meals.**—Actual experience in selecting and purchasing foods to be prepared, keeping within a definite amount of money. Cooking and serving of daily meals for special occasions. This course is intended to sum up all the laboratory work of the preceding courses. 8 hours attendance. Prerequisites: 105 and 126. Fee, \$4.00. 4 hours, spring quarter. (LATHROP)

**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. (LATHROP)

**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. (LATHROP)

**194. Teachers' course and demonstration.**—Methods of presentation; the principles underlying the planning of curricula; the planning of domestic science laboratories and their equipment. The presentation by each student of the problems in cookery, the care of textiles, and sewing. Laboratory work: two 2-hour periods; class work: three 1-hour periods. Prerequisites: 1, 2, 3, 55, and 56. Fee, \$3.00. 5 hours, winter quarter. (LATHROP)

## LATIN LANGUAGE AND LITERATURE.

LYNN BOAL MITCHELL, 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 18 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 development 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.

### LIBRARY ECONOMY.

DELLA J. SISLER, Professor.

#### Primarily for Undergraduates.

1. **Elementary course.**—The purpose of this course is to teach students how to use the library and to give them a general idea of library work. Special emphasis will be given to the principles which should guide in the selection of books for a school library and to the relation of the public library to the public school. 2 hours.

2. **Elementary course.**—The purpose of this course is to teach students how to care for a library. The following subjects will be included in the course: how to order books and periodicals, trade bibliography, accessioning, classification, author numbers, shelf listing, simple cataloguing, mechanical preparation of books for the shelves, how to care for gifts and exchanges. 2 hours.

51, 52. **Advanced course.**—Advanced work in cataloguing, classification, and reference. Other subjects included in the course are: care of serials, binding, charging systems, library legislation, organization, and administration. Prerequisite: 2. 2 hours each.

## MATHEMATICS.

FRANK EDWIN WOOD, Associate Professor.

JOSEPH BERNHARDT ROSENBAACH, Instructor.

**Group requirements.**—Students electing one year in Mathematics to satisfy the requirements of Group IIIA will be expected to complete courses 1, 2, and 3 or their equivalent. Course 3 may be replaced by either course 9 or course 21.

**Major course.**—The student doing major work in Mathematics is expected to complete courses 1, 2, 3, 51, 52, 53, and at least four advanced courses, i. e. of those with number above 100. In some cases credit not to exceed 6 hours will be accepted from courses of the College of Engineering, but in such cases the work substituted must at least equal in difficulty and advancement that of the courses replaced.

**Minor study.**—A student electing Mathematics as a minor will be expected to complete courses 1, 2, 3, 51, 52, and 53, and one advanced course. A student desiring a recommendation from the department for teaching mathematics will be expected to complete courses 1, 2, 3, 51, 52, and either course 63 or course 64.

**Primarily for Undergraduates.**

1. **College algebra.**—A rapid review of elementary algebra is followed by a more detailed study of linear and quadratic equations, progressions, permutations, and combinations, including the binomial theorem, imaginaries, determinants, and the elementary theory of equations. Particular emphasis is laid upon the solution of practical problems. 5 hours, autumn quarter.

2. **Plane trigonometry.**—Trigonometric ratios, functions, equations, and identities, solution of right and oblique triangles by means of logarithms; and the applications of trigonometry to problems in surveying, navigation, and engineering. 5 hours, winter quarter.

3. **Plane analytic geometry.**—Co-ordinates, the straight line, conic sections, transformation of co-ordinates, problems on loci, and studies in transcendental curves. 5 hours, spring quarter.

9. **Descriptive astronomy.**—This course is non-mathematical in character, and is designed to give a simple explanation of the various astronomical phenomena, such as tides, eclipses, motion of the ecliptic, phases of the moon, and apparent motions of planets and stars. The members of the solar system are studied in detail, the most important stars and constellations located, the relations of our solar system to the galaxy are considered, and some of the simpler phenomena of various stars are studied. No prerequisite. 5 hours.

21. **Modern geometry.**—Homothetic figures, advanced triangle and ratio theorems, concurrency and collinearity, vector geometry, inversion, cross-ratio, the quadrilateral and quadrangle, principle of duality, perspectivity, projection and section, and a general introduction to non-metric geometry. This course is intended to be especially helpful to teachers of high school mathematics. Prerequisites: 1 and 2. 5 hours.

36. **Descriptive geometry.**—Same as Practical Mechanics 12. Primarily for first-year engineering students. 5 hours.

51, 52, 53. **Differential and integral calculus.**—The fundamental rules for differentiation and integration with numerous applications to problems

in engineering and pure mathematics. Prerequisite for all advanced courses in Mathematics, all courses in Engineering, and Physics above course 110. Prerequisites: 1, 2, and 3. 5 hours, autumn, winter, and spring quarters.

**63. Teaching of mathematics.**—A lecture and reading course for those expecting to teach mathematics in elementary or secondary schools. In addition to methods of presentation, mathematical tricks, fallacies, and puzzles are treated, and the fundamental concepts of mathematics considered. Prerequisites: 1, 2, 3, and 21 or 51. 5 hours.

**64. History of mathematics.**—This course gives a general view of the development of ideas and concepts in arithmetic, algebra, geometry, trigonometry, calculus, and advanced mathematics from the earliest times to the present. The biographies and mathematical works of noted mathematicians will be taken up in detail. This course is designed for teachers and those who expect to do major work in Mathematics. Prerequisites: 1, 2, 3, and 21 or 51. 5 hours.

**131. Differential equations.**—Ordinary differential equations. Text: Murray: Differential Equations. Prerequisite: one year of calculus. 3 hours.

~~132. Differential equations.—Continuation of 131: study of partial~~

**Restrictions.**—Except in special cases no course in the department is open to Freshmen. Only 80, 81, 82 will be given in 1918-1919.

**Primarily for Undergraduates.**

80, 81. **Ethics.**—A study of the beginnings and of the development of moral conduct; an analysis and criticism of the leading conceptions of moral theory; and an attempt to make application of modern ethical theories to present day social and economic problems. 3 hours, autumn and winter quarters; 5 hours together, summer quarter.

82. **Logic.**—The principles of deductive and of inductive reasoning. 5 hours, spring quarter.

**For Advanced Undergraduates and Graduates.**

83, 84, 85. **History of philosophy.**—A chronological study of the development of thought, with brief discussion of the leading thinkers and of the most prominent philosophical systems of each period. 3 hours, autumn, winter, and spring quarters.

121, 122, 123. **Introduction to philosophy.**—An introductory study of the various schools of philosophical thought. 3 hours, autumn, winter, and spring quarters.

tricity, wave motion, sound, light, and radio-activity. Recitations, demonstration, and laboratory work. Prerequisites: Physics 3 and Mathematics 2. 5 hours, autumn, winter, and spring quarters.

**62. Thermodynamics.**—Theory and principles underlying the operation of steam boilers and engines of various types, such as simple, compound, uni-flow, etc., and gas engines. Methods of analyzing the heat losses and determining their efficiencies. Operation of steam turbines, air compressors, and refrigerator plants. The course is given from the engineering standpoint. Prerequisites: Physics 53 and Mathematics 53. 4 hours.

**112. Steam engines, boilers, and station auxiliaries.**—Intended to follow 62, laying more stress on the mechanical features and details of practice in construction and operation. This course is open to civil engineers without 62. Prerequisite: 51. 4 hours.

#### **For Advanced Undergraduates.**

**121. Theoretical mechanics.**—Same as Civil Engineering 105. 5 hours.

**122. Hydraulics.**—Same as Civil Engineering 110. 5 hours.

**131. Electrical measurements and meters.**—Same as Electrical Engineering 131. 5 hours.

## PRACTICAL MECHANICS.

ARNO K. LEUPOLD, Associate 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: one double and six single woodworking benches with complete sets of tools; five 12-inch wood turning lathes with full equipment; one circular saw table with groover head attachment; one 14-inch engine lathe with taper attachment, etc.; one 6-inch engine lathe; one 13-inch engine lathe with milling and key-seating attachment; one 20-inch back-geared drill press; one 9-inch drill press; two machine shop benches with sets of hand tools. Drawing room equipment consists of 24 drawing desks and 3 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. Prerequisites: solid geometry, college algebra, plane trigonometry. 3 hours.

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. 3 hours.

## PSYCHOLOGY.

DEAN A. WORCESTER, Professor.

**Group requirements.**—Group IIIB: courses 51, 52, 53, and 54 in this department meet the group requirements.

**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.**—Ordinarily, courses 51 and 52 are prerequisite to all other courses in the department. Courses 51, 52, 53, 54, 56, 57, 62, 101, and 104 or 112 will be given in 1918-1919. 55 and 151-152 will be given if called for by qualified students.

**Equipment.**—The psychological laboratory is well equipped for instruction and training in experimental psychology, the apparatus having been carefully chosen with the aim of giving to the student a thorough knowledge of modern psychological methods, apparatus, and results. Instruments are provided for typical experiments in sensation, perception, association, reaction. There are also models of the brain, of the eye, and of the ear. Constant additions will be made to the standard equipment and new instruments are being devised and constructed in the University shops.

### Primarily for Undergraduates.

51, 52. **General psychology.**—The aim of this course is to give a general understanding of the essential facts and of the fundamental laws of mind. 5 hours, autumn and winter quarters; 6 hours together, summer quarter.

53. **Experimental psychology.**—This laboratory course seeks to give an introduction to modern psychological methods, and to familiarize the student with the use of apparatus. Typical experiments and demonstrations in the psychology of the senses, particular attention being given to

the "personal equation" and its influence on results. 2 hours, autumn quarter.

**54. Experimental psychology.**—Continuation of 53. Experiments in perception, association, reaction, etc.; mental and physical tests. Courses 53 and 54 should be taken, if possible, in connection with courses 51 and 52. 2 hours, winter quarter.

**55. Experimental pedagogy.**—This is a course in which may be tested the value of the various suggested applications of psychology to education, and in which new applications may be devised. Anthropometric measurements, physical and mental tests, statistical methods. 3 hours, spring quarter.

#### For Advanced Undergraduates and Graduates.

**56. Educational psychology.**—The applications of the principles of psychology to education, and the ways in which experimental psychology is modifying the curriculum and methods of instruction in the schools will be shown in this course. 5 hours, spring quarter.

**57. Psychology of advertising and business efficiency.**—Discussion of the principles of psychology as they are being used in the business world. 5 hours, autumn quarter.

**62. Psychology of high school subjects.**—5 hours, summer quarter.

**101. Social psychology.**—A discussion of the influence of the individual mind upon the group, and of the influence of the group upon the individual mind. 5 hours, winter quarter.

**104. Comparative psychology.**—A systematic study of the development of mind. If possible, this course will be given in collaboration with the department of Biology. 5 hours, spring quarter.

**112. Advanced psychology.**—An intensive study of selected problems. Prerequisites: 3 courses in the department. 5 hours, spring quarter.

**151, 152. Pathological psychology.**—Readings and theses. A study of the disorders of sensation, memory, imagination, association, the emotions, and volition. Open to advanced students, upon consultation. 2 hours, autumn and winter quarters.

## ROMANCE LANGUAGES AND LITERATURES.

BENITO FRANCES, Associate Professor.

ROSALINA ESPINOSA, Instructor.

**Group requirements.**—The department of Romance Languages and Literatures falls under Group IB. 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 or 141.

**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 18 credit hours in one language and literature (French or Spanish), not counting courses 1, 2, and 3.

#### FRENCH.

##### Primarily for Undergraduates.

1, 2, 3. **Elementary French.**—Blum, Oral Method. Grammar: Fraser and Squair. Méras, *Le premier livre*. Colin, *Contes et Saynetes*. Outside readings from selected prose, and condensed reviews brought to class. Class conducted in French. 5 hours, autumn, winter, and spring quarters. (FRANCES, ESPINOSA)

51, 52, 53. **Second-year French.**—Study of the principal modern authors, and reading of selected prose. Drill in composition and conversation. Class conducted entirely in French. 5 hours, autumn, winter, and spring quarters. (FRANCES)

101. **Third-year French.**—Study of the principal authors of the Classical Period. Representative texts from the works of Corneille, Racine, Moliere, Voltaire, Le Sage. Class conducted entirely in French. 3 hours. (FRANCES)

102. **Third-year French.**—Continuation of 101. Study and discussion of the poetry of Victor Hugo. 3 hours. (FRANCES)

151. **Fourth-year French.**—History of French literature, with readings from principal authors. From the Renaissance to the end of the Seventeenth Century. 2 hours. (FRANCES)

152. **Fourth-year French.**—History of French literature, with readings from principal authors. From the beginning of the Eighteenth Century to the present time. 2 hours. (FRANCES)

#### ITALIAN.

##### Primarily for Undergraduates.

1, 2, 3. **Elementary Italian.**—Pronunciation, especially for opera singing, drill in simple conversation, grammar, translation, and composition. A. Arrib-Costa, *Italian First Lessons*. Bowen, *Italian Reader*. Further reading chosen to suit the ability and the tastes of the class. 3 hours, autumn, winter, and spring quarters. (FRANCES)

#### SPANISH.

##### Primarily for Undergraduates.

1, 2, 3. **Elementary Spanish.**—Oral method. Writing from dictation, and conversation. Grammar: Espinosa and Allen. Espinosa, *Elementary Spanish Reader*. Dorados, *España Pintoresca*. Letter writing. Class conducted in Spanish. 5 hours, autumn, winter, and spring quarters. (FRANCES, ESPINOSA)

51, 52, 53. **Second-year Spanish.**—Oral method. Drill in conversation and composition. Taboada, *Cuentos Alegres*. Moratin, *El Sí de las Niñas*. Other works of similar character, including plays by Echegaray, Moratin, los Quintero, and others. Extensive outside readings, and condensed reviews brought to class. 5 hours, autumn, winter, and spring quarters. (FRANCES, ESPINOSA)

101. **Third-year Spanish.**—Selected Spanish literature. Don Quijote. Garcia. Gutierrez, *El Trovador*. Ayala, *Consuelo*. Martinez. Sierra, *Teatro de Ensueño*. Two novels, and passages from standard histories of

Spanish literature, to be read outside. Class conducted in Spanish. 3 hours. (ESPINOSA)

**102. Third-year Spanish.**—Continuation of 101. Reading of novels and poetry of Spanish America. Jorge Isaacs, Maria. Calderon, La Vida es Sueño. Other reading in class, reports in Spanish of outside readings, sight translations of English to Spanish. 3 hours. (ESPINOSA)

**141, 142. Commercial Spanish.**—Reading of scientific and technical Spanish: Willcox. Letter writing: Harrison, Spanish Correspondence. 3 hours each. (ESPINOSA)

**151. Spanish ballad poetry.**—Origin and development of the Spanish epic from the Middle Ages to the present day. Morley, Spanish Ballads. Wolf and Hofman, Primavera y flor de romances. Lectures. 1 hour. (FRANCES)

**152. History of Spanish literature.**—For advanced students, a survey of Spanish literature from the earliest times to the present day will be arranged, with reading of texts and of criticisms bearing upon them. 1 hour. (ESPINOSA)

## THEORY OF MUSIC.

E. STANLEY SEDER, 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, Tschaikowsky, and others. 1 hour each.

## VIOLIN.

E. LEROY YOTT, Instructor.

### Primarily for Undergraduates.

**1, 2, 3. Freshman course.**—Schools by Hohmann, De Beriot, and Ries; studies and exercises by Mazas, Kayser, Dancela, Schradieck, etc.; compositions by Dancela, De Beriot, Sitt, etc. 4 hours, autumn, winter, and spring quarters.

**51, 52, 53. Sophomore course.**—Exercises by Schradieck and Sevcik; études by Mazas, Libon, and Kreutzer; double stop studies by Fischel. Selected compositions by standard composers. 4 hours, autumn, winter, and spring quarters.

**101, 102, 103. Junior course.**—Exercises by Sevcik; études by Kreutzer, Fiorillo, and Rode; duets by Viotti and De Beriot; concertos by Rode, Viotti, Kreutzer, and De Beriot; sonatas by Tartini and Vivaldi. 4 hours, autumn, winter, and spring quarters.

**151, 152, 153. Senior course.**—Etudes by Gaviniès and Wieniawski; caprices by Paganini; sonatas by Bach; concertos and miscellaneous compositions by Mendelssohn, Bruch, Vieuxtemps, Wieniawski, Dvorak, Beethoven, and others. 4 hours, autumn, winter, and spring quarters.

## VOICE.

E. STANLEY SEDER, 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. Sieber: Elementary Vocalises; Brennan: Words in Singing; Russell: How to Read Modern 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, German lieder and duets. Ensemble work. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**101, 102, 103. Junior course.**—Advanced work in breath control.

Marzo: Art of Vocalization, Vols. II and III. 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.

BACHELOR OF ARTS—COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCES.

BACHELOR OF FINE ARTS—COLLEGE OF FINE ARTS.

BACHELOR OF MUSIC—CURRICULUM IN PIANO.

BACHELOR OF MUSIC—CURRICULUM IN VIOLIN.

BACHELOR OF MUSIC—CURRICULUM IN VOICE.

BACHELOR OF PEDAGOGY—FOUR-YEAR CURRICULUM  
IN EDUCATION.

BACHELOR OF SCIENCE—COLLEGE OF ENGINEERING.

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING—  
CURRICULUM IN CHEMICAL ENGINEERING.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING—  
CURRICULUM IN CIVIL ENGINEERING.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING—  
CURRICULUM IN ELECTRICAL ENGINEERING.

BACHELOR OF SCIENCE IN GEOLOGICAL ENGINEERING—  
CURRICULUM IN GEOLOGICAL ENGINEERING.

BACHELOR OF SCIENCE IN HOME ECONOMICS—  
CURRICULUM IN HOME ECONOMICS.

## SECOND DEGREE.

MASTER OF ARTS—GRADUATE SCHOOL OF ARTS,  
PHILOSOPHY, AND SCIENCES.

## 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, English language and rhetoric, English literature, geology, German language and literature, government, Greek language and literature, history, home economics, Latin language and literature, library economy, mathematics, philosophy, physical training, physics, psychology, and Romance languages and literatures. 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 College of Fine Arts, the Curricula in Education, and the College of Engineering.

### GRADUATION REQUIREMENTS.

A total of 192 credit hours of work of M grade (see page 51) 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, and economics. 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 and Economics.

## GROUP III.

- A. Chemistry.  
Mathematics.  
Physics.
- B. Animal Biology and Botany.  
Geology.  
Psychology.

## 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 least one of these he must have a practical working knowledge. mendment 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.

One year-course in IIIA and one year-course in IIIB must be taken in the first two years. A student is excused from requirement IIIA or IIIB if he offers two additional units in laboratory science or one additional unit in laboratory science and one additional unit in Mathematics. If at least two of the additional units lie in the field of IIIA, the exemption is secured from IIIA. If at least two of the additional units lie in the field of IIIB, the exemption is secured from IIIB. But in no case may a student be exempted from both. In order to secure exemption from either requirement A or B it is neces-

sary for the student to present his notebooks and other evidence of completed work for the approval of the head of the department in which such exemption is sought. The above exemptions do not apply in so far as they involve courses which are prerequisite to other courses in which a student desires to enroll after finishing 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 38 of which a grade of at least G must be attained, with no grade below M in the remaining 10 hours. Not more than 5 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 30 credit hours in one department and 18 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 18 credit hours, in 14 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.

From the Curricula in Education only courses in the Theory and History of Education will be accepted towards the degree of Bachelor of Arts.

#### THESIS.

Candidates for the B. A. degree may be required in the Senior year to prepare a thesis upon some subject chosen by the head of the department in which the major course lies. This thesis shall be in the department in which the major course lies, prepared under the supervision of some professor, and must be accepted three weeks before the Commencement Day on which the candidate expects to receive the degree. The requirements as to typographical form may be obtained upon application to the Librarian.

#### 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.

### 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 is issued permitting the holder thereof to teach in certificate to the State Department of Education, a professional 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 Sciences 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, Economics, Government 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 Economics and 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. Beginning January 1, 1918, 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 96 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.**

96 Quarter Credit Hours Required.

130 Quarter Credit Hours Strongly Urged.

Required Courses:	Quarter Hours
Chemistry .....	18
Physics .....	15
Animal Biology .....	12
English Language and Rhetoric .....	10
French or German .....	10-20

**Courses Strongly Urged:**

College Algebra, Solid Geometry, and Trigonometry .....	5-10
Additional Chemistry .....	5-10
An additional Modern Language—French or German.....	10-20
Psychology .....	5-10
Advanced Zoology, Embryology, or Comparative Anatomy.....	5-10

**Suggested Elective Courses:**

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

**Suggestions Regarding Individual Subjects.**

**Chemistry.**—18 quarter credit hours required, of which 9 must consist of laboratory work. Of the 18, at least 12 must be in general inorganic chemistry, of which 6 credit hours must consist of laboratory work. The remaining hours may consist of work in analytic or organic chemistry. When more than two years are spent in college, courses in organic, analytic, or physical chemistry may be taken to advantage. Chemistry is probably the most important science fundamental to medicine.

**Physics.**—15 quarter credit hours required, of which at least 4 must be laboratory work. It is urged that this course be preceded by courses in college algebra, solid geometry, and trigonometry.

**Animal Biology.**—12 quarter credit hours required, of which 6 must consist of laboratory work.

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

**French or German.**—A reading knowledge of one of these languages is required, and the requirement may be absolved by demonstration on

examination, written or oral, of the ability to read fluently medical French or German. When the requirement is absolved by college work, the student must complete the 10 quarter credit hour course following either the 10 quarter credit hour beginner's college course, or the completion of two entrance units of high school work in the language. When the requirement is absolved by an examination, such examination shall be a standard examination covering a course of at least 10 quarter credit hours. If credit for such language has been counted toward the required fifteen units of secondary school work, no credit is to be given therefor, in the total 96 quarter credit hours of required college work. 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 20 of the required 96 quarter credit hours on foreign language. In case a reading knowledge of one language is obtained by 10 quarter credit hours of college work, another 10 quarter credit hours may be well spent in taking the beginner's course in the other language; if this is followed up by 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 20 quarter credit hours of his college work in the second language.

# GRADUATE SCHOOL OF ARTS, PHILOSOPHY, AND SCIENCES.

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## THE MASTER'S DEGREE.

For the present only the Master's degree in Arts or in Science is conferred by the University. Candidates for this degree 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.

## 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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E. STANLEY SEDER, Assistant Professor of Piano,  
Theory of Music, and Voice, Director.

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, violin, and voice, leading to the degree of Bachelor of Music. These curricula embrace four years' study of an instrument or of voice, together with a study of theoretical music and cultural subjects, thus combining specific musical study with the advantages of a liberal university course.

## FEES.

In addition to the usual fees for entrance to the University, students enrolled in the Curricula in Piano, Violin, 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 192 credit hours of M grade in one of the Curricula outlined below, i. e. in Piano, Violin, 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. One hour-lesson each week in Piano, Violin, or Voice, with a passing grade in the required work of the course, earns 2 credit hours. Other courses earn as many credit hours as there are exercises each week.

#### Curricula in Piano, Violin, and Voice.

##### Freshman Year.

Piano 1, 2, 3; or Violin 1, 2, 3; or Voice 1, 2, 3.....	12 hours
Theory of Music 1, 2.....Harmony .....	10 hours
Modern Language ....., French, German, or Spanish.....	15 hours
English Language 1.....English Composition .....	6 hours
English Language ....., Advanced Composition .....	4 hours
Chorus or Orchestra .....	3 hours
Total.....	50 hours

##### Sophomore Year.

Piano 51, 52, 53; or Violin 51, 52, 53; or Voice 51, 52, 53.....	12 hours
Theory of Music 51, 52.....Advanced Harmony .....	6 hours
Theory of Music 61, 62.....History of Music .....	6 hours
Psychology 51, 52.....General Psychology .....	10 hours
Modern Language ....., French, German, or Spanish.....	15 hours
Chorus or Orchestra .....	3 hours
Total.....	52 hours

##### Piano.

##### Junior Year.

Piano 101, 102, 103 .....	12 hours
Theory of Music 121, 122.....Counterpoint .....	6 hours
Theory of Music 125, 126.....Composition .....	4 hours
Theory of Music 141, 142.....Normal Class .....	2 hours
Second or Modern Language .....	15 hours
Chorus or Orchestra .....	3 hours
Elective .....	3 hours
Total.....	45 hours



**Violin and Voice.****Junior Year.**

Violin 101, 102, 103; or Voice 101, 102, 103 .....	12 hours
Piano 1, 2, 3 (one lesson each week) .....	6 hours
Theory of Music 121, 122.....Counterpoint .....	6 hours
Theory of Music 125, 126.....Composition .....	4 hours
Theory of Music 141, 142.....Normal Class .....	2 hours
Chorus or Orchestra .....	3 hours
Elective .....	12 hours
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Total.....	45 hours

**Piano.****Senior Year.**

Piano 151, 152, 153 .....	12 hours
Theory of Music 175, 176.....Advanced Composition .....	2 hours
Theory of Music 171.....Canon and Fugue .....	1 hour
Theory of Music 182.....Instrumentation .....	1 hour
Theory of Music 191, 192.....Musical Analysis .....	2 hours
Chorus or Orchestra .....	3 hours
Elective .....	24 hours
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Total.....	45 hours

**Violin and Voice.****Senior Year.**

Violin 151, 152, 153; or Voice 151, 152, 153 .....	12 hours
Piano 51, 52, 53 (one lesson each week) .....	6 hours
Theory of Music 175, 176.....Advanced Composition .....	2 hours
Theory of Music 171.....Canon and Fugue .....	1 hour
Theory of Music 182.....Instrumentation .....	1 hour
Theory of Music 191, 192.....Musical Analysis .....	2 hours
Chorus or Orchestra .....	3 hours
Elective .....	18 hours
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Total.....	45 hours

All students registered for curricula in music must enroll for chorus or orchestra, unless excused by the Director.

# CURRICULA IN EDUCATION.

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CHARLES E. HODGIN, Professor of Education, Chairman.

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

Students have excellent opportunities for observing regular school work in the modern and progressive schools of the city of Albuquerque, where all grades are represented, including an exceptionally well-equipped and up-to-date high school with an enrollment of 400 students. Visits are made under the direction or assignment of the professor in charge.

Students entering the College of Arts, Philosophy, and Sciences with a view to subsequent work in the Curricula in Education, may declare a major course in any department; or they may select, subject to the approval of the Professor of Education and the Committee on Admission and Standing, a combined curriculum of studies designed to prepare them for the profession they have chosen, and to meet the requirements of the College.

## CURRICULA OF STUDY.

The department of Education offers two curricula: a four-year curriculum leading to the degree of Bachelor of Pedagogy on the same scholastic basis as a Bachelor of Arts degree; and a two-year curriculum leading to a professional certificate from the University, for work covered, and a one-year State certificate, subject to renewal for two and then for three years.

### THE FOUR-YEAR CURRICULUM.

The four-year curriculum is intended to afford adequate training for prospective high school teachers and principals, for teachers and principals of elementary schools, for supervisors of special subjects, and for superintendents of school systems.

The preparation for teaching which is afforded by this curriculum includes a thorough grounding in the correct use of English, both spoken and written. No student should enter the teaching profession without adequate training of this kind, whatever subjects he may expect to teach, and graduation from the four-year curriculum requires the attainment of a satisfactory standard in this particular.

The professional preparation of the teacher is found in the educational courses—psychology in education, history and theory of education, school management and administration, special methods in teaching, etc.

Another phase of the teacher's preparation is the knowledge of subjects to be taught. The four-year curriculum makes provision for ample training in the languages, history, mathematics, and the sciences, including home economics.

#### THE DEGREE OF BACHELOR OF PEDAGOGY.

The degree of Bachelor of Pedagogy is conferred upon candidates who fulfill the requirements set forth below:

1. The completion of 192 credit hours of M work in subjects of college grade in addition to 3 credit hours in Physical Training. For every 15 credit hours of G work one less credit hour is required for graduation, and for every 15 credit hours of W work one extra credit hour is required. No student may register for more than 18 hours nor less than 12 hours without approval of the Chairman of the Curricula in Education.

2. Candidates must have completed at least 30 credit hours in the group of psychology and philosophy, and the history and principles of education.

3. A sufficient number of courses must be taken in the subject or the two closely allied subjects which the candidate expects to teach in an elementary or high school, to satisfy the requirements of a major course: namely, 48 credit hours.

The diploma received upon the completion of these courses entitles the holder to the degree of Bachelor of Pedagogy and to a professional State certificate.

**Four-Year Curriculum.****Group IA.**

English Language 1 and Advanced Composition .....	10 hours
English elective : .....	10 hours

**Group IB.**

Foreign Language .....	21 hours
Two languages are to be studied in High School and College.	

**Group II.**

Economics, Government, History .....	18 hours
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**Note.**—U. S. History and Civics, and New Mexico History and Civics must be taken by those who do not offer these courses for entrance.

**Group IIIA.**

Chemistry, Mathematics, and Physics .....	12-15 hours
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**Group IIIB.**

Psychology 51, 52, 56, General and Educational .....	15 hours
Physical Training .....	3 hours

**THE TWO-YEAR CURRICULUM.**

Students who complete the two-year curriculum will be granted a certificate indicating the amount of work completed. This certificate will entitle the holder to a one-year professional State certificate issued by the State Board of Education, and renewable for two and then for three years without examination, provided the preparatory work required by the State Board has been completed and satisfactory evidence of one and two years of successful teaching can be presented. For this certificate no substitution is allowed for History and Civics of the United States and of New Mexico, and Physiology, all of at least a high school grade.

**Two-Year Curriculum.**

**Physical Training.**—1, 2, and 3, or 5, 6, and 7—3 hours.

**Psychology.**—51, 52 General, 56 Educational—15 hours.

**Education.**—1 History of Education, 2 Education in America, 9 Study of Spoken Language, 10 Professional Course in Grammar, 15 Education and School Law in New Mexico, 18 Child Study, 51 Principles of Education, 52 Professional Course in Arithmetic, 57, 58 Special Methods, 64 Seminar in Current Problems, 65 School Management, 72 Observation and Conference—53 hours.

**Theory of Music.**—41 Public School Music—3 hours.

**Philosophy.**—80, 81 Ethics—6 hours.

**Government.**—52 Sociology—5 hours.

**Electives.**—14 to 20 hours. The following are suggested: English Language 1 and advanced composition; Spanish 1, 2, 3, 51, 52, 53; Government 2; Economics 1; Chemistry 1, 2; Animal Biology 26; Home Economics 1, 2, 3, 55, 56. Special adjustment of courses will be made for students who elect Home Economics.

The required professional courses in Education may be taken in the first two years, or may be intercolated with the college curriculum.

## 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.

### A Suggested Curriculum for High School Teachers.

History of Education .....	5 hours
Principles of Education .....	5 hours
Public School Administration .....	5 hours
Educational Classics .....	3 hours
Moral Education .....	3 hours
Study of Spoken Language .....	5 hours
Current Educational Problems .....	2 hours
New Mexico School Law .....	2 hours

# COLLEGE OF ENGINEERING.

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WARD L. RAY, Professor of Physics and Electrical Engineering,  
Chairman.

The College of Engineering, organized in 1906, 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 German, Spanish, or French. In the fourth year of the curricula in chemical and geological engineering some special subject for investigation is taken up as a thesis for graduation.

## 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 216 credit hours with an average grade of M. For every 15 credit hours of S work, the amount required for graduation is diminished by 2 credit hours. For every 15 credit hours of G work, the amount required for graduation is diminished by 1 credit hour. For every 15 credit hours of W work, the amount required for graduation is increased by 1 credit hour.

All of the above mentioned graduation requirements are exclusive of three quarters (3 credit hours) in Physical Training, to be earned in the Freshman year.

### 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.

### THESIS.

Candidates for the degree of Bachelor of Science in Chemical or Geological Engineering are required to prepare a thesis in the Senior year upon some subject chosen by the head of the department in which the major course is being taken.

#### Curriculum in Chemical Engineering.

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**French, German, Spanish, English Language and Rhetoric, or English Literature.**—20 hours to be elected.

**Economics.**—62.

**Mathematics.**—1, 2, 3, 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, 181.

**Electives.**—To make up the total of 216 hours.

### Curriculum in Civil Engineering.

#### Freshman Year.

##### Autumn Quarter

Chemistry 1 .....	Inorganic Chemistry .....	6 hours.
Mathematics 1 .....	College Algebra .....	5 hours
Practical Mechanics 11.....	Mechanical Drawing .....	3 hours
Practical Mechanics 1 or 3....	Wood Working .....	3 hours
Total.....		17 hours

##### Winter Quarter

Chemistry 2 .....	Inorganic Chemistry .....	6 hours
Mathematics 2 .....	Trigonometry .....	5 hours
Practical Mechanics 12.....	Mechanical Drawing .....	3 hours
Practical Mechanics 2 or 4....	Metal Working .....	3 hours
Total.....		17 hours

##### Spring Quarter

English Language 1.....	English Composition .....	6 hours
Mathematics 3 .....	Analytic Geometry.....	5 hours
Practical Mechanics 16 .....	Descriptive Geometry .....	4 hours
Practical Mechanics 5.....	Metal Working .....	3 hours
Total.....		18 hours

#### Sophomore Year.

##### Autumn Quarter

Mathematics 51 .....	Calculus .....	5 hours
Physics 51 .....	General Physics .....	5 hours
Civil Engineering 51 .....	Elementary Surveying .....	5 hours
Optional—		
English Literature 41 .....		3—5 hours
Modern Language .....		3—5 hours
Total.....		18—20 hours

##### Winter Quarter

Mathematics 52 .....	Calculus .....	5 hours
Physics 52 .....	General Physics .....	5 hours
Civil Engineering 52 .....	Elementary Surveying .....	5 hours
Optional—		
English Language 54 or 58 or English Literature 42 .....		3—5 hours
Modern Language .....		3—5 hours
Total.....		18—20 hours



## Spring Quarter

Mathematics 53 .....	Calculus .....	5 hours
Physics 53 .....	General Physics .....	5 hours
Civil Engineering 53 .....	Topographical Surveying .....	3 hours
Civil Engineering 54 .....	Railroad Curves .....	2 hours

## Optional—

English Language 63 or 64 .....	3—5 hours
Modern Language .....	3—5 hours

Total.....18—20 hours

## Junior Year.

## Autumn Quarter

Civil Engineering 105.....	Analytical Mechanics .....	5 hours
Civil Engineering 101.....	Railroad Surveying .....	4 hours
Electrical Engineering 101....	Direct Currents .....	5 hours
Geology 101 .....	Mineralogy .....	4 hours

Total.....18 hours

## Winter Quarter

Civil Engineering 106.....	Analytical Mechanics .....	3 hours
Civil Engineering 102.....	Railroad Surveying .....	4 hours
Electrical Engineering 102....	Alternating Currents .....	5 hours
Geology 102 .....	Engineering Geology .....	4 hours
Civil Engineering 108.....	Mechanics of Materials .....	2 hours

Total.....18 hours

## Spring Quarter

Civil Engineering 109.....	Mechanics of Materials .....	5 hours
Civil Engineering 112.....	Graphic Statics .....	5 hours
Civil Engineering 110.....	Hydraulics .....	5 hours
Elective .....	.....	3 hours

Total.....18 hours

## Senior Year.

## Autumn Quarter

Civil Engineering 130.....	Road Engineering .....	5 hours
Civil Engineering 155.....	Bridge Analysis and Detail .....	6 hours
Civil Engineering 158.....	Metal Structures .....	3 hours
Civil Engineering 171.....	Water Supply .....	5 hours

Total.....19 hours

## Winter Quarter

Civil Engineering 151.....	Masonry Construction .....	5 hours
Civil Engineering 156.....	Bridge Design .....	4 hours
Physics 112 .....	Steam Engines and Boilers .....	4 hours
Civil Engineering 172.....	Sewerage .....	5 hours

Total.....18 hours

## Spring Quarter

Civil Engineering 157.....	Bridge Design .....	4 hours
Civil Engineering 152.....	Reinforced Concrete Design.....	5 hours
Civil Engineering 190.....	Seminar .....	3 hours
Elective .....		5 hours

Total..... 17 hours

**Suggested Electives.**

Civil Engineering 180 .....	3 hours
Electrical Engineering .....	5 hours
Government 52 .....	5 hours
Economics 62 .....	5 hours
Economics 5 .....	5 hours
Mathematics .....	5 hours
Psychology 51 .....	5 hours

**Curriculum in Electrical Engineering.**

## Freshman Year.

## Autumn Quarter

Chemistry 1 .....	Inorganic Chemistry .....	6 hours
Mathematics 1 .....	Algebra .....	5 hours
Practical Mechanics 11.....	Mechanical Drawing .....	3 hours
Practical Mechanics 1 or 3...	Wood Working .....	3 hours

Total..... 17 hours

## Winter Quarter

Chemistry 2 .....	Inorganic Chemistry .....	6 hours
Mathematics 2 .....	Trigonometry .....	5 hours
Practical Mechanics 12.....	Mechanical Drawing .....	3 hours
Practical Mechanics 2 or 4...	Wood Working .....	3 hours

Total..... 17 hours

## Spring Quarter

English Language 1.....	English Composition .....	6 hours
Mathematics 3 .....	Analytic Geometry.....	5 hours
Practical Mechanics 16 .....	Descriptive Geometry .....	3 hours
Practical Mechanics 5.....	Metal Working .....	4 hours

Total..... 19 hours

## Sophomore Year.

## Autumn Quarter

Mathematics 51 .....	Calculus .....	5 hours
Physics 51 .....	General Physics .....	5 hours
Civil Engineering 51 .....	Elementary Surveying .....	5 hours
Elective .....		4 hours

Total..... 19 hours

## Winter Quarter

Mathematics 52 .....	Calculus .....	5 hours
Physics 52 .....	General Physics .....	5 hours
Civil Engineering 52 .....	Elementary Surveying .....	5 hours
Elective .....		4 hours
Total.....		19 hours

## Spring Quarter

Mathematics 53 .....	Calculus .....	5 hours
Physics 53 .....	General Physics .....	5 hours
Electrical Engineering 55.....	Mechanism .....	3 hours
Elective .....		5 hours
Total.....		18 hours

## Junior Year.

## Autumn Quarter

Electrical Engineering 101....	Direct Currents .....	5 hours
Civil Engineering 105.....	Analytical Mechanics .....	5 hours
Physics 62.....	Thermodynamics .....	4 hours
Elective .....		3 hours
Total.....		17 hours

## Winter Quarter

Electrical Engineering 102....	Alternating Currents .....	5 hours
Civil Engineering 106.....	Analytical Mechanics .....	3 hours
Civil Engineering 108.....	Strength of Materials .....	2 hours
Physics 112.....	Steam Engines .....	4 hours
Elective .....		3 hours
Total.....		17 hours

## Spring Quarter

Electrical Engineering 103....	Electrical Measurements .....	5 hours
Civil Engineering 110.....	Hydraulics .....	5 hours
Civil Engineering 109.....	Strength of Materials .....	5 hours
Elective .....		3 hours
Total.....		18 hours

## Senior Year.

## Autumn Quarter

Electrical Engineering 151....	D. C. Circuits and Magnetism....	5 hours
Electrical Engineering 181....	Electrical Applications .....	5 hours
Electrical Engineering 191....	Seminar .....	2 hours
Electrical Engineering 62.....	Water Power Engineering .....	3 hours
Elective .....		3 hours
Total.....		18 hours

## Winter Quarter

Electrical Engineering 152....A. C. Theory and Practice.....	5 hours
Electrical Engineering 171....Direct Current Design .....	3 hours
Electrical Engineering 182....Electrical Applications .....	5 hours
Electrical Engineering 192....Seminar .....	2 hours
Elective .....	3 hours

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Total..... 18 hours

## Spring Quarter

Electrical Engineering 172....Alternating Current Design .....	3 hours
Electrical Engineering 183....Central Stations .....	5 hours
Electrical Engineering 184....Transmission and Distribution...	3 hours
Civil Engineering 180.....Contracts and Specifications ....	3 hours
Electrical Engineering 193....Seminar .....	2 hours
Elective .....	3 hours

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Total..... 19 hours

## Curriculum in Geological Engineering.

## Freshman Year.

## Autumn Quarter

Chemistry 1 .....	6 hours
Mathematics 1 .....	5 hours
Practical Mechanics 11 .....	3 hours
French, German, or Spanish 1 .....	5 hours

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Total..... 19 hours

## Winter Quarter

Chemistry 2 .....	6 hours
Mathematics 2 .....	5 hours
Practical Mechanics 12 .....	3 hours
French, German, or Spanish 2 .....	5 hours

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Total..... 19 hours

## Spring Quarter

Geology 101 .....	6 hours
English Language 1 .....	6 hours
Practical Mechanics 16 .....	3 hours
French, German, or Spanish 3 .....	5 hours

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Total..... 20 hours

## Sophomore Year.

## Autumn Quarter

Geology 102a .....	4 hours
Physics 51 .....	5 hours
Mathematics 51 .....	5 hours
French, German, or Spanish 51 .....	5 hours

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Total..... 19 hours

## Winter Quarter

Geology 102b	Engineering Geology	3 hours
Physics 52	General Physics	5 hours
Mathematics 52	Calculus	5 hours
French, German, or Spanish 52		5 hours
Geology 58	Geologic Field Mapping	3 hours
Total		21 hours

## Spring Quarter

Physics 53	General Physics	5 hours
Mathematics 53	Calculus	5 hours
Chemistry 51	Qualitative Analysis	5 hours
French, German, or Spanish 53		5 hours
Total		20 hours

## Junior Year.

## Autumn Quarter

Geology 51	Economic Geology	5 hours
Civil Engineering 51	Plane Surveying	5 hours
Chemistry 52	Quantitative Analysis	5 hours
Geology 55	Petrography	4 hours
Total		19 hours

## Winter Quarter

Geology 56	Petrology	6 hours
Civil Engineering 52	Plane Surveying	5 hours
Civil Engineering 108	Mechanics of Materials	2 hours
Chemistry 52	Quantitative Analysis	5 hours
Total		18 hours

## Spring Quarter

Geology 52	Economic Geology	5 hours
Civil Engineering 109	Mechanics of Materials	5 hours
Geology 103	Local Geology	2 hours
Civil Engineering 54	Railroad Curves	2 hours
Elective		5 hours
Total		19 hours

## Senior Year.

## Autumn Quarter

Chemistry 131	Geological Chemistry	3 hours
Chemistry 110	Physical Chemistry	5 hours
History 83		3 hours
Elective		6 hours
Total		17 hours

## Winter Quarter

Chemistry 111.....	Physical Chemistry .....	5 hours
Geology 104 .....	Seminar .....	5 hours
Electives .....		7 hours

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Total..... 17 hours

## Spring Quarter

Geology 151 .....	Thesis .....	5—7 hours
Economics 62 .....	Business Management .....	3 hours
Geology 54 .....	Paleontology .....	6 hours
Elective .....		3 hours

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Total..... 17 hours

**Electives.**—Physiography, Metallurgy, Psychology, English Language and Rhetoric, Economics, Greek, Latin.

**Curriculum Preparatory to Mechanical Engineering.**

(First two years.)

Same as Curriculum in Electrical 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.

# CURRICULUM IN HOME ECONOMICS.

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FRANCES E. LATHROP, Associate Professor of Home Economics,  
Chairman.

The Curriculum in Home Economics is organized to meet the special needs of women students. A general curriculum extending through four years and leading to the degree of Bachelor of Science is planned for those wishing to specialize in home economics; and this curriculum may be varied considerably to meet the needs of the various students. Individual courses are open to all students who meet the requirements regarding prerequisites. The aim of the department is to give women students an opportunity to acquire a comprehensive knowledge of the social and economic phases of household management as well as of the primary mechanical phase.

The courses in sewing include the study of textiles, of the care and repair of clothing, and of the hygiene of clothing, and cannot be considered complete without some consideration of the artistic and economic divisions of the subject.

The study of the care of the house leads directly to the study of bacteriology, which is the basis of house sanitation as well as of all sanitary science. Moreover, the housekeeper broadens her field to include municipal housekeeping because she knows that neglect of that will prevent her securing the health of her own family.

One of the most important phases of the work of the department is that which deals with foods; as a foundation for thorough work in this subject, a course is given in foods and their composition and the principles of cookery. This includes experimental work on which all the food courses are based, and gives a thorough understanding of the composition of our common foods and of their use in the body. This work is supplemented by courses in dietetics and advanced cooking. The balanced ration is carefully studied and applied. Standard dietaries are compared and the conditions affecting food requirements are discussed.

The work in the Curriculum in Home Economics involves

also considerable study in the departments of Chemistry, Biology, Psychology, and Economics.

**Curriculum in Home Economics.**

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**English Language and Rhetoric or English Literature.**—10 hours to be elected.

**French, German, or Spanish.**—24 to 30 hours to be elected.

**Government.**—52 Sociology, 53 Labor problems and conditions, 54 The family.

**Economics.**—61 Principles of economics, 64 Current economic problems.

**Chemistry.**—1 and 2 Inorganic chemistry, 51 Qualitative analysis, 52 Quantitative analysis, 61 Organic chemistry or 112 Industrial chemistry.

**Animal Biology.**—1 and 2 Zoology, 26 Elementary physiology.

**Botany.**—91 Bacteriology.

**Psychology.**—51 and 52 General psychology, 57 Psychology of advertising and business efficiency or 101 Social psychology.

**Home Economics.**—1, 2, and 3 Textiles and sewing, 55 and 56 Foods, 62 Advanced sewing, 73 Hygiene and home nursing, 105 Advanced foods, 115 and 116 Dressmaking, 126 Dietetics, 132 House management and sanitation, 181 Serving of meals, 194 Teachers' course and demonstration.

**Electives.**—To make up the total of 216 hours.



## DIVISION OF UNIVERSITY EXTENSION.

CLARENCE ELMORE BONNETT, Professor of Economics and  
Government, Director.

The various services extended by the University to residents of the state include the following:

**Correspondence Study** in university and preparatory subjects 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.

Requests for further information should be addressed to the Director.

### 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.

#### Civil Engineering.

1. Shop sketching.
2. Reinforced concrete construction.
3. Elements of structures.
4. Steam boilers.
5. Shop arithmetic.
6. Shop mathematics.

#### Economics.

1. Elements of economics.  $\frac{1}{2}$  unit.
2. Principles of economics.
3. Money and banking.
4. Taxation.

#### Education.

1. History of education.
2. Education in the United States.
3. Principles of education.

#### 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.

#### Geology.

1. Mineralogy.
2. Physiography.
3. Economic geology.

#### Government and Sociology.

1. Civil government,  $\frac{1}{2}$  unit.
2. Government of New Mexico,  $\frac{1}{2}$  unit.
3. Elements of sociology,  $\frac{1}{2}$  unit.
4. American government and politics.

5. Principles of sociology.
6. Labor problems.
7. Employers' associations in industrial peace and warfare.
8. Municipal government.
9. Governments of Europe.
10. Political parties.
11. Introduction to political science.

#### 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.

#### Physics.

1. General physics.

#### Practical Mechanics.

1. Mechanical and freehand lettering.
2. General engineering drawing.

#### Psychology.

1. General psychology.
2. Social psychology.
3. Child psychology.

#### 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. Communities which desire to avail themselves of the opportunity presented should write the Director as early as possible, stating their wants.

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) Culture vs. Kultur.
- (2) Education for Citizenship.
- (3) Efficiency and the American University.
- (4) The Debt of Democracy to the Romans.
- (5) 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 BONNETT.

- (1) Is Our Democracy in Danger?
- (2) What Is a Progressive?
- (3) The Economic Law of Efficiency.
- (4) Our Labor Wars.
- (5) Regulation or Public Ownership.
- (6) The Prospects for a World-Wide Peace.

## 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 WORCESTER.

- (1) The Drawings of Children.
- (2) The Laws of Habit.
- (3) The Juvenile Delinquent.
- (4) The Psychology of Healthy-Mindedness.
- (5) Modern Character Education.

## PROFESSOR RAY.

- (1) Across the Alps and Down the Rhine (illustrated).

## ASSOCIATE PROFESSOR LATHROP.

- (1) The Home as a Center of Consumption and the Consumer's Responsibility.
- (2) The Relation of the Home to the Community and Civic Problems That Are of Vital Interest to the Homemaker.
- (3) Labor, Time, and Money Saving Devices in the Home.
- (4) Practical Applications of the Study of Dietetics in the Planning of Family Menus.
- (5) Food Conservation in the Home.

## ASSOCIATE PROFESSOR FRANCES.

- (1) The Direct Method.
- (2) La novela picaresca.
- (3) The Spanish Drama.
- (4) Spanish Literature.
- (5) Los Quintero.

## ASSISTANT PROFESSOR SEDER.

## Lecture recitals:

- (1) Wagner and His Reforms in Opera.
  - (2) Tschaikowsky and the Pathetique Symphony.
  - (3) Music After the War.
- Piano and organ recitals.

## DIVISION OF PHYSICAL TRAINING AND ATHLETIC SPORTS.

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### THE UNIVERSITY GYMNASIUMS.

Two well equipped gymnasiums are at the disposal of the young men and women who attend the University. All Freshmen are required to take a course in hygiene and physical training, and are required to undergo a physical examination before entering this course. Three hours' credit is given for this work. Classes of one hour duration, three times a week, extending through three quarters, are required. This work must be completed for graduation.

When not in use for the required work, the gymnasiums are open to all members of the University. The office of the instructor contains all the apparatus for the physical examinations, and also for the strength tests which are taken in the autumn and again in the spring. The records of these are filed and the student may at any time have a copy of his record.

The physical examination is intended to ascertain the fitness of the student for the gymnasium work, and if he is found unfit, other exercise for his proper development will be given.

The strength test is based upon the following items: age, weight, and height; the number of pounds lifted with the back and legs straight; the number of pounds lifted with the legs bent; the strength of the grip of the right and left hands; the strength of the shoulder retractor and contractor muscles; and the strength of the arms pulling and pushing. These added together give the total strength of the individual. Dividing the total strength by the weight gives the strength weight index, that is, the proportionate strength per pound in weight of the individual.

### 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 intercol-

legiate 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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It is the avowed policy of the University to discontinue secondary work as rapidly as possible. High school students are advised to attend their nearest high school and finish the course offered before coming to the University. The University has no wish to compete with local high schools. In the last few years the number of high schools has grown so that there is no longer any justification for offering the work of the first two years. There still remains, however, a number of two- and three-year high schools and to the graduates of these schools the University still owes the duty of offering such courses as will complete their high school work. A few students also enter the Freshman class with a deficiency of one or two units, and must complete the entrance requirements in the first year of residence. It is for these two classes of students that a few courses are offered in the Division of Preparatory Studies. A minimum of eight units (two years of high school work) should in all cases be presented for admission to this division of 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 the 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.

### COURSES OF STUDY.

#### English.

**B1, B2, B3. Third and fourth year high school English.**—Advanced practice in composition. Reading and study of the books prescribed for the College Entrance Requirements under the head of B: Study. Histor-



ical survey, with supplementary reading, of either English or American literature. 5 hours a week,  $\frac{2}{3}$  unit of credit each quarter, autumn, winter, and spring quarters.

#### Foreign Languages.

**Greek, Latin, German, and Romance languages and literatures.**—See courses 1 to 53 in the *Description of Courses* of these departments. Students are admitted to courses for which they are prepared. A five-hour course earns  $\frac{2}{3}$  unit of credit each quarter.

#### History, Government, and Economics.

**History C. Medieval and modern history.**—3 hours a week,  $\frac{1}{2}$  unit of credit each quarter, winter and spring quarters.

**Government 2. American government and politics.**—5 hours a week,  $\frac{1}{2}$  unit of credit, winter quarter.

**Economics 1. Economic history of the United States.**—5 hours a week,  $\frac{1}{2}$  unit of credit, autumn quarter.

#### Mathematics.

**B1, B2. Plane geometry.**—5 hours a week,  $\frac{1}{2}$  unit of credit each quarter, autumn and winter quarters.

**C. Solid geometry.**—5 hours a week,  $\frac{1}{2}$  unit of credit, spring quarter.

#### Laboratory Sciences.

**Physics A1, A2, A3.**—Millikan and Gale: First Course in Physics. 2 recitations and 1 or 2 laboratory periods a week, 1 unit of credit on completion of course, autumn, winter, and spring quarters.

**Geology 5. Physiography.**—5 hours a week,  $\frac{1}{2}$  unit of credit, one quarter.

**Geology 7. Commercial geography.**—5 hours a week,  $\frac{1}{2}$  unit of credit, one quarter.

#### Practical Mechanics.

**A1, A2. Elementary shop work.**—3 periods a week during one quarter and 2 periods a week during succeeding quarter,  $\frac{1}{2}$  unit of credit on completion of course.

**B. Mechanical drawing.**—4 periods a week,  $\frac{1}{2}$  unit of credit, one quarter.

**C1, C2. Advanced wood work.**—Prerequisites: A1 and A2, or their equivalent. 3 periods a week during one quarter and 2 periods a week during succeeding quarter,  $\frac{1}{2}$  unit of credit on completion of course.

# 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
v. 14 Catalogue 1904-05	14
v. 15 Catalogue 1905-06	40
v. 16 Catalogue 1906-07	43
v. 17 Catalogue 1907-08	46
v. 17 No. 2 Supplement	48
v. 18 Catalogue 1908-09	50
v. 19 Circular of information 1909-10	54
v. 20 Catalogue 1909-10	55
v. 21 Circular of information 1910	56
v. 22 Summer school bulletin 1911	59
v. 23 Catalogue 1910-11	60
v. 24 Summer school bulletin 1912	64
v. 25 Catalogue 1911-12	67
v. 26 Catalogue 1912-13	70
v. 26 No. 2 Preliminary announcement—Correspondence study department	72
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

## 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
	No. 3 Weinzirl Effect of altitude upon the blood	31
	No. 4 Magnusson Observations on soil moisture in New Mexico from the hygienic standpoint	32
	No. 5 Magnusson Meteorological tables	33
	No. 6 Weinzirl Availability of New Mexico's climate for the outdoor life	34
	No. 7 Birtwell Observations on color-changes in the genus <i>Buttueo</i>	35
	No. 8 Weinzirl Cold as a casual factor in the blood changes due to high altitude	36
	No. 9 Weinzirl & Magnusson Further observations on increased blood counts due to high altitude	37
	No. 10 Weinzirl Evaporation from water surface at Albuquerque, New Mexico	38
	No. 11 Weinzirl Potable waters of New Mexico	39
	No. 12 Weinzirl Action of sunlight upon bacteria	44
	No. 13 Weinzirl Action of a high dry climate in the cure of tuberculosis	47
v. 3	No. 1 Watson Manual of the more common flowering plants growing without cultivation in Bernalillo county, New Mexico	49
	No. 2 Watson Foe of the melon aphid; <i>hypodamia convergens</i> in New Mexico	65

## GEOLOGICAL SERIES.

v. 1	(Bound with Biological Series v. 1)	
	No. 1 Herrick Geology of the environs of Albuquerque, New Mexico	17
	No. 2 Herrick Occurrence of copper and lead in the San Andreas and Caballo mountains	18
	No. 3 Herrick Papers on the geology of New Mexico	20
	No. 4 Herrick Geology of the San Pedro and the Albuquerque districts	21

		Whole No.
v. 2	Pt. 1	
	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
v. 2	Pt. 2 Johnson Geology of the Cerrillos hills, New Mexico	28a
v. 3	No. 1 Bryan Geology of the vicinity of Albuquerque	51
	No. 2 Kirk Geology of the Gallup basin, New Mexico	76

## PHYSICS SERIES.

v. 1	No. 1 Angell Thermal conductivity of metals at high temperatures	63
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## EDUCATIONAL SERIES.

v. 1	No. 1 Hodgkin Early school laws of New Mexico	41
	No. 2 Richards Management of our school lands	42
	No. 3 Hodgkin Study of spoken language	52
	No. 4 Gray Latin in the secondary school	58
	No. 5 Gray How the curriculum of the secondary school might be reconstructed	61
	No. 6 Boyd Relation of the University to the state	68
	No. 7 R. W. D. Bryan: a memorial	69
	No. 8 Mitchell Rhodes scholarships	73
	No. 9 Mitchell High school manual	83
	No. 10 Boyd The University and the education of the nurse	84
v. 2	No. 1 Mitchell High school manual, second edition	89

## LANGUAGE SERIES.

v. 1	No. 1 Espinosa Los Comanches	45
	No. 2 Espinosa Studies in New Mexican Spanish	53
	No. 3 Sherwin Some sources of More's Utopia	88

## SOCIOLOGICAL SERIES.

v. 1	No. 1 Fergusson & Clancy Making of a constitution	57
	No. 2 Gray Spanish language in New Mexico: a national resource	62
	No. 3 Gray Un recurso nacional en Nuevo Mexico aun no desarrollado; ¿Lo desarrollaremos?	66

## CHEMISTRY SERIES.

v. 1	No. 1 Kelly & Anspach Preliminary study of the waters of the Jemez plateau, New Mexico	71
	No. 2 Clark Chemical study of the enrichment of copper sulfide ores	75

# GRADUATES, 1917.

## BACHELOR OF ARTS.

Laura Chase Allen .....	Major: Biology Minor: English Literature
Allene Atkinson Bixler .....	Major: English Literature Minor: Psychology
Louie Croft Boyd.....	Major: Biology Minor: English Literature
Carl David Brerein.....	Major: Social Science Minor: Geology
Allen Eli Bruc�.....	Major: Social Science
George Lyndall Butler.....	Majors: Mathematics, Social Science
Daphne Hafriet Fortney—with Hon- ors .....	Major: Home Economics
Thelma Emma Fortney—with Hon- ors .....	Major: Home Economics
John Walter Gruner.....	Major: German Minors: Geology, Spanish
Bernice Hamilton .....	Major: German Minor: Home Economics
Helen Latamore .....	Major: Latin
Joseph Edward McCanna .....	Major: English Literature
Raymond James McCanna.....	Major: History Minor: Spanish
Jennie Childers Partch.....	Major: Social Science
Fern Hazel Reeves—with Honors...	Major: Biology Minor: Education
Joseph Bernhardt Rosenbach—with Honors .....	Major: Mathematics Minors: Physics, Chemistry
Maxwell M. Sindeband .....	Major: Romance Languages Minors: German, Social Science
Pryor Brown Timmons—with Honors.	Major: Social Science Minor: Latin
Louise Wilkinson.....	Major: Biology Minor: Education

## BACHELOR OF SCIENCE.

### BACHELOR OF SCIENCE IN HOME ECONOMICS.

Ethel Louise Kieke

## BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING.

Milan Langer Doering

## BACHELOR OF SCIENCE IN CIVIL ENGINEERING.

Howard Risley Fullerton

John-Alexander Lapraik

## MASTER OF ARTS.

George Adlai Feather, B. A. ....Major: Latin

Minor: Greek

Thesis: Prepositional Phrases as Modifiers of Nouns.

Paul Lynn Menaul, B. S. ....Major: Chemistry

Minor: Biology

Thesis: Analyses of Reptilian Urine.

## CANDIDATES FOR DEGREES, 1918.

CANDIDATES FOR DEGREE OF BACHELOR  
OF ARTS.

John D. DeHuff.....Major: English Literature

Lina Fergusson .....Majors: Modern Languages, Psychology

Rebecca Graham .....Major: Social Science

James E. Hoover .....Major: Geology

Myrl Hope .....Major: English Literature

Edward E. King.....Majors: English Literature, Economics

Louise Lowber .....Major: Biology

Elizabeth Pennington .....Major: History

Hayes J. Williams .....

CANDIDATES FOR DEGREE OF BACHELOR  
OF SCIENCE.

Kathleen Long .....Major: Home Economics

Shirley von Wachenhusen .....Major: Home Economics

## DIRECTORY OF STUDENTS.

**Explanation of symbols.**—After each name is given the College, Curriculum, School, or Division in which student has registered. APS—College of Arts, Philosophy, and Sciences; PreL—Pre-Law Curriculum; Pre-Med—Pre-Medicine Curriculum; Educ—Curriculum in Education; FA—College of Fine Arts; Eng—College of Engineering; HE—Curriculum in Home Economics; Grad—Graduate School; Prep—Preparatory Division; Spl—Special; Ext—Extension; Uncl—Unclassified. The figures indicate the number of credit hours earned by the close of the autumn quarter of 1917, but when followed by "u" they indicate units toward college entrance. \*—Withdrawn before end of quarter. 1—In residence spring semester only, 1917. 2—Entered autumn quarter of 1917.

Name and Home Address	Division	Hours of Credit
2Alexander, George L., Albuquerque.....	Spl	0
1Aldredge, Helen, Springer.....	Prep	9 u
1Allen, Laura Chase, Albuquerque.....	APS	184.5
Anderman, Eleanor, Albuquerque.....	APS	104.5
2Angle, Katherine, Albuquerque.....	APS	57
Arnot, Elizabeth, Albuquerque.....	APS	106.5
2Ashdill, Mrs. M. M., Encino.....	Spl	6.9
Atkinson, Allie, Roswell.....	HE	98.4
Bacon, Wallace, Albuquerque.....	APS	9
1Barth, Maurice, Tucson, Ariz.....	Pre-L	40.5
2Baughman, Milo Ray, Farmington.....	Eng	8
2Bear, Frances, Roswell.....	APS	16.5
2Beaubien, Lena, Carthage.....	Ext	
2Beaubien, Kenneth, Carthage.....	Ext	
2Beckham, Elma, Albuquerque.....	Educ	16.6
Bell, Louise, Albuquerque.....	APS	92
1Bernhardt, Clifford G., Cuervo.....	APS	31.5
1Bixler, Allene, Albuquerque.....	APS	192
1Bizzell, Cameron, Buchanan.....	Ext	
2Blackwell, Jerry A., Texico.....	APS	16
Boldt, Chester C., Albuquerque.....	APS	63
1Boldt, Irene, Albuquerque.....	APS	144
Boldt, Leslie G., Albuquerque.....	APS	96.2
2Booker, Herald Hill, Dewey, Okla.....	Pre-L	16
1Borgerding, Martha, Melrose, Minn.....	APS	36.9
Bowers, Chalmers H., Alamogordo.....	Eng	109
1Boyd, Louie Croft, Denver, Colo.....	APS	177
1Brewer, Everett P., Aztec.....	APS	40.5

1Brorein, Carl D., Albuquerque.....	APS	178.2
1Brorein, Mary, Albuquerque.....	APS	90
2Brown, Dorothy, Albuquerque.....	APS	10
1Bruce, Allen E., Albuquerque.....	APS	191.3
2Buehly, W. E., Roswell.....	APS	0
2Burney, W. E., Albuquerque.....	Eng	0
2Bursum, Clara, Socorro.....	APS	12.9
1Butler, George L., Farmington.....	APS	215.7
1Cady, Mildred, Lake Arthur.....	APS	42
1Caldwell, Chas. S., Portales.....	Pre-L	45.3
1Carmony, Florence, Albuquerque.....	Edu	93
Carroon, Frank B., Santa Fe .....	APS	9.3
2Cavanaugh, Lee Clair, Albuquerque.....	APS	15
1Chandler, George O., Cimarron.....	Eng	96
1Chaves, Katherine, Albuquerque.....	Grad	
1Chavez, Ezequiel, Albuquerque.....	APS	81
2Chavez, David E., Albuquerque.....	APS	16
Chess, Flora E., Albuquerque.....	APS	69.2
2Chess, James M., Albuquerque.....	APS	11
Clark, E. Carleton, Deming.....	Eng	25.5
1Clark, Homer, Albuquerque.....	APS	63.3
2Cobb, Daphne, Albuquerque.....	HE	0
1Cole, William F., Artesia.....	APS	21
1Conley, Arthur H., Albuquerque.....	Prep	9.5u
2Conner, Edna, Albuquerque.....	APS	0
1Conway, Katherine, Albuquerque.....	APS	15.5
1Cook, Margaret, Albuquerque.....	HE	159
Cooper, Hugh P., Albuquerque.....	APS	56.5
1Cooper, Lula, Gallup.....	APS	40.5
Costin, James W., Indianapolis, Ind.....	APS	0
Craig, Reginald S., Fort Sumner.....	Eng	76.8
Cristy, Annie, Albuquerque.....	APS	70
Cristy, Edward, Albuquerque.....	APS	57.5
1Croft, George V., Albuquerque.....	APS	51.4
2Dadey, Louise, Winslow, Ariz.....	APS	46.5
1Darling, Richard W., Deming.....	Eng	36
Darrow, Helen, Albuquerque.....	Edu	67.2
2Davis, Irene, Albuquerque.....	APS	16
1Davis, Lois, Albuquerque.....	APS	28
2Davis, Pauline, Albuquerque.....	Uncl	10
2Davis, Robert W., Toadlena.....	Prep	10 u
DeHuff, John D., Albuquerque.....	APS	169
2Dixon, Wenonah, Albuquerque.....	APS	15
1Doering, Milan, Albuquerque.....	Eng	207
2Dolde, Margaret, Albuquerque.....	Ext	
2Dolde, Marion, Albuquerque.....	Ext	
1Doxey, Thoman A., San Antonio, Tex. ....	Eng	42.1
1Dunlap, Erastus, Dunlap .....	APS	69



1Dunning, Glenn W., Aztec.....	Pre-L	19
1Eldodt, Joseph M., Chamita.....	APS	89.4
1Emmons, Glenn M., Albuquerque.....	APS	110.4
1Farr, George S., Albuquerque.....	Uncl	0
1Feather, George Adlai, Artesia.....	Grad	
1Feather, Shirley, Artesia.....	APS	86.4
Fergusson, Lina, Albuquerque.....	APS	148.4
Fetzer, Clair, Alamogordo.....	Eng	105
1Felder, Forrest, Deming.....	APS	101.4
1Flournoy, Margaret, Albuquerque.....	APS	84
2Foraker, Charles B., Albuquerque.....	Eng	3
1Fortney, Daphne, Albuquerque.....	APS	186
2Frisbe, Mary, Albuquerque.....	Ext	
2Funk, Edith, Magdalena.....	Ext	
2Gallagher, Thomas C., Texico.....	Eng	3
Garrett, Opal, Canutillo, Tex.....	APS	83.5
Garrett, Wayne, Canutillo, Tex.....	APS	60.8
1Garton, Chas. R., Rolla, Kans.....	Eng	36
2Garto, Edna May, Rolla, Kans.....	APS	15
Gerhardt, Charles, Puerto de Luna.....	Prep	11.5u
Gerhardt, Earl A., Tucumcari.....	APS	78.7
2Gibbs, Dorothy, Albuquerque.....	APS	16
2Gilmore, Fabiola, Albuquerque.....	APS	10
1Gilmore, Harold F., New Orleans, La.....	Prep	11 u
Givan, George W., Albuquerque.....	APS	49.2
2Goetz, Helen, Albuquerque.....	APS	11
1Gonzalez, Jennie, Gallup.....	APS	73.3
1Godell, Mamie, Albuquerque.....	Ext	
2Gould, Ralf F., Albuquerque.....	APS	9
2Graf, Selma, Farmington.....	APS	5
Graham, Rebecca, Monument.....	APS	159
2Graves, Edna, Magdalena.....	Ext	
1Gray, Allen B., Hanover.....	Eng	35.4
1Gray, Fred E., Hanover.....	Eng	16.5
2Greenleaf, Frank O., Albuquerque.....	Eng	17
2Greenlee, Martha, Sidney, Neb.....	APS	103
2Grimm, Lola, Albuquerque.....	APS	10
1Grimmer, William, Albuquerque.....	APS	54
Gruener, John W., Albuquerque.....	Grad	
1Gustafson, Lillian P., Albuquerque.....	APS	153
1Hamilton, Bernice, Tucumcari.....	APS	186
Hammond, William E., Albuquerque.....	APS	105
2Harlan, Esther, Albuquerque.....	Prep	11.6u
2Harris, Anne Earle, White Mountain.....	APS	60
2Harris, Eudora Estelle, White Mountain.....	APS	56
*Harris, Mose M., Deming.....	Uncl	0
1Hart, Mayme, Lovington.....	APS	67.5
Hawkins, Hazel, Albuquerque.....	APS	50.8

1Hawthorne, Alberta, Albuquerque.....	HE	71.2
Hayden, Gladys, Albuquerque.....	APS	68.5
*Hayerford, Pearl, Belen.....	Uncl	0
1Heacock, Abby, Albuquerque.....	HE	52.8
2Henderson, J. D., Albuquerque.....	Ext	
1Henderson, Martha, Roswell.....	Educ	82.5
2Hennrich, Freda, Albuquerque.....	Educ	15
1Hennrich, Mabel, Albuquerque.....	Educ	48
2Herby, Ethel, Albuquerque.....	HE	13
1Hernandez, Ralph O., Albuquerque.....	APS	30.6
2Herrick, Sarah, Socorro.....	Prep	11.6u
2Herron, Jane, Albuquerque.....	Ext	
Heslet, Frank G., Albuquerque.....	APS	113
Hickey, Herbert A., Albuquerque.....	APS	68.6
2Hill, Ruth, Barnum.....	Ext	
1Hoch, Lucien H., Albuquerque.....	Eng	82.6
1Hoffman, G. Skiles, High Point, N. C.....	Eng	136.5
2Hoffman, Mrs. Rowena, Carlsbad.....	APS	41
Hoge, Hermione, Socorro.....	APS	83.3
1Holt, Alice, Tucumcari.....	Educ	51.7
2Hood, Mabel, Watrous.....	Ext	
Hoover, James E., High Point, N. C.....	APS	144
Hope, Myrl, Albuquerque.....	APS	150.3
Hopewell, Robert W., Albuquerque.....	APS	45
1Hopewell, Willard S., Albuquerque.....	APS	36.4
1Horner, Rezecca, Albuquerque.....	APS	101.5
1Howden, Angelica, Albuquerque.....	Uncl	39.9
1Howden, Douglas F., Albuquerque.....	APS	78.1
1Howell, Hazel, Albuquerque.....	Spl	6
2Hubbell, Anita, Albuquerque.....	Uncl	9.7
Hubbell, Julie, Pajarito.....	APS	36.2
1Hunter, Carl L., Albuquerque.....	Prep	13.5u
2Inches, Jeanette, Albuquerque.....	Ext	
1Johnson, James C., Tularosa.....	APS	19.5
2Johnson, Leonora, Lovington.....	APS	11
2Jones, G. B., Albuquerque.....	Ext	
2Jordan, Joseph C., Kansas City, Kans.....	Spl	8
2Keen, Nola, Portales.....	FA	15
Keinath, Harold A., Artesia.....	APS	48.2
Keleher, Katherine, Albuquerque.....	APS	53.9
2Kellam, Lloyd A., Albuquerque.....	APS	16
1Kelly, Georgia, Albuquerque.....	Uncl	0
Kempenich, Lillian, Albuquerque.....	APS	56.8
Kiech, Vera, Nettleton, Ark.....	APS	81
1Kieke, Ethel, Albuquerque.....	Grad	177
King, Edward, Albuquerque.....	APS	162
1King, Mrs. Julia, Baltimore, Md.....	APS	0
2Lamb, Mariet, Roswell.....	APS	18

1Larsh, Harold, Artesia.....	APS	49.5
Latamore, Eunice, Raton.....	APS	106.7
1Latamore, Helen, Raton.....	APS	186
2Lay, Ivy, Cap Rock.....	Uncl	10
2Lee, Clola, Eden, Tex.....	APS	49.9
1Lee, Floyd W., Albuquerque.....	APS	135
Lee, Harry B., Faison, N. C.....	APS	6.8
1Lester, Lorna, Albuquerque.....	Prep	12 u
1Lewis, Alice, Albuquerque.....	Prep	11 u
2L'hereux, ———, Albuquerque.....	Ext	
2Lighton, Edwin, Albuquerque.....	APS	12
Little, Clinton, Albuquerque.....	Spl	48.5
1Little, Katherine, Albuquerque.....	APS	24
Long, Evangeline, Albuquerque.....	APS	63.5
Long, Kathleen, Albuquerque.....	HE	164.5
2Longino, Lucille, Moriary.....	Prep	7 u
1Loudon, Thelma, Albuquerque.....	APS	124.5
Lowber, Louise, Albuquerque.....	APS	154.2
2Maharam, Edwin A., Albuquerque.....	APS	10.5
2Maisch, Herbert W., Albuquerque.....	Spl	5
2Mann, Claud E., Albuquerque.....	APS	11
1Mannville, Newell E., Albuquerque.....	Eng	31.5
1Mason, Frank E., Toms River, N. J.....	Grad	
1Masten, Alfred R., Cimarron.....	APS	94.5
2Mayo, Helen, Albuquerque.....	APS	16.3
1Menaull, Paul L., Albuquerque.....	Grad	
Meyers, Ralph E., Albuquerque.....	Eng	52.2
1Michael, Carolyn, Albuquerque.....	Educ	96
2Miller, Joseph T., Albuquerque.....	FA	4
1Miller, R. E., Albuquerque.....	Spl	9
2Miller, Wilhelmina, Albuquerque.....	Ext	
Mills, Mayme, Dalhart, Tex.....	Prep	15
1Mirabal, Monico, San Rafael.....	APS	15.5
2Mitchell, Hallie, Portales.....	FA	10
2Moore, Carl F., Clovis.....	APS	10
Moore, Robert J., Clovis.....	APS	52
1Morgan, Jean, Roswell.....	Prep	9 u
1Morgan, Seals G., Roswell.....	APS	58.5
2Morris, Byron E., Taos.....	Prep	4.5u
Morris, Clyde Young, Farmington.....	Pre-L	74
Morris, Mrs. Daisy, Farmington.....	Spl	14
1Morrow, Howard E., Prescott, Ariz.....	Pre-Med	78.7
Mozley, Paul P., Elk.....	Eng	114.2
2McAnulty, Leona, Carthage, Ill.....	Ext	
1McCanna, Joseph E., Albuquerque.....	APS	184.9
McCanna, Margaret, Albuquerque.....	APS	52.9
1McCanna, Raymond J., Albuquerque.....	APS	189
1McClellan, Pelham, Albuquerque.....	Eng	74.5

2McClure, Dwight L., Deming.....	Eng	11
1McDonough, Eleanor, Deming.....	Educ	120
McGowan, Gertrude, Taos.....	APS	19
1McIntosh, Dorothy, Lovington.....	Prep	8.6u
1McLay, Helen, Albuquerque.....	Educ	46.9
1McMains, Orion L., Dexter.....	Eng	22.5
McMillen, Dorothy, Albuquerque.....	APS	12
1McVicker, Fred, Dexter.....	Pre-L	67.5
1Nohl, Louis E., Espanola.....	APS	67.7
2Noyes, May, Tombstone, Ariz.....	Ext	
2O'Hara, Mrs. Nora, Albuquerque.....	Grad	
2Ohmart, Dorothy, Helena, Ark.....	APS	10
2O'Keefe, Katherine, Albuquerque.....	Spl	0
O'Laughlin, Mary, Albuquerque.....	APS	62.8
Olds, Earl P., Albuquerque.....	APS	75.5
2Osuna, Anita, Albuquerque.....	APS	20
Ott, Lawrence, Gypsum, Kans.....	APS	99
2Overstreet, Frank A., Ft. Sumner.....	Eng	37.5
2Papen, Allen N., E. Las Vegas.....	APS	11
1Parkhurst, Walter N., Albuquerque.....	APS	40.2
1Partch, Mrs. Jennie, Albuquerque.....	APS	192
Paulsen, Herbert F., Las Vegas.....	APS	25.7
Pennington, Elizabeth, Albuquerque.....	APS	161.5
Perry, Evangeline, Albuquerque.....	APS	43.3
2Perry, Ida, Kansas City, Kans.....	Ext	
1Perry, Harold C., Albuquerque.....	APS	85.5
2Peters, William S., Capitan.....	APS	0
2Phillips, James L., Deming.....	APS	10
1Porterfield, Blanche, Albuquerque.....	APS	117
1Powell, John S., Newman, Ga.....	Eng	43.3
*Prange, Carl F., Albuquerque.....	Prep	0
1Reeves, Fern, Las Cruces.....	APS	195
Richardson, Donovan, Roswell.....	APS	77.7
2Roberson, Winifred, Albuquerque.....	Ext	
2Rodney, Maud, Roswell.....	APS	7
Romero, Samuel, San Marcial.....	APS	0
1Rosenbach, Joseph S., Albuquerque.....	APS	213
2Rosenbach, Samuel, Albuquerque.....	Eng	18
1Rosenberg, Sylvia, Albuquerque.....	APS	0
1Sabin, Fred T., Albuquerque.....	Spl	44.8
2Sachs, Felix, Albuquerque.....	Grad	
2Scanlan, Emily, Albuquerque.....	Spl	2
2Schreiber, Jos. C., Albuquerque.....	Ext	
2Schumaker, Margaret, Albuquerque.....	APS	63
Scruggs, John M., Jefferson City, Mo.....	Eng	26.3
2Seder, Florence, Albuquerque.....	Grad	
1Selsor, Beatrice, Albuquerque.....	Educ	93
2Selsor, Mrs. D. Marie, Albuquerque.....	Spl	2

Sharp, Jonathan, Greenville, Ill.....	APS	11
1Sheahan, John A., Fitzgerald, Ga.....	Eng	162.7
1Shelton, George H., Alamogordo.....	APS	126
Shields, Adelaide, Hurley.....	FA	77
1Shields, Hastings M., Jemez Springs.....	APS	64.5
Short, Fletcher L., Albuquerque.....	Eng	62.5
2Shotwell, Katherine E., Bisbee, Ariz.....	APS	16
2Simms, Mrs. Anne, Albuquerque.....	Spl	5
1Simms, Elizabeth, Albuquerque.....	APS	70.5
*Siglhofer, Mrs. Emma, Albuquerque.....	Spl	0
1Sindeband, Maxwell, New York City.....	APS	198
1Sinesio, Pietro, Dawson.....	Prep	7.5u
Skipwith, Rebecca, Roswell.....	APS	65.4
2Sklenar, Joseph, Albuquerque.....	Ext	
2Slater, William B., Lawrence, Mass.....	Grad	
1Smith, Herbert W., Santa Fe.....	Grad	
2Snyder, Wilma, Albuquerque.....	APS	16
1Spickard, Lillian, Albuquerque.....	Educ	76.5
1Spiller, Thomas J., Alamo.....	APS	0
2Stacher, Herbert C., Crownpoint.....	Prep	5 u
2Standley, Margaret, Laguna.....	Educ	10
1Steed, John T., Deming.....	APS	43
2Stephenson, Mrs. Alice, Albuquerque.....	APS	19
*Stephenson, Mrs. Ruth, Carlsbad.....	APS	0
2Stortz, Grace, Albuquerque.....	APS	17
1Sundt, Thoralf M., Las Vegas.....	Eng	108.7
2Sweet, Emma, Albuquerque.....	Spl	2
1Swinney, Clara, Aztec.....	Educ	27
Switzer, Hortense, Albuquerque.....	FA	42
1Taylor, Reuben D., Texarkana, Tex.....	Uncl	0
1Terpening, Ralph L., Artesia.....	Eng	19.5
Thacker, Helen, Raton.....	FA	110.1
1Thackeray, Lyman A., Albuquerque.....	Eng	73.8
2Thompson, Ross C., Farmington.....	Spl	9
Thompson, Wilmer P., Farmington.....	APS	30
1Timmons, Pryor B., Portales.....	APS	210
1Tombs, John, Albuquerque.....	Spl	0
Towner, Harvey A., Farmington.....	Eng	38.5
Trotter, Evelyn, Albuquerque.....	APS	27.9
1Trumbull, George N., Bell Ranch.....	Prep	0
1Upton, Philip R., Deming.....	APS	126.6
1Vauchelet, Laurie J., Roswell.....	Eng	70.5
Venable, Jessie, Albuquerque.....	HE	121
Vincent, Helen, Albuquerque.....	APS	118
1Vincent, Lyle S., Albuquerque.....	APS	91.3
von Wachenhusen, Shirley, St. Augustine, Fla..	APS	161.8
1Wait, James L., Chicago, Ill.....	APS	82.5
1Walker, Lee W., Alamogordo.....	APS	125.8

2Walker, Raymond F., Albuquerque.....	APS	16
1Watson, Mrs. Edna, Albuquerque.....	Educ	57
1Weese, Mrs. Josephine, Albuquerque.....	Grad	
Weiller, Florence, Albuquerque.....	APS	15
1Weinman, Annette, Albuquerque.....	APS	8.1
2Weisenbach, Estelle, Albuquerque.....	HE	11
2Welch, Bertha, Albuquerque.....	Spl	16
White, George W., Albuquerque.....	APS	79.3
2White, Helen, Albuquerque.....	Ext	
1Wigely, Robert G., Albuquerque.....	APS	51.7
1Wilfley, Vernon B., Roswell.....	APS	51
1Wilkinson, Louise, Albuquerque.....	APS	204
2Williams, Allen M., Albuquerque.....	APS	16
2Williams, Hayes J., Albuquerque.....	APS	189.1
Williams, Jason C., Mountainair.....	APS	74
1Williams, Lillian, Albuquerque.....	APS	77.8
1Williams, Thomas J., Alamo.....	APS	40.5
1Willingham, Vivian, Albuquerque.....	Prep	11 u
1Wilson, Byron F., Atrisco.....	APS	51
1Wilson, Helen, Raton.....	APS	38.5
1Wimberley, Arthur B., Hagerman.....	Eng	24.7
1Wolking, Clifford, Albuquerque.....	Eng	165
1Woodward, Bertram B., Silver City.....	Eng	48
2Zimmerman, Ruth, Albuquerque.....	Educ	16

# SUMMARIES.

## OFFICERS.

REGENTS .....	7
FACULTY	
President and Professors.....	13
Associate Professors.....	5
Assistant Professors.....	1
Total .....	19
OTHER OFFICERS OF INSTRUCTION AND ADMINISTRATION	
Instructors .....	6
Library Assistants .....	1
Secretaries .....	2
Total .....	9

## SUMMARY OF SECONDARY SCHOOLS REPRESENTED, 1917.

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.

Albuquerque .....	83	Guadalupe Co. H. S. ....	1
Artesia .....	3	Hagerman .....	2
Aztec .....	3	Lake Arthur .....	1
Capitan .....	1	Lovington .....	1
Carlsbad .....	1	Mountainair .....	1
Cimarron .....	2	Otero Co. H. S. ....	5
Clovis .....	4	Portales .....	2
Deming .....	6	Raton .....	4
Dexter .....	2	Roswell .....	15
East Las Vegas .....	3	San Marcial.....	1
Eddy Co. H. S. ....	2	Silver City .....	1
Espanola .....	1	Socorro .....	2
Farmington .....	6	Tucumcari .....	3
Gallup .....	2		
			158

### STATE EDUCATIONAL INSTITUTIONS (PREP. DEPT.).

A. & M. College (Prep. Dept.).....	2
New Mexico Military Institute.....	1
New Mexico Normal School (Prep. Dept.).....	1
New Mexico Normal University (Prep. Dept.).....	2
University of New Mexico (Prep. Dept.).....	21

## PRIVATE SCHOOLS IN NEW MEXICO.

Loretto Academy (Santa Fe).....	1
St. Michael's (Santa Fe).....	1
St. Vincent's Academy (Albuquerque).....	3
Rio Grande Industrial School .....	2
Albuquerque Business College.....	1
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	8
Students prepared in New Mexico .....	191

## HIGH SCHOOLS IN OTHER STATES.

Aitkin, Minn. ....	1	Mount Olive, N. C. ....	1
Anderson, Ind. ....	1	Nashville, Tenn. ....	1
Cleveland, O. ....	1	Newman, Ga. ....	1
Collinsville, Tex. ....	1	New York City .....	1
Dalhart, Tex. ....	1	Norman, Okla. ....	2
Dallas, Tex. ....	1	Palatial, Ill. ....	1
Davenport, Ia. ....	1	Palatine, Ill. ....	1
Dewey, Okla. ....	1	Pecos, Tex. ....	1
East Troy, Wis. ....	1	Pendleton, Ore. ....	1
Eden, Tex. ....	1	Pigott, Ark. ....	1
El Paso, Tex. ....	4	Portland, Ore. ....	1
Flandreau, S. D. ....	1	Prescott, Ariz. ....	1
Greenfield, Ind. ....	1	Redlands, Calif. ....	1
Greenville, Ill. ....	1	San Antonio, Tex. ....	1
Greenville, Tex. ....	1	Seattle, Wash. ....	2
Gypsum, Kans. ....	1	South Bend, Ind. ....	1
Harrison, Ark. ....	1	Syracuse, N. Y. ....	1
Helena, Ark. ....	1	Tampa, Fla. ....	1
High Point, N. C. ....	1	Tarentum, Pa. ....	1
Hutchinson, Kans. ....	2	Topeka, Kans. ....	2
Kansas City, Mo. ....	1	Townsend Harris, N. Y. City..	1
La Junta, Colo. ....	2	University of Ark., Prep Dept.	1
Los Angeles, Calif. ....	1	Washington, D. C. ....	1
Morris, N. Y. City .....	1	Zanesville, O. ....	1
Moulton, Ia. ....	1		<hr/>

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## PRIVATE SCHOOLS IN OTHER STATES.

Amboy Academy .....	1	St. Benedict's Academy.....	1
Girls' Collegiate School .....	2	St. Catherine's College .....	1
Madeira School .....	1	St. John's Military Academy...	1
McKendree Academy .....	1	St. Joseph's Academy .....	1
National Cathedral School ....	1	Wheaton Academy .....	1

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Secondary Schools of New Mexico represented.....	37
Secondary Schools of other states represented .....	59

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Total .....96-



## 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:

Baker University .....	2	New Mexico Normal School....	4
Carnegie Inst. of Technology...	1	New Mexico Normal University	3
Carroll College .....	1	Oberlin College .....	1
Case School .....	1	Park College .....	1
Chicago Normal School.....	1	Peru Normal School .....	1
Christian College .....	2	Polytechnic Inst. of Brooklyn..	1
College of the City of N. Y....	1	Polytechnic Inst. of Georgia...	1
Colorado College .....	1	Roanoke College .....	1
Colorado School of Agri. ....	1	Rutgers College .....	1
Colorado Training School .....	1	Saint Olaf College .....	1
Columbia University .....	1	Simmons College .....	2
Cornell University .....	1	Simpson College .....	1
Dartmouth .....	1	State Normal School of Pa. ...	1
Dickinson College .....	1	University of Ariz. ....	1
Englewood .....	1	University of Ark. ....	1
Florida College for Women ...	1	University of Calif. ....	1
Galloway College .....	1	University of Chicago .....	2
George Washington University.	1	University of Colo. ....	2
Girls' Collegiate School .....	2	University of Ky. ....	1
Harvey Medical College .....	1	University of Mich. ....	1
Illinois Women's College .....	1	University of Minn. ....	1
Indiana University .....	1	University of N. C. ....	1
James Milliken University ....	1	University of So. Calif. ....	3
Kansas Wesleyan .....	1	University of Tex. ....	1
Kid Kee .....	2	Valparaiso University .....	1
Marshall College .....	1	Western Reserve University....	1
Muskingum College .....	1	Woods College .....	1
New Mexico A. & M. College..	1	Wooster College .....	1

Total institutions .....

Total students with advanced standing.....

## SUMMARY OF STUDENTS BY COUNTIES IN NEW MEXICO AND BY STATES.

(Based on Home Addresses.)

Bernalillo .....	185
Chaves .....	18
Colfax .....	8
Curry .....	4
De Baca .....	0
Dona Ana .....	1
Eddy .....	10
Grant .....	4

## 144 SUMMARY OF STUDENTS BY COUNTIES AND STATES

Guadalupe .....	7
Lea .....	3
Lincoln .....	3
Luna .....	9
McKinley .....	3
Mora .....	1
Otero .....	5
Quay .....	3
Rio Arriba .....	2
Roosevelt .....	4
Sandoval .....	1
San Juan .....	12
San Miguel .....	4
Santa Fe .....	3
Sierra .....	0
Socorro .....	6
Taos .....	2
Torrance .....	3
Union .....	0
Valencia .....	3
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Total New Mexico .....	304
Arizona .....	4
Arkansas .....	2
Florida .....	1
Georgia .....	2
Illinois .....	3
Indiana .....	1
Kansas .....	5
Louisiana .....	1
Maryland .....	1
Massachusetts .....	1
Minnesota .....	1
Missouri .....	1
Nebraska .....	1
New Jersey .....	1
New York .....	1
North Carolina .....	3
Oklahoma .....	1
Texas .....	6
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Total other states .....	36
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Total .....	340

## SUMMARY OF STUDENTS BY COLLEGES, SCHOOLS, CURRICULA, AND DIVISIONS.

Graduate School of Arts, Philosophy, and Sciences.....	12
College of Arts, Philosophy, and Sciences.....	181
Curriculum Preparatory to Law.....	6
Curriculum Preparatory to Medicine .....	1

# SUMMARY OF STUDENTS BY COLLEGES, SCHOOLS, ETC. 145

College of Fine Arts .....	6
Curricula in Education .....	16
College of Engineering .....	38
Curriculum in Home Economics .....	9
Special .....	18
Unclassified .....	9
Extension .....	24
Preparatory Division .....	20
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Total .....	340

# 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 FERGUSSON, President.

ALLAN ELI BRUCE, '17, Vice-President.

ERNEST W. HALL, '16, Secretary.

LLOYD I. STURGES, Treasurer.

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**IMPORTANT:** No work is to be reported on this certificate which was done in grades below the High School.

[illegible]

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.)

\_\_\_\_\_ 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 Sciences**

**College of Fine Arts**

**Curricula in Education**

**College of Engineering**

**Curriculum in Home Economics**

This certificate is a correct statement of the high school record.

\_\_\_\_\_  
Date \_\_\_\_\_, 19\_\_\_\_ Principal. \_\_\_\_\_

\_\_\_\_\_  
(Address of Applicant)

\_\_\_\_\_  
\*Check College or Curriculum desired.

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.

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