

UNIVERSITY OF NEVADA BULLETIN

Vol. XXVII

MAY 2, 1933

No. 2

THE
UNIVERSITY OF NEVADA
ANNOUNCEMENTS



1933-1934

With Record for 1932-1933

BRING THIS BULLETIN WITH YOU WHEN YOU COME TO REGISTER

PUBLISHED QUARTERLY BY THE UNIVERSITY OF NEVADA
RENO, NEVADA

Entered in the Post Office at Reno, Nevada, as second-class matter under Act of Congress, July 16, 1894. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized April 21, 1919.



CARSON CITY, NEVADA

STATE PRINTING OFFICE - JOE FARNSWORTH, SUPERINTENDENT
1933

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1933 - CALENDAR - 1933

JAN.	FEB.	MARCH	APRIL
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1934 - CALENDAR - 1934

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UNIVERSITY CALENDAR

1933	FIRST SEMESTER
August 26-27	Saturday-Sunday.....Dormitories open to students
August 28-29	Monday-Tuesday.....Examinations for admission
August 28-29	Monday-Tuesday.....Reexamination to remove conditions
August 28-29	Monday-Tuesday.....Matriculation and registration
August 30	Wednesday.....Regular class work begins
September 4	Monday.....Labor Day
September 19	Tuesday.....Registration closes
October 20-21	Friday-Saturday.....HOME COMING
October 25	Wednesday.....Mid-semester reports are due
November 11	Saturday.....Armistice Day
Nov. 30-Dec. 3	Thursday-Sunday, inc.....Thanksgiving recess
December 22	Friday, 4 p. m.....First semester closes
December 26	Tuesday, 12 m.....Final grades must be on file with Registrar
1934	SECOND SEMESTER
January 8-9	Monday-Tuesday.....Matriculation and registration
January 10	Wednesday.....Regular class work begins
January 30	Tuesday.....Registration closes
March 7	Wednesday.....Mid-semester reports are due
March 24	Saturday.....Mackay Day
Mar. 30-Apr. 1	Friday-Sunday, inc.....Easter recess
May 7	Monday.....Senior standings must be on file with Registrar
May 11	Friday.....Meeting of Honorary Board of Visitors
May 12	Saturday, 12 m.....Second semester closes
May 12	Saturday evening.....Phi Kappa Phi address
May 13	Sunday.....Baccalaureate Sunday
May 14	Monday.....COMMENCEMENT DAY
May 16	Wednesday, 12 m.....Final grades must be on file with Registrar
August 27	First Semester of University year 1934-1935 opens

OFFICERS OF THE UNIVERSITY

THE BOARD OF REGENTS

HON. SILAS E. ROSS (1935).....	Reno
HON. GEORGE S. BROWN (1937).....	Reno
HON. GEORGE WINGFIELD (1939).....	Reno
HON. A. C. OLMSTED (1941).....	Wells
HON. FRANK WILLIAMS (1943).....	Goodsprings

OFFICERS OF THE BOARD

HON. GEORGE S. BROWN, Chairman.....	Reno
MR. GEORGE H. TAYLOR, Secretary Emeritus.....	Reno
MISS CAROLYN M. BECKWITH, Secretary.....	Reno

COMMITTEES OF THE BOARD

<i>Executive Committee</i> —GEORGE S. BROWN, GEORGE WINGFIELD, SILAS E. ROSS.
<i>Property Committee</i> —GEORGE WINGFIELD.
<i>Instruction Committee</i> —A. C. OLMSTED.
<i>Library Committee</i> —FRANK WILLIAMS.
<i>Student-Welfare Committee</i> —GEORGE S. BROWN.

HONORARY BOARD OF VISITORS

HON. J. A. SANDERS, Chairman.....	Carson City
MRS. L. L. ALLEN.....	Fallon, Churchill County
MRS. L. E. DUTTON.....	Las Vegas, Clark County
MRS. C. H. JOHNSON.....	Gardnerville, Douglas County
MRS. NEWTON CRUMLEY.....	Elko, Elko County
MRS. J. A. MOLINI.....	Dyer, Esmeralda County
HON. J. B. REBALEATI.....	Eureka, Eureka County
MRS. MARY M. COSBY.....	Winnemucca, Humboldt County
MRS. J. H. MYLES.....	Austin, Lander County
MRS. C. A. THOMPSON.....	Pioche, Lincoln County
MRS. G. E. LEAVITT.....	Yerington, Lyon County
MRS. HENRY BOERLIN.....	Hawthorne, Mineral County
MRS. MARY A. GRIFFIN.....	Tonopah, Nye County
REV. M. J. HERSEY.....	Carson City, Ormsby County
MRS. C. A. CHAPMAN.....	Lovelock, Pershing County
HON. JAMES M. LEONARD.....	Virginia City, Storey County
MRS. THURLOW DOUGLAS.....	Reno, Washoe County
MRS. F. W. MILLARD.....	Ely, White Pine County

ADMINISTRATIVE OFFICERS

WALTER E. CLARK, Ph.D., LL.D., President.
MAXWELL ADAMS, Ph.D., Vice President.
CHARLES H. GORMAN, Comptroller.
LOUISE M. SISSA, Registrar.
MARGARET E. MACK, A.M., Dean of Women.
REUBEN C. THOMPSON, M.A., Dean of Men.
JOSEPH D. LAYMAN, B.L., Emeritus Librarian.
THEA C. THOMPSON, Ph.B., Librarian.
HORACE P. BOARDMAN, C.E., Director of the Engineering Experiment Station.
CARL STODDARD, Curator of the Mackay Museum.
EDMUND S. LEAVER, Met.E., Superintendent, United States Bureau of Mines Experiment Station.
JOSEPH B. LYNCH, Superintendent of Buildings and Grounds.
MRS. ETHEL SHURTLEFF, Matron University Hospital.
DELPHA A. WOOD, B.S., Matron of Manzanita Hall.
WILLIAM R. BLACKLER, M.S., Master of Lincoln Hall.

Colleges and Schools—

MAXWELL ADAMS, Ph.D., Dean of College of Arts and Science.
FREDERICK H. SIBLEY, M.E., Dean of College of Engineering.
ROBERT STEWART, Ph.D., Dean of the College of Agriculture.
JOHN W. HALL, M.A., Dean of the School of Education and Director of the Summer Session.
JOHN ALLEN FULTON, E.M., Director of the Mackay School of Mines.

Public Service Division—

WALTER S. PALMER, E.M., Director of the State Analytical Laboratory.
VERA LAUTENSCHLAGER, M.A., Acting Director of the Hygienic Laboratory.
EDWARD RECORDS, V.M.D., Director of Veterinary Control Service.
SANFORD CROSBY DINSMORE, B.S., Commissioner, Food and Drugs Control and Weights and Measures.
SAMUEL BRADFORD DOTEN, M.A., Director of the Agricultural Experiment Station.
CECIL W. CREEL, B.S., Director of Agricultural Extension.
JOHN ALLEN FULTON, E.M., Director, State Mining Bureau.

General Library Staff—

RUTH G. NASH, B.A., Assistant Librarian.
CLARE LOUISE JOHNSON, B.A., Cataloguer.
PRECIOUS D. P. NASH, B.S., Loan Desk Assistant.

Central Clerical Staff—

CAROLYN M. BECKWITH, Secretary to the President.
 MRS. FRED A. METCALF, Clerk, Comptroller's Office.
 ALICE TERRY, Clerk, Comptroller's Office.
 LOIS LAMERTON, Departmental Stenographer.

OFFICERS OF INSTRUCTION¹University Faculty²

WALTER ERNEST CLARK, Ph.D., LL.D., President.

A.B., Ohio Wesleyan University, 1896; A.M., Ohio Wesleyan University, 1898; Ph.D., Columbia University, 1903; LL.D., Ohio Wesleyan University, 1918; Instructor in Mathematics, Ohio Wesleyan University, 1896-1899, Tutor in Philosophy, College of the City of New York, 1901-1902; Instructor in Philosophy, *ibid.*, 1902-1906; Assistant Professor of Philosophy, *ibid.*, 1906-1907; Associate Professor and Acting Head of the Department of Political Science, *ibid.*, 1907-1910; Professor and Head of the Department of Political Science, *ibid.*, 1910-1917; Extension Lecturer in Economics, Columbia University, 1916-1917; President, University of Nevada, September, 1917-.

MAXWELL ADAMS, Ph.D., Vice President; Professor of Chemistry; Dean of the College of Arts and Science.

A.B., Leland Stanford Junior University, 1895; A.M., *ibid.*, 1896; Ph.D., University of Chicago, 1904; Instructor in Chemistry, Leland Stanford Junior University, 1896; Teacher of Science, Chico State Normal School, 1897-1900; Vice President of the Chico State Normal School, 1901-1906; Professor of Chemistry, University of Nevada, 1906-; Acting Dean of the College of Arts and Science, 1917-1918; Dean of the College of Arts and Science, 1918-; Vice President of the University, 1922-.

³JAMES EDWARD CHURCH, JR., Ph.D., Professor of the Classics.

A.B., University of Michigan, 1892; Ph.D., University of Munich, 1901; Instructor in Latin and German, University of Nevada, 1892-1894; Assistant Professor of the Latin Language and Literature, *ibid.*, 1894-1895; Associate Professor of the Latin Language and Literature, *ibid.*, 1895-1896; Professor of the Latin Language and Literature, *ibid.*, 1896-1918; Professor of the Classics, *ibid.*, 1918.

JEANNE ELIZABETH WIER, B.A., LL.D., Professor of History and Political Science.

B.Dl., Iowa State Teachers' College, 1893; B.A., Leland Stanford Junior University, 1901; LL.D., University of Nevada, 1924; Acting Assistant Professor of History, University of Nevada, 1899-1901; Associate Professor of History, *ibid.*, 1901-1906; Professor of History and Political Science, *ibid.*, 1906-1917; Professor of History, *ibid.*, 1917-1921; Professor of History and Political Science, *ibid.*, 1921-.

PETER FRANDSEN, A.M., LL.D., Professor of Biology.

A.B., University of Nevada, 1895; A.B., Harvard University, 1898; A.M., *ibid.*, 1899; LL.D., University of Nevada, 1924; Assistant Professor of Zoology and Bacteriology, University of Nevada, 1900-1902; Associate Professor of Zoology and Bacteriology, *ibid.*, 1902-1903; Professor of Zoology and Bacteriology, *ibid.*, 1903-1906; Professor of Biology, *ibid.*, 1906-.

HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering; Director of the Engineering Experiment Station.

B.S., University of Wisconsin, 1894; C.E., *ibid.*, 1911; Professor of Civil Engineering, University of Nevada, 1907-; Director of the Engineering Experiment Station, *ibid.*, 1921-.

¹The record of teaching experience does not include work in high schools or academies, except for members of the School of Education, and of the Public Service Divisions, nor University instruction as fellows or student assistants. Summer School and extension instruction is also excluded.

²The President, Vice President, Deans, Librarian, Registrar, and all other persons with the rank of instructor or above, who give instruction in any of the regular college departments of the University, constitute the University Faculty.

³The order beginning here is seniority in rank.

LEON WILSON HARTMAN, Ph.D., Professor of Physics.
B.S., Cornell University, 1898; A.M., *ibid.*, 1899; Ph.D., University of Pennsylvania, 1903; Assistant Instructor in Physics, Cornell University, 1900-1901; Professor of Physics, Kansas Agricultural College, 1901-1902; Instructor in Physics, Cornell University, 1904-1905; Assistant Professor of Physics, University of Utah, 1905-1906; Associate Professor of Physics, *ibid.*, 1906-1909; Professor of Physics, University of Nevada, 1909-.

FREDERICK WESTON WILSON, M.S., Professor of Animal Husbandry.
B.S., Kansas State Agricultural College, 1905; M.S., University of Illinois, 1913; Assistant Professor of Animal Husbandry, in charge of Farmers' Institute Work, University of Arizona Agricultural Experiment Station, 1905-1906; Associate Professor of Animal Husbandry, *ibid.*, 1908-1912; Professor of Animal Husbandry, University of Arizona, 1912-1913; Professor of Animal Husbandry, University of Nevada, 1913-1914; Professor of Animal Husbandry, University of Nevada, 1914-.

REUBEN CYRIL THOMPSON, M.A., Professor of Philosophy; Dean of Men.

B.A., McMinnville College, 1899; B.A., Harvard University, 1901; M.A., *ibid.*, 1902; Teacher in Latin, Albion State Normal School, Idaho, 1905-1908; Instructor in Latin and Greek, University of Nevada, 1908-1909; Assistant Professor of Latin and Greek, *ibid.*, 1909-1910; Associate Professor of Latin and Greek, *ibid.*, 1910-1914; Professor of Latin and Greek, *ibid.*, 1914-1915; Professor of Philosophy, *ibid.*, 1915-; Dean of Men, *ibid.*, 1932-.

WALTER S. PALMER, E.M., Professor of Metallurgy; Director State Analytical Laboratory.

B.S., University of Nevada, 1905; E.M., Columbia School of Mines, 1907; Instructor in Mining and Metallurgy, University of Nevada, 1910-1913; Assistant Professor of Mining and Metallurgy, *ibid.*, 1913-1916; Professor of Metallurgy, *ibid.*, 1916-; Director, State Analytical Laboratory, 1925-.

ALBERT ELLSWORTH HILL, A.B., Professor of English.

A.B., University of Chicago, 1899; Assistant in English, University of Chicago, 1905-1907; Associate in English, *ibid.*, 1907-1909; Instructor in English, *ibid.*, 1909-1913; Assistant Professor of English, University of Nevada, 1913-1914; Associate Professor of English, *ibid.*, 1914-1916; Professor of English, *ibid.*, 1917-.

JAMES REED YOUNG, Ph.D., Professor of Psychology.

B.L., Berea University, 1907; A.B., Leland Stanford Junior University, 1909; A.M., *ibid.*, 1910; Ph.D., University of Chicago, 1916; Teacher San Diego Normal Training School, 1910-1912; Instructor in History of Education, University of Chicago, 1913-1915; Associate Professor of Education, University of Nevada, 1915-1917; Professor of Education, *ibid.*, 1917-1920; Professor of Psychology, *ibid.*, 1920-.

JOHN PAUL RYAN, Colonel U.S.A., Professor Emeritus of Military Science and Tactics.

U. S. Military Academy, 1888; Professor of Military Science and Tactics, University of Nevada, 1917-1918; Commanding Officer, S. A. T. C., *ibid.*, October, 1918-January, 1919; Professor of Military Science and Tactics, *ibid.*, 1919-1928; Professor Emeritus of Military Science and Tactics, *ibid.*, 1928-.

STANLEY GUSTAVUS PALMER, M.E., Professor of Electrical Engineering.

B.S., University of Nevada, 1909; M.E., Cornell University, 1910; Instructor in Electrical Engineering, University of Nevada, 1915-1916; Assistant Professor of Electrical Engineering, *ibid.*, 1917-1918; Professor of Electrical Engineering, *ibid.*, September, 1918-.

JOHN WILLIAM HALL, M.A., Professor of Education and Dean of the School of Education.

Principal Normal Practice School, 1890-1892; Principal Franklin School, Observation School of the University of Buffalo, 1895-1897; Superintendent Training Department, Colorado Teachers College, 1898-1900; B.S., Teachers College, Columbia University, 1901; M.A., Columbia University, 1902; Teacher of Psychology and History of Education, New York Training School for Teachers, 1901-1905; Professor Elementary Education, University of Cincinnati, 1905-1920; Dean of the School of Education and Professor of Education, University of Nevada, 1920-.

FREDERICK H. SIBLEY, M.E., Professor of Mechanical Engineering and Dean of the College of Engineering.

Ph.B., Brown University, 1898; M.E., Case School of Applied Science, 1905; Professor of Mechanical Engineering, University of Alabama, 1907-1912; Professor of Mechanical Engineering, University of Kansas, 1912-1920; Professor of Mechanical Engineering, University of Nevada, 1920-; Dean of the College of Engineering, *ibid.*, 1921-.

ROBERT STEWART, Ph.D., Professor of Agronomy and Dean of the College of Agriculture.

B.S., Utah Agricultural College, 1902; Ph.D., in Agronomy, University of Illinois, 1909; Assistant Chemist, Utah Experiment Station, 1902-1905; Assistant Professor of Chemistry, Utah Agricultural College, 1905-1908; Professor of Chemistry and Station Chemist, *ibid.*, 1908-1915; Professor of Soil Fertility, University of Illinois, 1915-1920; Dean of the College of Agriculture and Professor of Agronomy, University of Nevada, 1920-.

SARAH LOUISE LEWIS, M.A., Professor of Home Economics.

B.S., Columbia, 1919; M.A., Teachers College, Columbia, 1923; Instructor, Oregon Agricultural College, 1912-1915; Assistant Professor, *ibid.*, 1915-1917; Professor of Household Science and Head of Department, *ibid.*, 1919-1920; Professor of Home Economics, University of Nevada, 1920-.

BENJAMIN FRANKLIN CHAPPELLE, Ph.D., Professor of Modern Languages.

A.B., Dickinson College, 1908; A.M., *ibid.*, 1911; Diplome de L'Alliance Francaise, University of Poitiers, 1914; Ph.D., University of Pennsylvania, 1917; Acting Head of the German Department, Dickinson College, 1910-1911; Instructor in French, Gettysburg College, 1911-1912; Head of the Department of Romanic Languages, *ibid.*, 1912-1916; Assistant Instructor in Romanic Languages, University of Pennsylvania, 1916-1917; Assistant Professor Romanic Languages and Literatures, University of Nevada, 1917-1918; Assistant Professor of Romanics, University of Pennsylvania, 1918-1921; Professor of Romanic Languages, University of Nevada, 1921-1922; Professor of Modern Languages, *ibid.*, 1922-.

SAMUEL BRADFORD DOTEN, M.A., Professor of Agricultural Research.

B.A., University of Nevada, 1898; M.A., *ibid.*, 1912; Instructor in History and Mathematics, University of Nevada, 1890-1900; Instructor in Mathematics and Entomology, *ibid.*, 1900-1902; Assistant Professor of Mathematics and Entomology, *ibid.*, 1902-1903; Assistant Professor of Entomology, Meteorology, and Mathematics, *ibid.*, 1903-1905; Professor of Entomology, *ibid.*, 1906-1913; Entomologist and Director, Nevada Agricultural Experiment Station, 1913-; Professor of Agricultural Research, *ibid.*, 1922-.

EDWARD RECORDS, V.M.D., Research Professor of Veterinary Science.

V.M.D., University of Pennsylvania, 1909; General practice, 1909-1910; First Assistant, State Livestock Sanitary Board, Pennsylvania, 1910-1911; Veterinarian with H. K. Mulford Co., 1911-1914; Veterinarian, Nevada Agricultural Experiment Station, 1914-1917; Head of Department of Veterinary Science, University of Nevada, 1918-1922; Research Professor of Veterinary Science, *ibid.*, 1922-.

CHARLES ELLIOT FLEMING, B.S.A., Research Professor of Range Management.

B.S., Utah Agricultural College, 1909; B.S.A., Cornell University, 1910; Plant Ecologist, U. S. Forest Service, 1910; Grazing Examiner, U. S. Forest Service, 1911-1912; In Charge of Grazing Studies, Montana, 1913-1914; In Charge Grazing Reserves in New Mexico and Arizona, 1915-1916; Head of Department of Range Management, Nevada Agricultural Experiment Station, 1916-; Research Professor of Range Management, *ibid.*, 1922-.

CECIL WILLIS CREEL, B.S., Professor of Agricultural Extension.

B.S., University of Nevada, 1911; Agent, Bureau of Entomology, U.S.D.A., 1911-1912, detailed at Salt Lake City, Utah, and Agricultural Experiment Station, Purdue University, Indiana; Special Agent, U. S. Department of Interior, 1912-1913; Scientific Assistant, Bureau of Entomology, U.S.D.A., 1913-1919; County Agent Leader, Agricultural Extension Division, University of Nevada, 1919-1921; Director Agricultural Extension Division and Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1921-.

GEORGE WALLACE SEARS, Ph.D., Professor of Chemistry.

B.S., Drury College, 1908; M.S., University of Illinois, 1911; Ph.D., *ibid.*, 1914; Instructor in Chemistry, *ibid.*, 1914-1917; Instructor in Chemistry, University of Nevada, 1917-1918; Associate Professor of Chemistry, *ibid.*, 1918-1924; Professor of Chemistry, *ibid.*, 1924-1926; Head of the Department of Chemistry, *ibid.*, 1926-.

FRED W. TRAINER, Ph.D., Professor of Education.

A.B., Beloit College, 1908; M.A., University of California, 1920; Ph.D., *ibid.*, 1930; Instructor in High School, Lancaster, Wisconsin, 1908-1909; Superintendent of Schools, Lancaster, Wisconsin, 1909-1914; Instructor in Education, University of Nevada, 1915-1918; Assistant Professor of Education, *ibid.*, 1918-1920; Associate Professor of Education, *ibid.*, 1920-1924; Professor of Education, *ibid.*, 1924-; Head of Department of Secondary Education, *ibid.*, 1931-.

JOHN ALLEN FULTON, E.M., Professor of Mining Engineering; Director, Mackay School of Mines and State Mining Bureau.

B.S., University of Nevada, 1898; E.M., Columbia University, 1900; Practical work in Africa and the United States, 1900-1924; Professor of Mining Engineering, Director Mackay School of Mines, University of Nevada, 1924-; Director State Mining Bureau, 1929-.

PHILIP A. LEHENBAUER, Ph.D., Professor of Biology.

A.B., Westminster College, 1907; A.M., Millikin University, 1909; Ph.D., University of Illinois, 1914; Instructor in Botany and Horticulture, University of Nevada, 1914-1916; Assistant Professor of Botany and Horticulture, *ibid.*, 1916-1917; Plant Physiologist, University of Illinois, 1917-1922; Associate Professor of Biology, University of Nevada, 1922-1925; Professor of Biology, *ibid.*, 1925-.

FREDERICK L. BINBY, C.E., Professor of Civil Engineering.

B.S., University of California, 1905; C.E., University of Nevada, 1918; Professor of Civil and Irrigation Engineering, New Mexico College of Agriculture and Mechanic Arts, 1910-1913; Associate Professor of Agronomy, University of Nevada, 1919-1920; Associate Professor of Civil Engineering, *ibid.*, 1922-1926; Professor of Civil Engineering, *ibid.*, 1926-.

FRANCIS CLARK MURGOTTEN, Ph.D., Professor of Modern Languages.

A.B., Stanford University, 1901; A.M., *ibid.*, 1908; Ph.D., Columbia University, 1924; Professor of Hebrew, Church Divinity School of the Pacific, 1908-1918; Instructor in French, Tenth Division Schools of the British Army in Egypt, 1919; Assistant Professor of Modern Languages, University of Nevada, 1922-1924; Associate Professor of Modern Languages, *ibid.*, 1924-1926; Professor of Modern Languages, *ibid.*, 1926-.

JAY ARNOLD CARPENTER, E.M., Professor of Mining.

B.S., University of Nevada, 1907; E.M., Mackay School of Mines, *ibid.*, 1911; Instructor in Metallurgy, *ibid.*, 1908-1909; Assistant Professor of Metallurgy, *ibid.*, 1909-1910; Professor of Mining, South Dakota School of Mines, 1921-1922; Professor of Mining, University of Nevada, 1926-.

THEODORE H. POST, M.A., Professor and Director of Music.

Graduate New England Conservatory of Music, 1918; A.B., Washburn College, 1922; M.A. in Music, Harvard University, 1926; Assistant Professor of Voice Culture and Singing, Smith College, 1919-1921; Professor of Voice Culture and Singing, Washburn College, 1921-1924; Assistant Professor of Theory, Teacher of Singing and tenor soloist, Grinnell College, 1926-1927; Professor and Director of Music, University of Nevada, 1927-.

JOHN EDWARD MARTIE, M.P.E., Professor of Physical Education for Men.

B.S., Central Missouri State Teachers College, 1923; M.P.E., Y. M. C. A. College, Springfield, Massachusetts, 1930; Instructor of Physical Education for Men, University of Nevada, 1923-1924; Assistant Professor of Physical Education for Men, *ibid.*, 1924-; Acting Head of Department, *ibid.*, 1924-1926; Associate Professor of Physical Education for Men, *ibid.*, 1926-1929; Head of Department and Professor of Physical Education for Men, *ibid.*, 1929-.

ELSA SAMETH, M.S., Professor of Physical Education for Women.

A.B., Cornell University, 1911; B.S., Columbia University, 1911; M.S., University of Wisconsin, 1922; Instructor in Physical Education for Women, University of Nevada, 1913-1915; Assistant Professor of Physical Education for Women, *ibid.*, 1915-1918; Associate Professor, *ibid.*, 1918-1930; Professor of Physical Education for Women, *ibid.*, 1930-.

ALFRED LESLIE HIGGINBOTHAM, M.A., Professor of English.

A.B., Oberlin College, 1920; A.M., *ibid.*, 1920; Correspondent for Ohio Metropolitan Newspapers, 1918-1920; Reporter, Copyreader and State Editor, Cleveland Plain Dealer, 1920-1922; Editorial Staff Nevada State Journal, summer of 1923; Contributor to Magazines and newspapers, 1918-; Instructor in English, University of Nevada, January, 1923-1924; Assistant Professor of English, *ibid.*, 1924-1926; Associate Professor of English, *ibid.*, 1926-1930; Professor of English, *ibid.*, 1930-.

ROBERT MAURO BRAMBILA, Colonel United States Army, Professor of Military Science and Tactics.

B.S., Nevada, 1897; Honorary M.A., *ibid.*, 1909; Second Lieutenant, U. S. A., 1898; First Lieutenant, 1899; Captain, 1905; graduate Infantry and Cavalry School, 1904; Commandant, University of Nevada, 1905-1909; Major, 1917; Lieutenant Colonel, 1917; Colonel, 1918; graduate Infantry School, Field Officer's course, Fort Benning, 1921; Chief of Staff, 99th Reserve Division, 1927-1928; Professor of Military Science and Tactics, University of Nevada, 1931-.

CHARLES ROGER HICKS, Ph.D., Professor of History and Political Science.

A.B., Clark University, 1915; A.M., Stanford University, 1922; Ph.D., Clark, 1931; Instructor in First Commercial School, Kyoto, Japan, 1916-1918; Professor of History and Political Science, Ottawa University, 1922-1924; Instructor in History and Political Science, University of Nevada, 1924-1925; Assistant Professor of History and Political Science, *ibid.*, 1925-1928; Associate Professor of History and Political Science, *ibid.*, 1928-1931; Professor of History and Political Science, *ibid.*, 1931-.

FREDRICK WOOD, Ph.D., Professor of Mathematics.

A. B., University of Wisconsin, 1915; M.A., *ibid.*, 1916; Ph.D., *ibid.*, 1923; Instructor in Engineering Mathematics, University of Wisconsin, 1915-1917, 1919-1923; Head of Department of Mathematics, State Normal School, Indiana (Pennsylvania), 1923-1924; Lake Forest College, 1924-1925; Georgia Wesleyan College, 1925-1928; Hamline University (Minnesota), 1928-1932; Professor of Mathematics, University of Nevada, 1932-.

Associate Professors¹

KATHERINE LEWERS, Associate Professor of Freehand Drawing.

Instructor in Freehand Drawing, University of Nevada, 1905-1907; Assistant Professor of Freehand Drawing, *ibid.*, 1907-1914; Associate Professor of Freehand Drawing, *ibid.*, 1914-.

KATHARINE RIEGELHUTH, M.A., Associate Professor of English.

B.A., University of Nevada, 1897; M.A., Columbia University, 1913; Instructor in German, University of Nevada, 1905-1916; Assistant Professor of German, *ibid.*, 1916-1917; Associate Professor of German, *ibid.*, 1917-1922; Associate Professor of English, *ibid.*, 1922-.

MARGARET ELIZABETH MACK, A.M., Associate Professor of Biology and Dean of Women.

B.S. University of Nevada, 1910; A.M., Columbia University, 1913; Instructor in Biology, University of Nevada, 1913-1917; Assistant Professor of Biology, *ibid.*, 1917-1922; Associate Professor of Biology, *ibid.*, 1922-.

MEREDITH RAINES MILLER, M.S., Associate Research Professor of Agricultural Chemistry.

B.S., University of California, 1912; M.S., University of Nevada, 1927; Assistant Chemist, Alameda Sugar Co., 1909-1912; Assistant Chemist, Insecticide and Fungicide Laboratory, University of California, 1912-1918; Chemist, Nevada Agricultural Experiment Station, 1918-; Associate Research Professor of Agricultural Chemistry, University of Nevada, 1922-.

MARY E. BUOL, B.S., Associate Professor of Agricultural Extension in the College of Agriculture.

B.S., St. Lawrence University, 1912; Home Economics Teacher, Swarthmore High School, 1912-1914; Home Economics Teacher, East Orange High School, 1914-1915; Home Economics Department Head, Germantown High School, 1915-1917; Emergency Home Demonstration Agent, University of Minnesota, 1917; County Home Demonstration Agent, Minnesota, 1918-1921; Assistant Director of Agricultural Extension and Associate Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1922-.

SILAS CALVIN FEEMSTER, A.M., Associate Professor of History and Political Science.

A.B., Drury College, 1907; A.M., University of Nebraska, 1912; Professor of Latin and History, York College, 1907-1910; Assistant in History and Political Science, University of Nevada, 1913-1915; Instructor in History and Political Science, *ibid.*, 1915-1916; Assistant Professor of History, *ibid.*, 1917-1924; Associate Professor of History and Political Science, *ibid.*, 1924-.

GILBERT BRUCE BLAIR, A.M., Associate Professor of Physics.

A.B., Tabor College, 1902; A.M., Washburn College, 1904; Assistant in Physics and Astronomy, Washburn College, 1904-1905; Assistant in Alleghany Observatory, 1905-1906; Professor of Physics, Morningside College, 1907-1909; Instructor and Assistant Professor of Physics, Oregon Agricultural College, 1912-1919; Assistant Professor of Physics, University of Nevada, 1919-1924; Associate Professor of Physics, *ibid.*, 1924-.

¹Order of seniority in rank.

EDWARD G. SUTHERLAND, A.B., Associate Professor of Economics, Business and Sociology.

A.B., University of Utah, 1923; Instructor in Economics, Business and Sociology, University of Nevada, 1924-1925; Assistant Professor of Economics, Business and Sociology, *ibid.*, 1925-1926; Associate Professor of Economics, Business and Sociology, *ibid.*, 1926-.

THOMAS E. BUCKMAN, B.S., Associate Professor of Agricultural Extension.

B.S., University of Nevada, 1921; County Agricultural Agent, Lyon County, 1921-1922; County Agricultural Agent, Washoe County, 1923-1924; Acting Assistant Director, Nevada Agricultural Extension, University of Nevada, 1925-1926; Assistant Director of Agricultural Extension and Associate Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1926-.

VICTOR ELWIN SPENCER, M.S., Associate Professor of Soils Research in the Nevada Agricultural Experiment Station.

B.S., University of Illinois, 1915; M.S., *ibid.*, 1926; Associate in Soil Fertility, *ibid.*, 1915-1927; Associate Professor of Soils Research in Nevada Agricultural Experiment Station, 1928-.

JESSIE P. POPE, M.A., Associate Professor of Home Economics.

B.S., University of Nebraska, 1913; M.A., Columbia, 1926; Instructor in Home Economics, University of Nevada, 1918-1927; Assistant Professor of Home Economics, *ibid.*, 1927-1929; Associate Professor of Home Economics, *ibid.*, 1929-.

LYMAN R. VAWTER, D.V.M., M.S., Associate Research Professor of Veterinary Science.

D.V.M., Kansas State Agricultural College, 1918; M.S., Cornell University, 1931; Veterinary Inspector U. S. Bureau of Animal Industry, 1918; Assistant in Veterinary Pathology, Kansas State Agricultural College, 1918-1919; Instructor in Veterinary Pathology, *ibid.*, 1919-1920; Pathologist Nevada Agricultural Experiment Station 1920-; Assistant Research Professor of Veterinary Science, 1922-1929; Associate Research Professor of Veterinary Science, 1929-.

SIGMUND W. LEIFSON, Ph.D., Associate Professor of Physics.

B.S., North Dakota State Agricultural College, 1922; Teaching Fellow in Physics, University of California, 1922-1925; Ph.D., University of California, 1925; Instructor in Physics, University of Nevada, 1925-1926; Assistant Professor of Physics, *ibid.*, 1926-1929; Associate Professor of Physics, *ibid.*, 1929-.

VINCENT P. GIANELLA, M.S., Associate Professor of Geology and Mineralogy.

B.S., in E.E., Oregon Agricultural College, 1910; B.S. in E.M., Oregon School of Mines, 1911; M.S. in E.M., Mackay School of Mines, University of Nevada, 1920; Instructor in Metallurgy, *ibid.*, 1923-1924; Instructor in Geology and Mineralogy, *ibid.*, 1924-1928; Assistant Professor of Geology and Mineralogy, *ibid.*, 1928-1929; Associate Professor of Geology and Mineralogy, *ibid.*, 1929-.

JOHN R. GOTTARDI, M.A., Associate Professor of Modern Languages.

B.A., University of Nevada, 1921; M.A., *ibid.*, 1926; Instructor in Modern Languages, University of Nevada, 1922-1924; Professor of Modern Languages, San Rafael Military Academy, 1924-1926; Assistant Professor of Modern Languages, University of Nevada, 1926-1930; Associate Professor of Modern Languages, *ibid.*, 1930-.

PAUL ATKINS HARWOOD, M.A., Associate Professor of English.

B.A., University of Nevada, 1924; M.A., *ibid.*, 1929; In residence at Oxford University, England, as Nevada Rhodes Scholar, 1924-1927; Instructor in English, *ibid.*, 1927-1929; Assistant Professor of English, *ibid.*, 1929-1930; Associate Professor of English, *ibid.*, 1930-; Acting Master of Lincoln Hall, 1932-.

Assistant Professors¹

- GEORGE HARDMAN, M.S., Assistant Research Professor of Irrigation, B.S., Oregon Agricultural College, 1915; M.S., *ibid.*, 1916; Field Agent, Bureau of Good Roads and Rural Engineering, U.S.D.A., 1915-1916; Soil and Irrigation Expert, Eastern Oregon Land Co., 1916-1917; Irrigation Engineer, Goose Lake Valley Irrigation Co., 1917-1918; Assistant Agronomist, Nevada Agricultural Experiment Station, 1918-1919; Assistant in Irrigation, 1919-; Assistant Professor of Agronomy, University of Nevada, 1919-1926; Assistant Research Professor of Irrigation, *ibid.*, 1922-.
- JOHN HYRUM WITWER, B.A., Assistant Professor of Agricultural Extension, B.A., Utah Agricultural College, 1917; County Agricultural Agent, Uintah County (Utah), 1917-1921; County Agricultural Agent, Clark County, 1921-1923; District Extension Agent, Clark and Lincoln Counties, 1924-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1924-.
- EDITH M. RUEBSAM, B.A., Assistant Professor of Education, B.A., Columbia, 1921; Demonstration Teacher of Kindergarten and Teacher Training, San Jose (California) State Teachers College, 1915-1924; Supervisor of Rural Schools, Sonoma County, California, 1924-1925; Assistant Professor of Education, University of Nevada, 1925-.
- CHARLES LOUIS SEARCY, A.M., Assistant Professor of Mathematics, B.C.E., Purdue University, 1891; C.E., *ibid.*, 1892; A.M., University of California, 1922; Professor of Mathematics, College of Montana, 1897-1899; Assistant Professor of Civil Engineering, University of Kansas, 1899-1900; Instructor in Mathematics and Physics, Eureka (California) Junior College, 1918-1921; Instructor in Mathematics, University of Nevada, 1925-1926; Assistant Professor of Mathematics, *ibid.*, 1926-.
- WILLIAM REGINALD BLACKLER,² M.S., Assistant Professor of Economics, Business and Sociology; Master of Lincoln Hall, B.S., University of Utah, 1924; M.S., University of California, 1925; Instructor in Economics, Business and Sociology, University of Nevada, 1925-1928; Assistant Professor of Economics, Business and Sociology, *ibid.*, 1928-; Master of Lincoln Hall, *ibid.*, 1929-.
- WILLIAM I. SMYTH, E.M., Assistant Professor of Metallurgy and Analyst in State Mining Laboratory, B.S., University of Nevada, 1914; E.M., *ibid.*, 1927; Instructor in Metallurgy and Analyst in State Mining Laboratory, University of Nevada, 1925-1928; Assistant Professor of Metallurgy and Analyst, *ibid.*, 1928-.
- S. ALLAN LOUGH,³ M.S., Assistant Professor of Chemistry, A.B., University of Denver, 1924; M.S., University of Michigan, 1927; Teacher of Organic Chemistry, University of Denver Dental College, 1923-1924; Research Assistant in Physiological Chemistry, Medical School, University of Michigan, 1924-1925 and 1927; Instructor in Chemistry, University of Nevada, 1928-1929; Assistant Professor of Chemistry, *ibid.*, 1929-.
- CLAUDE CARSON SMITH, M.A., Assistant Professor of History and Political Science, A.B., Carson-Newman College, 1921; M.A., University of Oklahoma, 1924; Instructor in Social Science, Kansas City University, 1927-1929; Instructor in History and Political Science, University of Nevada, 1929-1930; Assistant Professor of History and Political Science, *ibid.*, 1930-.

¹Order of seniority in rank.²Absent on leave, 1932-.³Absent on leave, 1931-1933.

- ORPHA A. MILLER, B.A., Assistant Professor of Agricultural Extension, B.A., Indiana State University, 1913; Teacher of Home Economics, High School, Carlisle, Indiana, 1915-1916; Teacher of Home Economics, High School, Los Angeles, California, 1919-1922; Home Demonstration Agent, Imperial County, California, 1922-1927; District Extension Agent, Clark and Lincoln Counties, 1928-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1929-.
- JOSEPH WILLIS WILSON, B.S., Assistant Professor of Agricultural Extension, B.S., University of Nevada, 1913; County Agricultural Agent, Lyon County, 1917-1920; Humboldt County, 1921-1925; Elko County, 1925-1928; District Extension Agent, Northern Eureka and Elko Counties, 1929-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1929-.
- MERYL WILLIAM DEMING, Ph.D., Assistant Professor of Chemistry, B.S., University of Oregon, 1923; M.S., *ibid.*, 1925; Ph.D., University of Washington, 1928; Instructor in Chemistry, Oregon State College, 1928-1929; Instructor in Chemistry, University of Nevada, 1929-1930; Assistant Professor of Chemistry, *ibid.*, 1930-.
- CHESTER M. SCRANTON, M.A., Assistant Professor of Physical Education for Men, B.A., University of Nevada, 1924; M.A., *ibid.*, 1928; Instructor in Physical Education for Men, *ibid.*, 1928-1929; Assistant Professor of Physical Education for Men, *ibid.*, 1929-; Acting Head of Department, *ibid.*, 1929-1930.
- CHARLES LEROY BROWN, M.A., Assistant Professor of Biology, B.A., University of Nevada, 1912; M.A., *ibid.*, 1913; Instructor in Biology, *ibid.*, 1918-1929; Assistant Professor of Biology, *ibid.*, 1929-.
- HERBERT B. WILCOX, First Lieutenant, U. S. A., Assistant Professor of Military Science and Tactics, Second Lieutenant, Forty-fourth Infantry, U. S. A., 1917; First Lieutenant, *ibid.*, 1918; Assistant Professor of Military Science and Tactics, University of Nevada, 1929-.
- HAROLD N. BROWN, A.M., Assistant Professor of Education, B.S., Kansas State Teachers College, 1923; A.M., Stanford, 1927; Teacher in Clifton, Kansas, Elementary Schools, 1918-1920; Superintendent of Tampa, Kansas, Schools, 1923-1926; Critic, Junior High School, Arizona State Teachers College, 1927-1930; Instructor in Summer Session, Kansas State Teachers College, 1928; Assistant Professor of Education, University of Nevada, 1930-.
- RALPH A. IRWIN, M.S., Assistant Professor of Psychology, B.S., Kansas State Agricultural College, 1928; M.S., *ibid.*, 1929; Instructor in Psychology, University of Nevada, 1929-1931; Assistant Professor of Psychology, *ibid.*, 1931-.
- IRVING JESSE SANDORF, M.S., Assistant Professor of Electrical Engineering, B.S. in E.E., University of Michigan, 1923; M.S., Nevada, 1931; Research Engineer, Development and Research Department, American Telephone and Telegraph Company, 1923-1926, 1927-1928; Instructor in Electrical Engineering, University of Nevada, 1928-1931; Assistant Professor of Electrical Engineering, *ibid.*, 1931-.

MILAN J. WEBSTER, M.A., Assistant Professor of Economics, Business and Sociology.

B.E., Nebraska Normal College, 1908; B.A., University of Nevada, 1929; M.A., *ibid.*, 1930; Assistant in Psychology, Nebraska Normal College, 1907-1908; Instructor in Education, *ibid.*, 1908-1909; Assistant in Economics, Business and Sociology, University of Nevada, 1928-1929; Instructor in Economics, Business and Sociology, *ibid.*, 1929-1931; Assistant Professor of Economics, Business and Sociology, *ibid.*, 1931-.

VERNER E. SCOTT, B.S., Assistant Professor of Agricultural Extension.

B.S., University of Wisconsin, 1911; Instructor in Dairying, University of Nevada, 1912-1915; Acting Instructor in Animal Husbandry, *ibid.*, 1913-1914; Professor of Dairying, *ibid.*, 1919-1929; Professor of Dairying and Poultry, *ibid.*, 1929-1931; Dairy and Poultry Specialist, Agricultural Extension Department, 1915-1930; Extension Agricultural Economist, Agricultural Extension Department, 1930-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1932-.

LEWIS E. CLINE, M.S., Assistant Professor of Agricultural Extension.

B.S. in Agriculture, University of Missouri, 1905; M.S. in Agriculture, University of Wisconsin, 1907; Chemist, Missouri Food and Drug Commission, 1907-1908; Agriculturist, U. S. Department of Agriculture, 1914-1926; District Extension Agent, Churchill and Lyon Counties, Nevada, 1926-1930; Extension Agricultural Economist, University of Nevada, 1930-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1932-.

HELEN M. GILLETTE, B.A., Assistant Professor of Agricultural Extension.

B.A., University of Montana, 1919; Assistant Instructor Michigan Agricultural College, 1919; Instructor in Food and Dietetics, High School, Great Falls, Montana, 1920; Nutrition Specialist, American Red Cross, 1921-1924; Field Representative, American Red Cross, 1925-1928; Home Demonstration Agent, St. Louis County, Minnesota, 1929-1931; District Extension Agent, White Pine, Lincoln and Eureka Counties, 1932-; Assistant Professor of Agricultural Extension in the College of Agriculture, University of Nevada, 1932-.

MAE BERNASCONI-SIMAS, M.A., Assistant Professor of Physical Education for Women.

B.A., University of Nevada, 1928; Instructor in Physical Education for Women, *ibid.*, 1928-; Acting Head of Department, *ibid.*, 1929-1930; Instructor, *ibid.*, 1930-1932; Assistant Professor of Physical Education, *ibid.*, 1932-.

Instructors¹

BERTRAND FRANKLIN COUCH, Instructor in Mine Accounting.

Instructor in Mine Accounting, University of Nevada, 1924-.

ROBERT STUART GRIFFIN, B.S., Instructor in English.

B.S., Oregon State College, 1928; Instructor in Public Speaking, Oregon State College, 1927; Instructor in English, University of Nevada, 1928-.

GRANT H. HUSTIS, Sergeant, U. S. A., Instructor in Military Science and Tactics.

Instructor in Military Science and Tactics, University of Nevada, 1928-.

¹Order of seniority in rank.

WAYNE WALLACE BUEER, B.S., Instructor in Mechanical Engineering.

B.S., University of Nevada, 1928; Instructor in Mechanical Engineering, *ibid.*, 1928-1933.

LORETTA ROSE MILLER, B.S., Instructor in Biology.

B.S., University of Nevada, 1929; Instructor in Biology, *ibid.*, 1929-.

HAROLD CLARK AMENS, B.S., Instructor in Engineering.

B.S., University of Nevada, 1928; Instructor in Engineering, *ibid.*, 1930-.

LAWTON B. KLINE, M.A., Instructor in Modern Languages.

B.A., University of Nevada, 1926; M.A., *ibid.*, 1928; Assistant in Modern Languages, University of Nevada, 1928-1931; Instructor in Modern Languages, *ibid.*, 1931-.

FRANCIS S. OAKBERG, M.S., Instructor in Chemistry.

A.B., Illinois College, 1929; M.S., Nevada, 1931; Fellow in Chemistry, University of Nevada, 1929-1931; Instructor in Chemistry, *ibid.*, 1931-1933.

ALDEN J. PLUMLEY, M.A., Instructor in Economics, Business and Sociology.

B.A., Nevada, 1929; M.A., Brown, 1931; Instructor in Economics, Business and Sociology, University of Nevada, 1931-.

JACK TORNEY RYAN, Instructor in Shop Practice and Superintendent of Shops.

Instructor in Shop Practice and Superintendent of Shops, University of Nevada, 1931-.

ERNEST SPARGUER BROWN, B.A., Instructor in Economics, Business and Sociology.

B.A., Nevada, 1926; Instructor in Economics, Business and Sociology, *ibid.*, 1928-1931; 1932-.

ERNEST LOEB INWOOD, B.A., Instructor in Economics, Business and Sociology.

B.A., Nevada, 1927; Instructor in Economics, Business and Sociology, *ibid.*, 1930-1931; 1932-1933.

CLARENCE J. THORNTON, B.S., Instructor in Poultry Husbandry.

B.S., Nevada, 1926; Assistant in Poultry, *ibid.*, 1932; Instructor in Poultry Husbandry, *ibid.*, 1933-.

GEORGE ERNEST BROOKS, B.S., Instructor in Dairying.

B.S., Nevada, 1927; Assistant in Dairying, *ibid.*, 1932; Instructor in Dairying, *ibid.*, 1933-.

DELPHA WOOD, B.S., Instructor in Home Economics.

B.S. in Home Economics, Oregon State College, 1931; Instructor in Home Economics, 1932-.

Lecturers, Fellows, and Assistants

BENSON DILLON BILLINGHURST, B.S., LL.B., LL.D., Lecturer in Education.

B.S., Ohio Wesleyan University, 1897; LL.B., University of Washington, 1908; LL.D., University of Nevada, 1924; Superintendent of Schools, Prescott, Arizona, 1900-1907; Superintendent of Schools, Reno, Nevada, 1908-; Lecturer in Education, University of Nevada, 1920-.

CLYDE D. SOUTER, LL.B., Lecturer in Law in the Department of Economics, Business and Sociology.

A.B., Dartmouth College, 1906; LL.B., New Jersey Law School, 1911; Instructor, New Jersey Law School, 1914-1915; Assistant Professor, *ibid.*, 1916-1918; Professor of Law, *ibid.*, 1918-1922; Lecturer in Law, University of Nevada, 1926-.

ROBERT B. JEPSON, B.S., Lecturer in Education.

B.S., Utah Agricultural College, 1924; Nevada State Supervisor of Agricultural Education, 1926-; Lecturer in Education, University of Nevada, 1928-.

ALDA LAVENDER RUSSELL, Lecturer in Education.

Scout Executive, Youngstown, Ohio, 1916-1917; Camp Director, Texas and California, 1917-1926; Scout Executive, Sonoma and Lake Counties, California, 1926-1927; Nevada State Scout Executive, 1927-; Lecturer in Education, University of Nevada, 1928-.

BERTHA V. AKIN, B.S., Lecturer in Vocational Home Economics.

B.S., University of Nevada, 1925; Nevada State Supervisor of Home Economics, 1931-; Lecturer in Vocational Home Economics, University of Nevada, 1931-.

WILLIAM C. MILLER, M.A., Fellow in English.

B.S. in Speech, University of Southern California, 1931; M.A., *ibid.*, 1932; substitute teacher, *ibid.*, 1931-1932; Fellow in English, University of Nevada, 1932-.

RUTH MILLER FERRIS, B.A., Fellow in English.

B.A., Nevada, 1916; Fellow in English, *ibid.*, 1932-.

FRED J. COLLINS, B.A., Fellow in Economics, Business and Sociology.

B.A., Nevada, 1932; Fellow in Economics, Business and Sociology, *ibid.*, 1932-1933.

GORDON L. ROBERTSON, B.A., Fellow in Economics, Business and Sociology.

B.A., Nevada, 1932; Fellow in Economics, Business and Sociology, *ibid.*, 1932-.

UNIVERSITY STANDING COMMITTEES

The first-named member of each Committee is its Chairman, to whom all matters of business should be referred.

Admission, Entrance Examinations, and Advanced Standing—

G. W. SEARS, P. A. LEHENBAUER, S. G. PALMER.

American-Scandinavian Scholarship Nominating Committee—

R. STEWART, P. FRANDSEN, L. W. HARTMAN, S. G. PALMER, J. A. CARPENTER.

Assemblies and Lecturers—

A. L. HIGGINBOTHAM, C. C. SMITH, IRVING J. SANDORF, HAROLD N. BROWN.

Athletics—

J. E. MARTIE, R. C. THOMPSON, MISS SAMETH.

Campus Calendar—

MISS MACK, R. C. THOMPSON, T. H. POST, A. L. HIGGINBOTHAM, R. S. GRIFFIN, WM. MILLER.

Campus Employment—

MISS MACK, W. R. BLACKLER,* J. B. LYNCH.

Graduate—

M. ADAMS, R. STEWART, J. R. YOUNG.

Health—

P. FRANDSEN, J. E. MARTIE, MISS SAMETH.

High School Relationships—

F. W. TRANER, MISS RIEGELHUTH, MISS POPE.

Library—

A. E. HILL, MISS WIER, W. S. PALMER, B. F. CHAPPELLE, MISS THOMPSON.

Registration and Scholarship—

M. ADAMS, R. STEWART, F. H. SIBLEY, J. W. HALL, J. A. FULTON, MISS SISSA.

Rhodes Scholarship Nominating Committee—

M. ADAMS, R. C. THOMPSON, C. R. HICKS.

Schedules—

H. P. BOARDMAN, S. C. FEEMSTER, V. P. GIANELLA.

Scholarships and Prizes—

J. A. CARPENTER, MISS LEWIS, C. R. HICKS.

Student Affairs—

R. C. THOMPSON, MISS MACK, P. A. HARWOOD.

Teacher Appointment—

F. W. TRANER, J. W. HALL.

Vocational Guidance—

J. R. YOUNG, A. L. HIGGINBOTHAM, J. A. CARPENTER.

Chief Marshal of Formal Assemblies—

COLONEL JOHN PAUL RYAN, U. S. A.

*P. A. Harwood, acting during 1933-1935.

THE HISTORY AND DEVELOPMENT OF THE
UNIVERSITY

- 1862—*The Morrill Land Grant.* By the terms of this grant the State of Nevada received a donation of 90,000 acres of land, in 1866, "for the endowment, support and maintenance of at least one college whose leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts." The land in this State is known as the "90,000-Acre Grant," and the sales of this land have amounted to \$123,071.72, upon which the United States Government requires an annual interest of 5%.
- 1864—*Foundation.* The Constitution of the State declares that the "Legislature shall encourage, by all suitable means, the promotion of intellectual, literary, scientific, mining, mechanical, agricultural, and moral improvement," and shall provide for "the establishment of a State University which shall embrace departments for agriculture, mechanic arts and mining." A further provision in the Constitution relates to the Normal School.
- 1866—By a special Act of Congress there were seventy-two sections in the State set aside for the purpose of endowment of the universities in the State. The fund from the sale of this land now amounts to \$58,215.79.
- 1873—*Location.* The University was first located at Elko by an Act of the Legislature approved March 7, 1873. By an Act of the Legislature approved March 7, 1885, it was moved to Reno, and formally reopened March 31, 1886.
- 1887—Administration of President LeRoy D. Brown began. Student enrollment in 1887-1888 was 50. The faculty consisted of 2 members, President Brown and Professor Hannah K. Clapp. During the first year 2 additional members were added, and by the end of the second year the faculty numbered 7.
- During the first year 5 departments were recognized, although not fully organized. They were the Liberal Arts, the Mining, the Normal, the Agricultural, and the Business Schools.

- 1888—The School of Mines was organized, with Robert D. Jackson, Ph.B., as Director. The Normal School was organized, with Miss Kate N. T. Tupper as the head. The Military Department was organized, with Lieutenant Arthur C. Ducat, Jr., as commandant.
- 1889—*The Hatch Act.* The Agricultural Experiment Station was organized, President Brown acting as Director. By an Act of Congress passed March 2, 1887, known as the Hatch Act, which was accepted by this State, there was established, in connection with the colleges founded upon the Congressional Act of 1862, agricultural experiment stations, "to aid in the acquiring and diffusion among the people of the United States of useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The Hatch Act of 1887 appropriated \$15,000 annually for this support.
- 1889—The first graduates from the State Normal School.
- 1889—Administration of President Brown ended December 31.
- 1890—Administration of President Stephen A. Jones began on January 6.
- 1890—The second Morrill Act of Congress made further appropriations for endowments of institutions established under the Act of 1862. Under this endowment the University is now receiving \$25,000 per year.
- 1891—The first graduates from the School of Liberal Arts.
- 1892—The first graduates from the Schools of Mines and Agriculture.
- 1894—Administration of President Jones ended on June 30.
- 1894—Administration of President Joseph Edward Stubbs began July 1.
- 1895—The State Analytical Laboratory was organized under provisions of an Act of the Nevada Legislature of March 16, 1895.
- 1899—Washoe County presented to the University a farm of sixty acres, to be used in connection with the Agricultural Experiment Station. The cost of the farm was \$12,000.
- 1904—The tridecennial celebration of the establishment of the University was held.
- 1906—*The Adams Act.* Congress, under Act dated March

- 16, 1906, known as the Adams Act, provided for additional appropriation for the support of the Agricultural Experiment Station, limiting the money's use to necessary expenses of original research and experimental work in agriculture. This grant amounts to \$15,000 per year.
- 1907—*The Nelson Fund*. An Act of Congress of March 4, 1907, carried with it an appropriation for the further support of the universities established under the Morrill Act of 1862. The present appropriation under this fund amounts to \$25,000 per year.
- 1907—Mrs. John W. Mackay and Mr. Clarence H. Mackay began a donation to the University which founded the Mackay School of Mines, the Mackay Athletic Field, and the Mackay Training Quarters, and contributed \$25,000 toward the beautifying of the Campus. They also presented a statue in bronze by Gutzon Borglum of John W. Mackay, one of the pioneers of the Comstock.
- 1909—State Hygienic Laboratory was organized under provisions of the Act of the Nevada Legislature, approved March 25, 1909.
- 1910—Laboratory for Pure Foods and Drugs and Weights and Measures was established under provisions of Act of the Nevada Legislature of 1909, effective from January 1, 1910.
- 1911—Twenty-fifth anniversary of the establishment of the University at Reno, celebrated by Silver Jubilee and home-coming of former students and graduates.
- 1912—Mrs. John W. Mackay and Mr. Clarence H. Mackay presented to the University Board of Regents \$150,000 as an endowment for the Mackay School of Mines.
- 1914—Administration of President Stubbs closed with his death on May 27.
- 1914—By an Act of Congress known as the "Smith-Lever Act," there was established a fund for the purpose of agricultural extension. The fund, amounting to \$10,000 the first year, increased each year until it amounted in 1923 and thereafter, to \$15,699 per year.
- 1914—September 14, administration of President Archer B. Hendrick began.
- 1915—State Veterinary Control Service was organized under provisions of an Act of the Nevada Legislature, approved March 11, 1915.

- 1917—University Farm of 213 acres purchased.
- 1917—May 1, administration of President Hendrick ended.
- 1917—September 1, administration of President Walter Ernest Clark began.
- 1918—*The Smith-Hughes Act*. An Act of Congress passed early in 1917 for the promotion of vocational education. This Act provides for cooperation with the States in the promotion of such education as agriculture, home economics, trades, and industries, and in preparation of teachers of vocational subjects. Under the Nevada State Board of Vocational Education, the University of Nevada does the Nevada vocational-teacher training in accord with the Smith-Hughes Act, being granted special federal and state funds for this purpose. This work began at the University in January, 1918.
- 1918—First training detachment of 103 soldier students from June 15 to August 13; second training detachment of 103 soldier students from August 15 to October 12; Collegiate Section A—79 soldier students from October 1 to December 21; Vocational Section B—212 soldier students from October 15 to December 21.
- 1920—The School of Education was organized.
- 1920—The Rare and Precious Metals Federal Mining Experiment Station was assigned to the University July 8, 1920, by the Federal Bureau of Mines.
- 1920—A Federal Radio Station was established on the University Campus in September, 1920. The operant station and the government wireless laboratory were both housed in the smaller of the two Barracks buildings until 1924 when this station was transferred to the Federal Aviation Field south of Reno, now the Municipal Airport.
- 1920—The University of Nevada was placed on the approved list of the Association of American Universities in November, 1920.
- 1921—An Engineering Experiment Station was established.
- 1924—The Semicentennial of the University was celebrated in May with a home-coming of former students and graduates. Actual University work first began in Elko in 1874.
- 1924—The Robert Lardin Fulton Lecture Foundation was established.
- 1925—Mr. Clarence H. Mackay began his additional gift of

- \$18,000 per year, for five years, to the Mackay School of Mines.
- 1925—*The Purnell Act*. An Act of Congress passed in February, 1925, under which the income of the University's Agricultural Experiment Station was increased to \$50,000 for the year beginning July, 1925, and was further increased \$10,000 per year until the annual income reached \$90,000 in 1929.
- 1926—Mr. William A. Clark, Jr., began the construction of a Library Building in memory of his wife, Alice McManus Clark, a native of Virginia City, Nevada.
- 1926—Mr. Clarence H. Mackay gave the University \$100,000 to enlarge the Mackay School of Mines Building and to perfect its equipment.
- 1927—Presentation of Memorial Library to University by Mr. William Andrews Clark, Jr., October 21.
- 1928—Mr. Clarence H. Mackay and his mother gave the University seven beautifully bound volumes of the *Virginia City Enterprise*—a nearly complete file of this rare newspaper for the years 1866 to 1872, inclusive.
- 1928—Mr. Clarence H. Mackay gave \$6,500 to aid in collecting historical Comstock Lode material for Mackay School of Mines Museum.
- 1928—Mr. George Wingfield financed the construction of a retaining wall back of the Engineering Buildings.
- 1928—Mr. Thomas F. Cole financed important improvements on the Lincoln Hall Men's Dormitory.
- 1928—*The Capper-Ketcham Act*. An Act of Congress was passed in May, 1928, under which the income of the University's Agricultural Extension Department was increased \$20,000 per year beginning with July, 1928.
- 1929—Construction begun on Mackay Science Hall. This \$415,000 building, gift of Mr. Clarence H. Mackay, houses the Departments of Chemistry, Physics, and Mathematics.
- 1929—Under Act of March 29, 1929, the Nevada Legislature established a State Bureau of Mines, putting control under the Board of Regents of the University and making an annual grant for the first biennium of \$5,000, increased to \$10,000 annually beginning 1931.
- 1929—Mr. Clarence H. Mackay gave \$27,500 to enlarge the Stadium and refurnish the Training Quarters, presented the Walther Library of Desert Geology to the

- Mackay School of Mines and arranged to continue indefinitely the \$18,000 a year to this School.
- 1930—Dedication and Presentation of Mackay Science Hall to the University by Mr. Clarence H. Mackay, October 24.
- 1931—Under Act of March 25, 1931, the Nevada Legislature transferred to the University of Nevada the land and buildings formerly used by the Nevada Historical Society.
- 1932—Mr. Clarence H. Mackay gave \$150 to purchase a file of the *Virginia Evening Bulletin* covering the entire period of publication from July 6, 1863 to May 16, 1864. So far as is known this is the only complete file of this paper in existence.

THE UNIVERSITY ORGANIZATION

- A. College of Arts and Science.
 - School of Education and Nevada State Normal School.
- B. College of Engineering.
 - (a) Mackay School of Mines.
 - (b) School of Mechanical Engineering.
 - (c) School of Electrical Engineering.
 - (d) School of Civil Engineering.
 - (e) Engineering Experiment Station.
- C. College of Agriculture.
 - (a) School of Agriculture.
 - (b) School of Home Economics.
- D. Affiliated Organizations.
 - (a) Agricultural Experiment Station.
 - (b) Agricultural Extension Department.
 - (c) State Analytical Laboratory.
 - (d) State Bureau of Mines.
 - (e) State Hygienic Laboratory.
 - (f) Pure Food and Drugs Control and Weights and Measures.
 - (g) State Veterinary Control Service.
 - (h) United States Bureau of Mines Experiment Station.

COLLEGES, SCHOOLS, AND AFFILIATED ORGANIZATIONS

THE COLLEGE OF ARTS AND SCIENCE

The College of Arts and Science offers four-year courses leading to the degree of Bachelor of Arts. (Students who have majored in Mathematics and Science may, upon application to the faculty, receive the decree of Bachelor of Science if they prefer.)

Work in the following subjects is offered in the College of Arts and Science: Art, Biology, Business, Chemistry, Classics, Economics, Education, English, Geology, History, Mathematics, Mineralogy, Modern Languages and Literatures, Music, Philosophy, Physical Education, Physics, Political Science, Psychology and Sociology.

SCHOOL OF EDUCATION AND STATE NORMAL SCHOOL

The training of teachers at the University of Nevada embraces the following courses and divisions:

1. The School of Education (included as a division of the College of Arts and Science, but with its own Dean and its direct affiliations with the Colleges of Agriculture and Engineering), which offers to prospective secondary-school teachers a liberal and professional course of study of four years leading to the bachelor's degree and a teacher's high-school diploma, giving title to a teacher's high-school first-grade certificate, and also a special training course for future school principals and superintendents.

2. The State Normal School, which offers, to fully accredited students of college grade, two years of professional training leading to a teacher's elementary diploma giving title to a first-grade elementary certificate. Students who cannot immediately proceed after the first year to the second year of this course are granted credentials giving title to a second-grade elementary certificate.

3. The Summer Session, organized to benefit present and prospective teachers and conducted for six weeks in June and July, with a wide variety of liberal and professional courses which carry both University and State certificate credit. Due to financial stringency, the Summer Session will not be conducted in 1933.

THE COLLEGE OF ENGINEERING

The Mackay School of Mines offers a four-year course in mining, leading to the degree of Bachelor of Science in Mining Engineering which prepares students to become mining engineers, metallurgists, and mining geologists, and a one-year graduate course leading to the degree of Master of Science in Mining. The school is provided with the equipment necessary to teach efficiently the courses in mining, metallurgy and geology, which form the basis of a mining education. The professional degree of Engineer of Mines is conferred upon graduates who have held responsible mining positions for at least five years and who present satisfactory theses. A four weeks' course is offered annually in January and February to prospectors. See Prospectors' Short Course for details.

The Schools of Mechanical, of Electrical, and of Civil Engineering each offer four-year courses of instruction leading, respectively, to the degrees of Bachelor of Science in Mechanical, in Electrical, and in Civil Engineering. The shops are well equipped, and the laboratories offer most excellent facilities for practical work.

ENGINEERING EXPERIMENT STATION

The Engineering Experiment Station was established by the Board of Regents November 1, 1921. It cooperates with engineering experiment stations in other institutions and conducts useful investigations along engineering lines, publishing bulletins from time to time whenever the results justify such publication.

THE COLLEGE OF AGRICULTURE

The College of Agriculture curriculum leads to the degree of Bachelor of Science in Agriculture. This is a four-year course including, in addition to the prescribed agricultural subjects, such subjects in the College of Arts and Science as are necessary to establish in the student's mind a thorough knowledge of agricultural problems.

The four-year degree course in the School of Home Economics gives to young women of the University a comprehensive understanding of the household sciences, including both domestic science and domestic arts.

AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station receives its Federal support from the Hatch Fund (1887), from the Adams Fund (1906), and from the Purnell Fund (1925). These funds are restricted by law to the scientific investigation of agricultural problems, including the problems arising from soil conditions, the duty of water, animal diseases, poisonous range plants, economical feeding of live stock, insect pests, plant diseases, and other problems of agricultural economics and practice.

AGRICULTURAL EXTENSION DEPARTMENT

Agricultural Extension, provided for by the Federal Smith-Lever Extension Act and the Capper-Ketcham Act, is under the immediate charge of a director.

Its specific purpose is "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise." Further information concerning the work under this division, staff, etc., is given in this catalogue.

PUBLIC SERVICE DEPARTMENTS

The Legislature of the State has placed the following five public service departments under the direction of the President and Board of Regents of the University:

STATE ANALYTICAL LABORATORY

The State Analytical Laboratory, which was organized under an Act of the Legislature approved May 16, 1895, provides a means whereby citizens of Nevada may have ores and minerals, taken from within the boundaries of the State, assayed and analyzed free of charge.

STATE HYGIENIC LABORATORY

The State Hygienic Laboratory was organized in 1909 to provide facilities for the diagnosis of infectious human diseases and to provide for the control of such diseases. The services of the laboratory are available to physicians, health officers, and health boards. The laboratory is located at the corner of Fifth and Sierra Streets, Reno.

FOOD AND DRUGS CONTROL AND WEIGHTS AND MEASURES

The Act of the Legislature in 1909 which established the Food and Drugs Control and Weights and Measures Department, provides that all rules, regulations, definitions, and decisions proclaimed by the Secretary of Agriculture for the enforcement of the national law shall be adopted by this department in the enforcement of the State law. The Department of Weights and Measures is also charged with the enforcement of the provisions of the Nevada Fruit and Vegetable Standardization Act (1923). The laboratory is located at the corner of Fifth and Sierra Streets, Reno.

STATE VETERINARY CONTROL SERVICE

The State Veterinary Control Service was organized in 1915 to provide facilities for the diagnosis of communicable diseases of domestic animals, for research into the nature, cause, and methods of controlling the same, including the preparation and distribution of special sera and vaccines which cannot be purchased on the open market.

STATE BUREAU OF MINES

The State Bureau of Mines was created by the thirty-fourth session of the Legislature (approved March 29, 1929) to provide facilities for cooperation with the mineral industry of the State and to advance the development of the State's mineral deposits.

ADMINISTRATION

GOVERNMENT

The control of the University is vested by law in a Board of Regents consisting of five members elected by the people. By an Act of the Legislature, approved March 24, 1917, the tenure of office for University Regents is ten years. At each biennial election one Regent is to be elected.

The administration of the University is vested by the Board of Regents in the President of the University, the University Faculty, the Faculties of the several Colleges and the Deans and Directors of the Colleges and Schools and of the Public Service Division.

THE PRESIDENT

The President of the University is the executive head of the University. It is his duty to secure efficiency in all the departments and orderly and economical administration and healthful development in all the affairs of the University. He is ex officio a member of each committee.

THE VICE PRESIDENT

In the absence of the President or in case of his inability to act, the Vice President shall perform his functions.

DEANS

The Dean of a college or school is the administrative officer of his college or school. Any matters in which the faculty of the college can legislate are within the administrative functions of the Dean. He is directly responsible to the President of the University.

DEAN OF WOMEN

The academic and the social welfare of the women students is under the particular supervision of a Dean of Women. It is especially desirable that young women who are away from their home influences should have some one to whom they may look for advice in matters affecting their welfare as women and as students. The Dean of Women has jurisdiction over all social matters in which women students are concerned. For women students whose homes are

out of the city and who are not accommodated in Manzanita and Artemisia Halls, the Dean of Women has a list of suitable homes accommodating women exclusively and in which a parlor is provided for the reception of visitors. Women students are required to report to the Dean of Women in order that they may register their addresses. The Dean of Women invites correspondence with parents and guardians, and gladly cooperates with them regarding the welfare of students.

DEAN OF MEN

The academic and the social welfare of the men students is under the special supervision of the Dean of Men. Jurisdiction over all social matters and student organizations in which men students are concerned is given to the Dean of Men.

THE TREASURER AND COMPTROLLER

The Treasurer and Comptroller is authorized to receive all moneys arising from gifts or bounties in any form to the University or for its benefit; all fees from students or others; proceeds from all sales of farm products or any articles of personal property of whatever nature or kind; fees for services rendered in any manner, and funds from any sources whatsoever other than in cases by law required to be paid to the State Treasurer. He keeps the accounts of the moneys in his custody in such separate funds as are necessary for proper and systematic accounting.

THE UNIVERSITY FACULTY

The President, Vice President, Deans, Librarian, Registrar, and all persons who give instruction, with the rank of instructor or above, in any of the regular college departments of the University, constitute the University Faculty.¹ Subject always to the approval of the President and the Board of Regents, the University Faculty has legislative jurisdiction in all matters of government, discipline and educational policy not delegated by it to the separate faculties, and has the right of review of all actions of the several

¹Exceptions to the above rule:

1. Any member of the faculty not teaching during any given college year shall not have the privilege of voting in faculty meetings during that year.
2. New appointees shall not have the right to vote until one year after appointment, except those who may be appointed to the rank of full professor, or as the head or acting head of a department.

colleges which relate to the educational welfare of the University as a whole.

The Standing Committees, through which much of the business of the University Faculty is done, are listed on page 23 of this Catalogue.

MEETINGS

The University Faculty meets at the call of the President.

COLLEGE FACULTIES

The faculty of each college directs the educational and internal life of the college, makes rules and regulations peculiar to that college; formulates the course of study, the entrance and graduation requirements which, when approved by the University Faculty, the President and the Board of Regents, become the statutes in force in that college. It shall not have the authority to take away from a student any university privilege nor shall it trench upon the executive duties of the Deans. All matters which may require the action of the University Faculty shall be presented to that body by the Dean. The faculty of each college shall organize and carry out its functions as it deems wise. The Dean shall be chairman of the faculty and ex officio a member of all committees. The action of each faculty is subject to the approval of the President and of the Board of Regents. A copy of the minutes must be filed with the President immediately following each meeting.

DEPARTMENTS

The department is the educational unit in the University. The head of the department is responsible directly to the President for the efficiency and educational effectiveness of the department. For general administrative work the head of the department is in that college in which his major work appears.

The heads of departments make all department reports, prepare estimates for the expenses of their departments, and are responsible for the distribution and expenditure of the funds assigned to them.

ADVANTAGES AND EQUIPMENT

Reno, the seat of the University, is a substantially built and steadily growing city, numbering in 1933 twenty thousand inhabitants. It is located, at an elevation of 4,500 feet, in the beautiful valley of the Truckee River at the junction of three railroads, the Southern Pacific, a transcontinental line, the Virginia and Truckee Railway, a short line with Reno and Virginia City as terminals, and the Western Pacific Railway, another trunk-line between the east and the west.

The scenery is magnificent. The University Campus, at the northern edge of the city of Reno, is a low plateau. On the west are the Sierra Nevada Mountains, pine clad, crowned with snow the year round, and towering to majestic heights, the white summit of Mount Rose, queen of the range, being over two miles above sea-level. On the east are the lower gray-brown Virginia Mountains, endlessly restful with their subdued lights and their velvet shadows. These two ranges unite in low hills to the north, while to the south a green and fertile valley crossed by the silver thread of the Truckee, stretches to the horizon mountains.

The air is clear and invigorating. The temperature is equable. Over three hundred days of the year the sun shines from a usually cloudless sky of wondrous blue. The nights are always cool and refreshing. There are few, if any, more healthful places in America.

The grade and high school system of the city has deserved repute throughout the Pacific States. The Reno Young Men's and Young Women's Christian Associations have well-equipped quarters which are centers of athletic and social activities. University students are welcomed by all of the churches of Reno.

BUILDINGS AND GROUNDS

The University Campus has an area of sixty acres and is beautifully located on an eminence overlooking the city. The academic buildings center upon a turfed Quadrangle; broad walks and drives traverse the grounds. The natural advantages of the site respond well to landscape embellishment, and much has been done toward beautifying the grounds.

The following brief descriptions will give some idea of the

principal buildings and the purposes for which they are used:

AGRICULTURAL BUILDING—The Agricultural Building is a three story structure of brick, with stone facings and trimmings, situated directly east of the University lake. The first floor includes the administration offices, two classrooms, a large lecture room, a Home Economics laboratory, and the Botany laboratories. The second floor is devoted to the School of Home Economics and the Department of Biology, and includes the sewing laboratory, the cooking laboratory, the model kitchen and dining room, and the biological laboratories. The basement includes laboratories for dairying, farm crops, soil physics, biology, Experiment Station chemistry, soils research and the Veterinary Control Service. (1918*)

ARTEMISIA HALL—The second residence hall for women students is a modern brick building, steam heated and electrically lighted. It is located north of and adjacent to the Dining Hall. Eighty women students and the matron can be accommodated. There are double rooms, living rooms, study, tub baths, showers, lavatories, kitchenette, laundry and other conveniences for comfortable living. (1926)

BARRACKS—The Barracks Building is a two-story frame building located directly north of Lincoln Hall. It is used by the Military Department and for special exhibition purposes. This building was erected in September, 1918, for the use of the Vocational Section of the Students' Army Training Corps. (1918)

CHEMISTRY BUILDING—The Chemistry Building is a two story gray stone building standing on the west side of the Quadrangle. Fitted with laboratories and classrooms for Chemistry, it was used for Chemistry until the fall of 1930. Since then it has served as a general reserve building. (1902)

DINING HALL—The University Dining Hall is a one story brick building on the west side of the Campus. It is a conveniently equipped Dining Hall for the accommodation of two hundred and fifty students. (1905)

EDUCATION BUILDING—A two story brick building, with stone facings and columns, situated north of the Agricultural

*Figures given in parentheses at the end of paragraphs describing the buildings state the years in which the respective buildings were completed.

Building. The first floor has an auditorium seating 350, with stage and dressing room, the offices and three classrooms of the School of Education. The second floor is occupied by the Departments of Art, Economics, Business and Sociology and Psychology, and has the music room and other classrooms of Education. (1920)

ELECTRICAL BUILDING—The Electrical Building, situated on the east side of the campus, is a two-story brick building, 50x110 feet. The first floor contains classrooms and the mechanical and electrical laboratories. These laboratories are equipped with modern machinery for giving instruction in the several courses, such standard tests as are usually required being represented. The second floor contains the computing room, drafting room and the classrooms of the Civil Engineering Department. (1912)

EXTENSION BUILDING—This is a two story brick and stone building situated on the east side of the Campus directly east of the Mechanical Building. The entire second floor and a room of the basement houses the Department of Agricultural Extension. The basement is used by the Department of Buildings and Grounds. (1913)

GREENHOUSE—A working greenhouse is on the east side of the Campus. It is used by the Departments of Botany and Horticulture, and also for the study of plant industry. (1909)

GYMNASIUM—The Gymnasium is a brick building one hundred and fifty feet long and sixty feet wide. The assembly hall is one hundred feet by sixty feet, and is used for general University purposes. The building is devoted to the use of the men's and women's classes in Physical Education, and is equipped with shower baths, dressing rooms, and offices of the Physical Education departments. (1897; extension, 1922)

HALL OF ENGLISH—This one story building is situated on the west side of the Quadrangle, is constructed of brick and stone in conformity with the architecture of other buildings. It formerly housed the Library. During the summer of 1929 its interior was changed to six classrooms and an office, all now used for the work of the Department of English. (1913)

HATCH STATION—Hatch Station, as enlarged in 1926, is occupied by the Agricultural Experiment Station. The first floor is occupied by the Department of Farm Development

and the Station Library. The second floor is occupied by the offices of the Station Director and by the Departments of Entomology and Range Management. The herbarium occupies the third floor. (1891; moved to Virginia Street, basement added, 1926)

HEATING PLANT—A central heating plant supplies most of the buildings on the Campus. It consists of four large boilers, pumps, engines, motors, etc., and is operated in connection with the mechanical engineering laboratories. (1908; enlarged, 1926)

HOSPITAL—The University Hospital is situated between the Gymnasium and Lincoln Hall. This is a one-story building and contains six rooms and a basement. There are four wards—two upon the west for men and two upon the east for women. There is a convenient kitchen where the food for the patients is prepared. A matron is in charge of the hospital. The physician engaged by the Hospital Association of the University has daily office hours in this building. (1902)

LIBRARY—CLARK MEMORIAL—A two story and basement fireproof brick building, the gift of Mr. William A. Clark, Jr., in memory of his wife, Alice McManus Clark. The main stackroom and a receiving room are in the basement. The first floor has workrooms and seminar rooms. The second floor includes the main reading room, a periodical room, a display room and the main offices of the librarian and staff. (1927)

LINCOLN HALL—Lincoln Hall, the men's dormitory, is a modern three story brick building, built after the plan of such halls in use in the larger eastern colleges. It affords a comfortable home for seventy-eight men. (1896)

MACKAY SCHOOL OF MINES—The Mackay School of Mines Building, the gift of Mrs. John W. Mackay and Mr. Clarence H. Mackay, houses the Departments of Mining, Metallurgy and Geology and Mineralogy. It is a dignified and spacious structure in the colonial style, occupying a space 112x118 feet and is two stories throughout with basement, except for a light well over the library in the center of the building. In the basement are storerooms, the seismograph laboratory, geology department workroom, mining laboratory, lavatory, shower and locker rooms for the students, and the ore dressing laboratory or mill.

Upon the first floor are the chemical laboratory, electric furnace laboratory, first mezzanine mill floor of the mill, assay laboratory, museum, library, classrooms and offices of the Director, metallurgy department, and mining department.

Upon the second floor are the State analytical laboratory mezzanine floor of the museum, drafting room, seminar room, instruments room, office of the Department of Geology, the mineralogy laboratory, maproom, petrography laboratory, petrography grinding and polishing room, classrooms and Mackay research room. (1908; enlarged, 1926)

MACKAY SCIENCE HALL—The Mackay Science Hall houses the departments of Chemistry, Physics and Mathematics. It is a reinforced concrete, fire-proof, brick and stone building, 170x80 feet in dimensions and having a full basement and a sub-basement of 1,600 square feet. The basement and sub-basement have laboratories and storerooms for Chemistry and for Physics. The two main floors have laboratories, classrooms, lecture rooms, storerooms and offices for Chemistry, Physics and Mathematics. Ventilating fans occupy the attic story. (1930)

MANZANITA HALL—Manzanita Hall, the first hall of residence for women students, is a brick building electrically lighted and steam heated. It provides accommodations for about eighty-five women. There are single rooms, double rooms, and two-room suites. Some rooms have running water and all have outside exposure. There is a large sleeping porch overlooking the lake. Complete arrangements for comfortable living are provided by the presence of adequate living rooms, study, tub baths, showers, laundry facilities, etc. A covered passageway connects the hall with the Dining Hall. (1896; annex, 1909)

MECHANICAL BUILDING—The Mechanical Building which is on the east side of the Quadrangle adjoining the Electrical Building is of two story brick construction 80x80 feet. It contains a machine shop, forge shop, foundry and pattern shop. The machine shop is equipped with eight engine lathes, two Universal milling machines, power drill press, thirty-inch Gray planer, one whip crank shaper, benches, grinders, hack saws, and a full complement of small tools sufficient to handle a class of fifteen men at one time. The forge shop is equipped with twelve down-draft forges with

anvils and necessary tools. The foundry contains a No. 0 Whiting cupola and a brass furnace with the usual small equipment for casting iron and brass. The pattern shop is equipped with band saw, jointer, jig saw and a complete outfit of benches, small tools and lockers sufficient for twenty students at one time. This building also contains the Civil Engineering testing laboratory. (1897)

MINES EXPERIMENTING BUILDING—This building has been erected north of the east wing of the School of Mines Building. It is a two story and basement brick building, housing the storage rooms, laboratories, library, and offices of the Federal Rare and Precious Metals Mining Experiment Station. (1921)

MORRILL HALL—Morrill Hall is a three story brick building with a large basement. On the first floor are the offices of the President, the Comptroller, and the Registrar. The Departments of Classics and Philosophy occupy the second floor. The third floor is used for overflow classes. The office of the Superintendent of Buildings and Grounds and the University Post Office are in the basement. (1886)

PRESIDENT'S HOUSE—The President's house is situated on the southeast corner of the Campus. (1900)

STEWART HALL—Stewart Hall is a three story brick building with a basement. The basement is used as an armory and contains also the offices of the Military Department. The Department of History and Political Science occupies the first floor. The second floor is occupied by the Department of Modern Languages. (1890)

THE MACKAY FIELD AND TRAINING QUARTERS—The natural amphitheater on the Campus, which had been leased to the University for a number of years by former Regent Evans, was purchased for the University by Mr. Clarence H. Mackay and provision made for its improvement. In order to make room for other branches of athletics, such as basket ball and tennis, the Nevada Legislature of 1909 made provision for the purchase of additional land to the south of the old field, so that now about ten acres of land is being used for athletic purposes. The improvements donated by Mr. Mackay include a Training Quarters Building, situated on the east side of the field (1909). This building has showers, baths, locker and dressing rooms, a committee room, and a lounging room. Directly opposite to this on the west bank are the bleachers

and colonnade. The natural slope of the bank has been utilized so that the field closely resembles the stadium used at the ancient Olympic games. Originally, in 1909, there were seventeen tiers of concrete, with a colonnade for a covered grandstand in the rear and a seating capacity of about two thousand. In the summer of 1929, through an added gift from Mr. Mackay, this Stadium was enlarged to a seating capacity of more than five thousand.

Situated between these structures is a full-sized American football field, surrounded by a quarter-mile track which has an arm extended to make provision for the 220-yard events.

THE EXPERIMENT STATION FARM—East of the University Campus lies the 60-acre farm given by citizens of Washoe County to be used for agricultural experimentation. (1899)

THE UNIVERSITY FARM—Four miles south of Reno the State purchased, in 1917, a 213-acre farm primarily for use as a stock farm. (1917) Owing to the financial emergency, such use of this farm has been suspended since July 1931. Substitutional arrangements for using equipment and live stock of private dairy farms and equipment and flocks of private poultry farms have been in effect since July 1931 in connection with the Dairy and the Poultry courses.

LIBRARIES

GENERAL LIBRARY

The University Library, housed in the Alice McManus Clark Memorial Building, contains 54,914 bound volumes and several thousand pamphlets. The books have been selected with particular reference to the needs of the several departments of study; but, besides the works needed by special departments, there are many general works and reference volumes of various kinds. The books are catalogued according to the Dewey Decimal Classification System.

The reading room is supplied with daily and weekly newspapers and with many of the best periodicals. The list includes subscriptions to about two hundred of the leading cultural, scientific, and technical magazines and journals.

During the University year, excepting legal holidays, the Library is open from 7:30 a. m. to 9:30 p. m. Mondays to Thursdays, inclusive; 7:30 a. m. to 6 p. m., Fridays; 7:30 a. m. to 12:30 p. m. Saturdays; 1:30 p. m. to 5:30 p. m.

Sundays. Thanksgiving, Christmas and Easter vacation periods the Library is open daily from 8:30 to 4:30, except Sundays and legal holidays. During the summer vacation the Library is open daily, excepting Sundays and legal holidays, from 9 a. m. to noon.

To the general public (not children) is extended the use of the Library under such restrictions of the time for which a book may be withdrawn as are necessary to prevent interference with the work of the students. Borrowers residing outside of Reno are asked to pay the necessary postage or expressage on the books loaned to them.

AGRICULTURAL EXPERIMENT STATION LIBRARY

The Agricultural Experiment Station Library, containing about twenty-eight hundred bound volumes and a large number of pamphlets is housed in Hatch Station. The volumes and pamphlets may be classified broadly as follows: Bulletins and Reports of the Experiment Stations of the various States, publications of the United States Department of Agriculture, and general works on agriculture and the related sciences. Many current agricultural periodicals are on the tables in the reading room. The library is catalogued and classified, and suited for ready reference. It is open daily, and, while intended primarily for the use of the Station Staff, it is also accessible to the public.

MINING LIBRARY

Reference books, textbooks, recent technical journals, and other works pertaining to geology, mineralogy, mining, and metallurgy are concentrated in one large study room which is conveniently located upon the ground floor of the Mackay School of Mines. The library consists of some 2,000 bound volumes, in addition to which is maintained a complete set of publications of the U. S. Geological Survey and the U. S. Bureau of Mines. The Consolidated California and Virginia Mining Company donated a complete set of records of the company operations during the period of the Big Bonanza. These records include correspondence, mine, bullion, and mill reports, etc., and are invaluable from a historical point of view. Frederic J. Siebert donated his mining library of about three hundred volumes. Many of these books are out of print. The late Professor R. D. Jackson's widow donated

Professor Jackson's reference and notebooks. Mrs. George Lloyd presented several valuable text and reference books. Thirty current periodicals are received. This library is open at all times during the sessions.

THE MACKAY RESEARCH LIBRARY

The Johannes Walther Library, comprising about 7,000 papers on desert geology, paleontology and ore deposits and being one of the most complete libraries in its field of desert geology in the entire world is housed in the Mackay Research Room of the Mackay School of Mines building. The cost of purchasing this Library in Germany, of bringing it to Nevada, and of furnishing and finishing the research room throughout in oak with built-in bookcases was borne by Mr. Clarence H. Mackay, and is an additional gift of his to the University. The research room is on the second floor of the building, opposite the entrance portico. This room is well lighted by skylights and windows. Two large oak tables, chairs, world atlas stand, dictionary stand, map filing cabinet (capacity 1,000 maps), wall brackets for big maps on rollers, reference books, United States Geological Survey bulletins and monographs, reports of State geological departments and other literature necessary for geological reference are found in this Library.

MINING EXPERIMENT STATION LIBRARY

The library of the U. S. Bureau of Mines Station at the University consists of between 2,000 and 3,000 volumes and pamphlets. The important mining and research periodicals are received, together with the publications of the Bureau of Mines.

OTHER DEPARTMENTAL LIBRARIES

These libraries are maintained primarily for the use of students taking work in the respective departments. They cover animal husbandry, biology, chemistry, education, home economics, physics, and veterinary science.

COUNTY AND STATE LIBRARIES

Besides the University libraries, members of the University have the facilities of the Washoe County Library of 46,206 volumes and of the State Library at Carson City which has over 118,000 volumes, 46,000 of which make one of the best Law Libraries in the west.

LABORATORIES

ARTS AND SCIENCE LABORATORIES

Biological—The Biological Department occupies part of the basement, part of the main floor and the north half of the second floor of the Agricultural Building. There are seven laboratories consisting of the following: (1) The main laboratory, used for all the elementary courses, which will accommodate thirty-five students; (2) the advanced zoological laboratory; (3) the elementary and advanced botanical laboratories; (4) the plant physiology and pathology laboratory; and (5) the anatomy laboratory. The first three are located on the second floor, two are on the main floor and two are in the basement. In addition to these laboratories, there are small rooms for storage, an ice room, a dark room, a fireproof incubator room, and a small museum and exhibition room. In the basement there are arrangements for the keeping of running aquaria and supplies of living animals. In the central part of each laboratory are stationary tables provided with gas, water, and sink connections, lockers and drawers—all adapted for the setting up of apparatus in physiological and other experimental work. Tables grouped in front of the windows are arranged for microscopic work. Each individual table is provided with a microscope, locker, and combination lock drawers for the keeping of individual supplies and apparatus. Wall cabinets, reagent cases, and lockers are used for storing general equipment and supplies. The department possesses fifty-five compound microscopes, ten of which are provided with oil immersion lenses and all the accessories needed for the most delicate and precise microscopical work. Among the larger pieces of apparatus are an electrical incubator, a Freas electric oven, paraffin water bath, dry air and steam sterilizers, autoclave, centrifuges, and a full projection apparatus for microscopic lantern-slide and opaque demonstrations. Four complete sets of physiological apparatus will accommodate eight students in experimental animal physiology. Smaller apparatus and a greenhouse make possible a limited amount of work in plant physiology.

Chemical—The Mackay Chemical Laboratory occupies the north half of the new Mackay Science Hall. The large lecture room, department library, seminar and classrooms, occupying the central part of the building, give ample room

for reference and other work connected with the laboratories. Four laboratories accommodating twenty-four students each and fitted with gas, water, electricity, individual desk hoods, etc., occupy the northeast portion of the basement and first floor for the use of general chemistry and qualitative analysis. In connection with these laboratories are two balance rooms and a hydrogen sulphide room. Above these laboratories, on the second floor, are situated the laboratories for quantitative analysis and organic chemistry. Each will accommodate twenty-four students working at the same time. They are fitted with gas, water, steam, vacuum, compressed air, alternating and direct current electricity, fume hoods, ovens, etc. A balance room and Kjeldahl digestion room are located close by.

In addition to these, smaller laboratories are provided for physical, physiological and advanced inorganic and organic chemistry. These are all equipped with gas, water, steam, compressed air, vacuum, electricity, fume hoods, etc., for advanced work and research in these fields. A dark room, refrigerator room, and large storerooms for supplies are provided. The dispensing room is situated on the first floor and connected with the other two floors by an electrically driven dumb waiter so that students working on any floor may be served conveniently and with little delay.

A furnace room, equipped with both gas and electric furnaces of various types, a grinding room with various grinding machinery and a shop and glass blowing room are located in the basement.

Geological and Mineralogical—The Department of Geology and Mineralogy is provided with reference collections illustrating the minerals, rocks, and fossils, and with class collections for study and determination. Also all folios and some 2,000 topographic maps published by the U. S. Geological Survey are provided for laboratory use. The Mineralogical Laboratory is arranged, for the present, for the accommodation of single sections of forty students. There is, in addition, a laboratory fitted up for microscopic work, and equipped with petrographical microscopes and the necessary accessories. It has also a set of mineral thin sections cut in definite direction, and a collection of rock sections with many representatives of each of the chief types, together with many sections illustrating special types. A separate grinding room is provided with apparatus for

making thin sections of rocks and minerals. Blowpipe and other chemical work is also provided for. A lantern with a growing collection of slides furnishes additional illustrative material for lecture work. A dark room for photography is also provided for the department.

Physical—The work of the Physical Laboratory is fully adapted to the needs of the students of arts, science, medicine, education, or engineering. The General Laboratory contains, besides a shop, a Freshman and Sophomore laboratory for work in sound, mechanics, heat, light, magnetism, and electricity. The equipment of these laboratories consists of modern apparatus of approved design and substantial construction, suited for accurate physical measurements. The apparatus for the more important experiments has been duplicated, so that at present individual work can be insisted upon in the laboratory. Aside from the main laboratories, there are a weighing room, containing four Becker balances mounted on piers; a dark room provided with standard photometric apparatus; and a battery room equipped with sixty lead storage batteries and fifteen Edison storage batteries. The department shop contains a motor-driven lathe, with taper attachment, change gears for cutting metric threads, and all other accessories, hand tools for wood and metal work, including metric taps and dies, a small circular and linear dividing engine, and a direct current dynamo with two armatures, furnishing current at various voltages. All of the laboratories are supplied with water, gas, and electricity.

ENGINEERING LABORATORIES

Civil Engineering—The Civil Engineering equipment includes the following items:

A 200,000-lb. capacity Riehle general testing machine, electrically operated, equipped for testing materials in tension, compression, bending and shear.

A 100,000-lb. capacity Riehle hand operated, hydraulic compression testing machine.

A 1,000-lb. capacity Fairbanks and Morse tension testing machine for cement and various other necessary cement testing equipment.

A good assortment of surveying instruments.

A large accurate suspended pantograph.

A complete set of railroad curves and other important drafting room equipment.

A computing machine of Swiss manufacture.

A Burroughs adding machine.

This equipment is in the Electrical Building, second floor, except the strength of materials testing machines and other apparatus located on the first floor of the Mechanical Building.

Electrical—The Electrical Laboratory contains equipment for making the experiments usually included in undergraduate courses in electrical engineering. The equipment is up-to-date and machines of standard types are available for study and operation. Measuring instruments covering a wide range of indicating, graphic and integrating types and in both commercial and laboratory forms are available. The main laboratory contains the following equipment:

Motor generator sets:

Synchronous motor/alternators, 45 hp/37½ kva.

Induction motor/3 wire direct current generator, 25 hp/20 kw.

Induction motor/direct current generator, 7½hp/5½ kw.

Direct current motor/direct current generator, 5 hp/3¼ kw.

Induction motor/direct current generator, 15 hp/7 kw. (two sets).

Single phase induction motor/500 cycle alternator, 5 hp/2½ kw.

Single phase induction motor/direct current generator, 2 hp/1 kw.

Single phase induction motor, 1,500 volt direct current generator, ½ hp/500 watt, for communication laboratory.

Direct current motor/alternator, 10 hp/7½ kw. The alternating current unit has four interchangeable rotors and twelve armature terminals. Especially constructed for laboratory purposes.

Alternating current/alternating current, 15 kva/15 kva. Phase displacement, dynamometer set, constructed for laboratory purposes. Each unit has twelve armature terminals to permit the making of various types of connections.

Single units which may be tested singly or combined with other units are provided as follows:

Laboratory type, 10-kw. rotary converter with three special 5 kva. transformers, and control equipment.

Direct current motors 25 hp. and 3 hp.

Direct current generators 15 kw. and 2¼ kw.

Single phase induction motor 3 hp.

Three phase induction motor 5 hp.

For the laboratory testing of the motors and generators named there are two switchboards, provided with controlling and metering equipment, and numerous single portable loading and control units, resistors, reactors and condensers.

The communications laboratory contains the following:

Telephone demonstration plant for two subscribers.

Mercury arc rectifier, 10-70 volts, 10 amperes.

Vreeland oscillator with condenser for frequency control.

Vacuum tube oscillator, beat frequency type, 20-9,500 cycles.

Vacuum tube voltmeter-millimeter for the comparison of alternating currents of 300 to 5,000 cycles.

Impedance bridge for voice frequencies.

Artificial line of 25 sections, each a combination of resistances, inductances, and capacitances. Suitable switches are included by which the line can be made to simulate either a 10 gauge telephone line or a No. 0 gauge power line.

Batteries—130 volt-200 ampere hours and 32 volt-1,500 ampere hours. Also miscellaneous portable batteries for use in the communication laboratory.

Short-wave radio transmitter for telephone and continuous wave operation.

Assortment of variable resistances and condensers for use in communications laboratory.

Mechanical—The Mechanical Laboratory is arranged to present a series of about thirty fundamental experiments in mechanical engineering in the regular courses. In addition, equipment is available for research problems. Each of the regular test units is flexibly arranged so that complete operating characteristics of the type represented may be secured.

In the laboratory are the following units:

An 80-hp. oil-fired Babcock and Wilcox boiler with injector, feed pump and hot well.

A Maihak high speed engine indicator.

A 12x24 Corliss engine belted to an alternator provided with grid rheostats for loading.

A 10x10 high speed, piston valve, automatic cut-off Buffalo Forge Co., steam engine with Prony brake.

A 5x5 vertical slide valve Ball engine.

A 7-kw. Curtis turbo-generator with control panel.

A 6-hp. DeLaval steam turbine geared to a centrifugal pump.

A Wheeler surface condenser connected so that it may be used with any of the steam units.

For gas-engine testing there are the following:

A 6-hp. vertical gas engine.

A 4-hp. gas engine geared to a displacement pump.

A Buick automobile engine.

A Studebaker automobile engine.

A complete 12 cylinder Liberty airplane engine and other small gas engines.

A 5-hp. motor-driven air compressor.

A Sprague dynamometer 100-hp. unit for testing any high speed internal combustion engine. The last-named unit will be provided with auxiliary equipment to convert it into an automobile chassis dynamometer when desired. Complete apparatus for fan testing and air flow measurements, for solid, liquid and gaseous fuel analysis; for calorimetry, including a Parr adiabatic oxygen bomb calorimeter, and a Sargant gas calorimeter for experimental crude oil distillations and for instrument testing. Standard instruments such as pyrometers, pressure indicating and recording gages, steam calorimeters, Orsat apparatus, engine indicators, etc., are included in the equipment.

The funds and facilities of the Engineering Experiment Station are available for work on research problems.

MINING SCHOOL LABORATORIES

Assay—The Fire Assay Laboratory in the Mackay Building is equipped with five gas-fired muffle furnaces and gas-fired melting furnace, six Thompson pulp scales for weighing assay pulps, and suitable hood for parting. Adjoining the Laboratory is a storeroom for supplies and a grinding room for the preparation of samples. The grinding room is equipped with a Braun sample jaw crusher, Braun pulverizer, shaking screen, bucking board, and exhaust fan for removing dust.

Connected with the fireroom is the weighing room. Both chemical and button balances for assaying work are placed in this room. The equipment consists of two analytical balances and eleven button balances. Different makes of balances are in use, including the Becker, Ainsworth, Keller, Oertling, and Staudinger.

Chemical—The Chemical Laboratory of the School of Mines is fully equipped with the usual desks, hoods, hot

plates, and air baths. Electric air baths and drying pans are provided for overnight work. Four four-gallon slime agitators, driven by a small electric motor, are used for slime tests. A direct connected electric driven exhaust fan draws the air from the hood in this laboratory. A complete electrolytic outfit for lead, copper, and other determinations has been installed. The equipment also includes a Richlitz automatic water still, a Monroe hydraulic classifier, and a Spencer binocular microscope.

Geological and Mineralogical—The Department of Geology and Mineralogy is provided with reference collections illustrating the minerals, rocks, and fossils, and with class collections for study and determination. Also all folios and some 2,000 topographic maps published by the U. S. Geological Survey are provided for laboratory use. The Mineralogical Laboratory is arranged, for the present, for the accommodation of single sections of forty students. There is, in addition, a laboratory fitted up for microscopic work, and equipped with petrographical microscopes and the necessary accessories. It has also a set of mineral thin sections cut in definite direction, and a collection of rock sections with many representatives of each of the chief types, together with many sections illustrating special types. A separate grinding room is provided with apparatus for making thin sections of rocks and minerals. Provision is also made for blowpipe and other chemical work. Lanterns, with a growing collection of slides, furnish additional illustrative material for lecture work.

Metallurgical and Ore Dressing—The Metallurgical and Ore Dressing Laboratory equipment includes the following:

One 4 x 8 Sturtevant jaw crusher, one pair 10 x 12 crushings rolls; 2 ft. x 5 ft. Stearns-Rogers rod mill; 15-ft. Dorr classifier, one two-compartment bucket elevator and one Vezin automatic sampler. All of these machines are so arranged that ore passes mechanically through any desired series after being fed to the jaw crusher. An exhaust fan prevents dust escaping from the dry crushing machines. The overflow from the Dorr classifier is pumped to two Devereux agitators which in turn are connected to either of two classifiers, a double cone or a Fahrenwald, thence to a Deister Plat-O table or a Deister slime table. Centrifugal pumps circulate the pulps or pump them to waste.

The smaller equipment consists of two Janney flotation machines, one Ruth and one Callow, with accessory equipment for preparing samples, a small General Engineering unit consisting of a small two-compartment jig and small Wilfley table.

A large roller agitator is provided for cyanide testing and also a small mechanical agitator for somewhat larger tests.

Special equipment consists of a two-compartment jig, Sperry filter press, suction filter leaves, vacuum pump, 150-lb. tube mill, Krupp ball mill, and platform scales.

Power is supplied by several motors varying in size up to 25 hp. All the machines are so arranged that they can work independently or in conjunction with one another. The following processes may be conducted on a working scale: The dry crushing and automatic sampling of an ore; the concentration of sands and slimes after crushing an ore either in stamp battery or rolls; the wet crushing, plate amalgamation, and concentration of a gold ore; the cyanide treatment of a gold or a silver ore, and the pan amalgamation of a silver ore. Fine grinding plant in enclosed circuit to prepare ores for cyanidation, concentration, flotation, or any other tests. A very representative collection of various types of ores for testing purposes is maintained.

Metallographic—The Metallographic Laboratory is equipped with the following:

One Sauveir & Boylston polishing machine; one Warner & Swasey polishing machine, and a Leitz grinding machine; two large Leitz metallurgical microscopes with photomicrographic cameras; one Heele-Berlin spectroscope; one Spencer metallurgical microscope; one electric hot plate; one set prepared specimens of the common and ferro alloys.

Electro-Metallurgical—The electro-metallurgical equipment consists of a Munning direct current generator operated by alternating current motor; one large General Electric automatically controlled heat treating furnace; one small heat treating muffle furnace and a small arc melting furnace. Additional equipment is also available in the United States Bureau of Mines Building.

Mining—The Mining Laboratory consists of the following equipment:

One 8½-inch by 9-inch Laidlaw feather-valve compressor;

one 25-hp. motor, direct connected to compressor; one Ingersoll-Sargeant piston drill; one Cochise piston drill; one jackhammer drill; one Waugh stopper; one butterfly stopper; one Obertop drill tester; one Tool-O-Meter; one Clark airmeter; one electric blasting machine; one breathing apparatus; hand and machine drill steels, mine lamps, shovels, hygrometers, anemometers, etc.

Petrographic—The Petrographic Laboratory includes the following equipment:

One Sauveir & Boylston polishing machine; apparatus for hand polishing; rock saws; five grinding laps; eight Bausch & Lomb petrographic microscopes; one Iver tint photometer; seven Lietz petrographic microscopes; one Warner & Swasey polishing and grinding machine; one reflecting goniometer; one Abbe refractometer; one microscope for the study of polished sections of opaque ores and minerals; 1,200 slides of rocks and minerals; 1,500 hand specimens of rocks and minerals.

Seismograph—The Seismograph Laboratory equipment consists of one Weichert inverted two-component seismograph, and a small Ewing duplex pendulum. These are kept in continuous operation throughout the year. The records are used chiefly for the study of earthquakes of local origin.

PUBLIC USE OF SCHOOL OF MINES LABORATORIES

As there are no public testing laboratories in the State of Nevada, the University Board of Regents has authorized the use of the laboratories of the Mackay School of Mines by properly qualified persons under certain restrictions. The conditions under which the laboratories may be used are as follows:

1. The laboratories may be used only during regular laboratory hours, which are from 8:40 to 12:15 a. m. and 1:15 to 3:45 p. m. from Monday to Friday, inclusive, and from 8:40 to 12:15 a. m. Saturday. The laboratories may not be used on Sunday. All work must be planned to conform to this requirement, and no motors may be left running at other times.

2. No person will be permitted to use the laboratories at times when his work will interfere with that of students, faculty, or other experimenters.

3. Any person desiring to use the laboratories must first

satisfy the instructor in charge that he is thoroughly capable of undertaking the work he has in view.

4. He must then present to the instructor a written application setting forth the work he proposes to undertake and stating what machines he wishes to use and for what lengths of time. The use of the assay laboratory for routine assaying will not be permitted.

5. If the instructor approves this application, he will sign it and note thereon the fees and deposits which he considers necessary to reimburse the University for supplies used, power consumed, wear on machinery, breakage, etc.

6. The application must be presented to the Comptroller and the fees and deposits noted thereon paid before laboratory work may begin. Any unused portions of deposits may be recovered from the Comptroller upon presentation of a refund order signed by the instructor.

7. The laboratories must be kept in good order during the experiments, and at the conclusion of the experiments must be put in the same condition in which they were found.

LABORATORIES OF THE EXPERIMENT STATION OF THE UNITED STATES
BUREAU OF MINES

The laboratories of the U. S. Bureau of Mines are equipped to carry on investigations in ore dressing, flotation, hydro- and electro-metallurgy, chemistry, and radioactivity. The usual facilities are provided for assaying and chemical analysis. The equipment for preliminary ore dressing includes a Case crusher, iron rolls, Braun and McCool pulverizers, coffee mill, Abbe silex-lined ball mill, Abbe pebble mills, Patterson iron ball mill, Sturtevant impact screen, Tyler automatic screen shaker with a complete set of screens, Wetherill and Dings magnetic separators, Richards pulsating classifier and jig, Wilfley table and a centrifugal concentrator of special design by the Station. Flotation equipment of various designs includes two Ruth, two mechanical, one Colburn, and one Janney machine. The hydrometallurgical equipment consists of earthenware leaching pots, redwood agitating and settling tanks, acid-proof distributing pumps, filter presses, and vacuum and pressure pumps. The electrical equipment consists of an electrical switchboard of 50-kva. capacity, and electric vacuum, arc, and resistance furnaces. The laboratories for work in radio-activity are

provided with a full electroscopic equipment for the measurement of radium ores and the various radio-active products, and includes alpha ray and emanation electroscopes, designed by the Bureau of Mines. Equipment for high-temperature measurements consists of a Brown pyrometer, platinum-rhodium and base metal thermocouples, and a Leeds and Northrop potentiometer, also a Caron-Clevenger reduction furnace for the treatment of refractory manganiferous silver and gold ores. In the pyrometallurgical department a specially designed furnace has been erected for the continuous reduction of zinc oxides, including the auxiliary mechanical parts, also a six-hearth, 2-foot diameter Herreschoff roasting furnace.

AGRICULTURAL LABORATORIES

Dairy (Room 12, Agricultural Building)—This laboratory contains machinery for the manufacture of butter, ice cream and cheese, and equipment for bottling milk and sterilizing utensils. It also has full equipment for making quantitative and qualitative tests of all dairy products. The present equipment can easily accommodate ten students in any one section.

Experiment Station Chemical—In this laboratory students who are interested in agriculture have an opportunity to pursue work according to the methods adopted by the Association of American Agricultural Chemists.

Farm Crops—This laboratory includes a large display of samples of seeds and matured plants of the different varieties of cereal and forage crops. The equipment includes a large electric germinator for testing all kinds of farm seeds for germination; testers and cleaners; dockage machines; and other equipment used by the Federal Government for the commercial grading of grain and hay. Students will make germination and purity tests of commercial samples of farm seeds sent to the laboratory from the various farming districts of the State.

Soil Physics—The Soil Physics Laboratory contains tables fitted with gas and water, and holding the chemical reagents used in the work; soil screens; tubes for determining capillarity, water retention and effect of mulches. Various appliances for determining column weight, pore space, specific gravity, etc., are provided. Harvard balances for weighing, not demanding extreme accuracy, and

analytical balances for the more exact work are furnished. In connection with the soil-moisture work, there are provided balances for weighing, soil cans, an electric soil oven, and soil augers and tubes for taking samples. For the work in mechanical analysis, the laboratory is fitted with analytical balances, agitator, soil sieves and shaker, and a centrifuge.

Veterinary Science—This laboratory is fitted up for research in pathology and bacteriology. It is used for the work of the Department of Veterinary Science in the Agricultural Experiment Station, and the State Veterinary Control Service.

HOME ECONOMICS LABORATORIES

Cooking—The cooking laboratories, pantries and locker rooms are on the second floor of the south half of the Agricultural Building. The Cooking Laboratory is equipped with tables, four set-in white enamel sinks, and gas plates for twelve students, around a hollow square, with all the utensils for individual practice in cooking, and with full equipment for a large quantity of cooking and catering. There is a wood and coal range, and oil and electric stoves, so that the students may learn the use of all common fuels. Adjoining the unit kitchens is a dining room suitably furnished for catering. The large built-in sideboards and side-wall lights make the room very attractive.

Sewing—The Sewing Laboratory, well lighted by south and west windows and the modern electric fixtures, is fitted with sewing and drafting tables and individual lockers for twenty students, with ironing boards, irons, and six sewing machines. Adjoining this room is a large garment-fitting room equipped with full-length triplicate mirrors and space for hanging all garments in the process of making.

Applied Art—This laboratory, on the first floor, is equipped with low work tables and individual lockers for twenty students.

Demonstration—The Demonstration Laboratory and Lecture Room has raised seats for one hundred students, and a 16-foot demonstration table equipped with a white enamel sink, and a gas range. This lecture room is also provided with a lantern for illustration of demonstrations and lectures.

SCIENTIFIC COLLECTIONS

MACKAY MUSEUM

The Mackay Museum, located in the northwest wing of the Mackay School of Mines, contains the mining, metallurgical, geological, and mineralogical displays. The exhibits in this museum are arranged in such a manner as to give a good general idea of the mining industry of the State of Nevada, and to illustrate standard classifications of minerals and rocks. On the ground floor at the left of the entrance to the museum is a large map of Nevada, showing the location of all the mining districts of the State, while in the center of the museum at the rear there is a topographical relief map of the State on a scale 4 miles to the inch. The show cases on the left-hand side of the museum present a collection of minerals arranged scientifically according to Dana, followed by a systematic collection of rocks; the cases on the right-hand side of the museum are devoted to displays of Nevada ores of the precious and base metals and of Nevada economic minerals, arranged according to counties, while the cases on the center aisle contain collections of minerals arranged according to their economic uses.

On the Mezzanine floor, east side, are the exhibition cases containing fossil specimens, etc., relating to historical geology, illustrating the development of life from the earliest known to the present.

North Side—A collection of rock drills from the first Burleighs down to present day drills—an excellent working model of ore shaft, hoist, skip, and stamp mill presented by the Tonopah Mine Operators Association.

West Side—Display of Comstock Lode ores, relics, pictures, maps, etc.—display of mine models of various types.

South Side—Prehistoric footprints removed from sandstone in State Prison at Carson City; also pictures and plaster casts of prints not removed from sandstone beds.

Other special exhibits in the Museum include exhibits of metallurgical products of different minerals, various milling and mining processes and a collection of assay products.

Among the several collections included in the museum are the Nevada State Mining Exhibit from the Panama-Pacific

Exposition (1915), the exhibit at the Goldfield session of the American Mining Congress in 1909, the loan collection of the United States Geological Survey of the rocks and minerals of Goldfield; ores and minerals of Nevada, presented by Colonel H. B. Maxson; the collection of rocks and minerals formerly in the State Capitol at Carson City; the Cole collection, purchased from Dr. Cole by Mr. Mackay and presented by him to the museum; the Malcolm McDonald collection, presented to the University after the death of Mr. McDonald; the C. W. West collection; the F. M. Fellows collection, and several other smaller collections received from various sources.

Many valuable gifts have been made to the Mackay Museum, and its continued growth depends largely upon the generosity of those engaged in the development of the mining industry of Nevada. Contributions of specimens of country rocks, ores, minerals, and metallurgical products, and of photographs, maps, diagrams, and models are greatly desired. The museum is open to the public during the school year, and as far as possible every facility will be placed at the disposal of any one who wishes to inspect or study the various collections.

BIOLOGICAL MUSEUM AND COLLECTIONS

The Biological Museum is in the Agricultural Building. A portion of the biological collections, including economic insect life histories and mounts of economic birds and mammals, is arranged here for public exhibition.

The biological collections include a set of some 400 skins and mounts of native birds; 100 sets of birds' eggs and about as many nests, donated by Mr. Steinmetz of Carson City; 250 insect life histories and several miscellaneous groups; 75 stuffed mammal skins and mounts; 25 mounted skeletons of various vertebrates; nearly a thousand general museum preparations; about 10,000 prepared microscopic slides; some 200 zoological and physiological models, and about 60 botanical models, some 900 lantern slides, as well as much miscellaneous material.

HERBARIUM

The Nevada Agricultural Experiment Station herbarium now contains 12,000 mounted sheets, nearly all of western species, and at least half of them from Nevada. Certain of

the forage plants, as grasses, clovers, and lupins, are especially well represented. Although, as yet small, this collection is of considerable importance, as it contains a number of types and typical plants obtained from type localities.

Connected with this herbarium is a large number of negatives depicting various phases of plant life.

PATHOLOGICAL MUSEUM

The Department of Veterinary Science has a collection of several hundred permanently mounted gross pathological specimens covering practically all the common infectious diseases of animals and miscellaneous disease processes of particular interest. The collection also contains some material from human sources, mostly representing disease processes common to both man and the lower animals. This collection is available for teaching purposes and inspection.

CHEMICAL SPECIMENS

A number of substances representing the field of the chemical industries have been collected and placed in cases in Mackay Science Hall. Among these are samples purchased from chemical dealers; about 200 samples made and put up by students in the laboratory; about 80 samples of American-made dyes manufactured by the National Aniline and Chemical Company and donated by Professor Maxwell Adams; plastics, including artificial silk and leather; explosives; alloys; lubricating oils; and all the common minerals; samples of inorganic salts prepared by J. T. Baker Chemical Company; of distillation products obtained from crude petroleum prepared by the Standard Oil Company, and of zinc products prepared by the New Jersey Zinc Company.

PUBLIC LECTURES

GENERAL ASSEMBLY

A general assembly of University students and members of the faculty is under the special direction of the Standing Committee on Assemblies and Lecturers. Lectures are given by members of the faculty and by men and women of special eminence in particular fields of study, travel, and business enterprise. The 11 o'clock hour Fridays is kept free for assemblies and Student Body meetings.

The following is a list of lectures given in 1932-1933:

COMMENCEMENT, 1932

- May 7—Phi Kappa Phi address, "The Personal Washington," by Dr. William W. Ellsworth.
 May 8—Baccalaureate Sermon by Reverend Carl M. Warner, Pastor First Methodist Church of Reno.
 May 9—Commencement Address, "Choosing a Life Work," by Dr. William W. Ellsworth of New Hartford, Connecticut.

ASSEMBLY ADDRESSES

1932

- September 22—"Poetry and Music," Miss Irene Varley, pianist and Mr. P. W. T. Ross, reader.
 September 30—Constitution Day Address, "The American Constitution," by Mr. C. R. Pugh of Reno.

1933

- February 24—"Washington, the Man," Mr. William S. Boyle of Reno.
 March 17—"The Greek Rendering of the Words 'Phi Kappa Phi,'" by the Right Reverend Thomas K. Gorman, Bishop of Nevada.
 April 12—"An Evening in Japan," by Dr. Charles R. Hicks, Professor of History and Political Science, University of Nevada.
 April 28—"Rhodes and His Ideals," by Sir Francis Wylie, former Oxford Secretary of the Rhodes Trustees.

FACULTY SCIENCE CLUB, 1932-1933

- September 22—"Possible Electrochemical Industries at Hoover Dam," by Professors Jay A. Carpenter and Alfred Merritt Smith of the University.
 October 13—"Causes of Migration of Seventy Families," by Assistant Professor Ralph A. Irwin of the University.

- October 27—"Bacteriology of Swimming Pools," by Assistant Professor Mae B. Simas of the University.
 November 10—"Recent Developments in Astronomy," by Associate Professor Gilbert B. Blair of the University.
 December 8—"Nature and Mathematics," by Assistant Professor Charles L. Searcy of the University.
 February 6—"Accounting and Its Relation to Business," by Professor Jackson of Stanford University.
 February 23—"A College Goal," by President Walter E. Clark, being the reading of his presidential address before the National Association of State Universities assembled in Washington, D. C., in November, 1932.
 March 9—"Historical Jurisprudence and the Epic of National Transformation," by Associate Professor Silas C. Feemster of the University.
 March 23—"How Mankind Learned to Count," by Professor Fredrick Wood of the University.
 April 13—"Weather Forecasting," by Mr. George V. Sager, Meteorologist, U. S. Weather Bureau.
 April 27—"A Newspaper Confessional; Affectional Problems as Revealed by Advice - to - the - Lovelorn Column," by Professor Alfred L. Higginbotham of the University.

FINE ARTS EXHIBITS

- The Fine Arts Group of University students has sponsored the following exhibits during the year:
 February 15, 16—American Contemporary Pottery.
 February 25, 26—Icart Etchings.
 March 3, 4—Contemporary Water Colors: Stannard, Forescy, Church, DeVini, Hermann.
 March 7, 8—Wedgewood.
 March 14-16—Robert Cole Caples: "Character Portraits in Charcoal."
 March 28-30—English, Italian and Spanish Period Furniture.
 April 4-8—French Period Furniture.
 April 10, 11—Leonard Wilbur: Oils, Pastels, Charcoals.
 April 10-14—William Ross Cameron: Water Colors.
 April 17-21—William Ross Cameron: Water Colors.
 April 17-21—Ray Boynton: Pastels.
 April 24-28—Roi Partridge: Etchings.
 May 1-5—Roi Partridge: Etchings.
 May 8-12—Harlan Cochran: Character Masks.
 May 8-12—Logan: Water Colors.

ORGANIZATIONS AND PUBLICATIONS

THE ALUMNI ASSOCIATION

The Alumni Association was organized in June, 1894. Its object is to promote union and good fellowship among the Alumni, and to advance and protect the interests of the University of Nevada. The dues of the association are \$1 a year for ten years, or a life membership for \$10. The annual meeting is held during Commencement week.

OFFICERS FOR 1932-1933

President.....	PROCTOR HUG,'27
Vice President.....	EARL T. ROSS,'14
Secretary.....	LOUISE BLUM LEWERS,'95

EXECUTIVE COMMITTEE

JOSEPH F. McDONALD,'15	EDWARD C. REED,'23
CURRY JAMESON,'06	ARCHIE A. WATSON,'28
JACK PIKE,'23	CLARENCE R. NEWMAN,'29

THE ASSOCIATED STUDENTS

The student body is organized into an association called "The Associated Students of the University of Nevada." Through this association the students handle all matters relating to the student body as a whole, and control all athletic interests of the University subject to the approval of the Faculty Committee on Athletics. The officers of this association are elected by popular vote. By the payment of the student fee each semester a student receives the A. S. U. N. card which entitles him to a vote in the association and admission to all local games, contests, or other events under the Association's management, and subscriptions to the U. of N. Sagebrush and the Artemisia.

THE UNIVERSITY HOSPITAL ASSOCIATION

In January, 1919, at the request of the student body, the Board of Regents approved the organization of a Student Hospital Association under the joint management of a student and faculty committee. From the experience gained in the four years of its successful operation and from a comparative study of the hospital organizations in other universities, the original plan was modified and expanded into

the University Hospital Association. This plan went into effect in September, 1923.

The Association is supported entirely by the fees received from its membership. These are used to pay the salaries of the College Physician and of the Hospital Matron, to purchase necessary furnishings, equipment, hospital supplies and to pay for laboratory examinations, X-rays, prescriptions and medicines, and for the repair and upkeep of the building. Any surplus above that required to provide for emergencies will be used to extend the services of the Association to its members.

The direct management of the Association is the responsibility of the University Committee on Health. The College Physician will hold regular daily consultation periods at the University hospital while the University is in session. The Matron, who is also an experienced nurse, is in charge of the hospital, keeps the records, and has the authority to make such regulations regarding visiting hours and the conduct of the hospital as may seem best in the interests of health and efficiency.

MEDICAL AND HOSPITAL FEES

1. *Health Service Fee.* A fee of \$1 per semester will be charged all students at the time of registration. This fee covers emergent medical attention to any student injured or taken ill while on the Campus, though it does not cover continued free consultations or continued hospitalization. It covers also the cost of the medical examination required of all students taking physical education or engaging in athletics. It entitles the student to such follow-up medical advice as may be desirable.

2. *Hospital Association Membership Fee.* This is an additional fee of \$3 per semester which is required of all students who do not live with their parents or guardians in Reno or Sparks, unless they present at the time of registration a written request from their parents or guardians that they shall not pay such fee. While primarily intended to safeguard the health of students away from home, the Association will receive into its membership any student living in Reno or Sparks who wishes to take advantage of its privileges by paying the membership fee. The fee must, however, be paid at the time of registration. It entitles the member to unlimited free consultations with the College Physician or hospital nurse at the regular scheduled hour but does not give

him the right to call upon them at any time he chooses, except in cases justified as emergencies. The chief object of these consultations is the detection of illness before it becomes serious. For the cost of a single medical call the member may receive a whole semester of medical advice. The privilege should not be abused by expecting unreasonable service at unreasonable times. Persons, not members, going to the hospital for advice or treatment will be charged a reasonable fee except in emergent cases duly covered by the *Health Service Fee*.

3. *Hospital Bed Rates*. When it is necessary for a member to be hospitalized he will be charged a rate of \$2 per day, which pays for meals, laundry, physician's visits, general nursing and other routine hospital expenses, but does not include night nursing or the other special services that may be required in serious illness.

UNIVERSITY HOSPITAL ASSOCIATION RULES

1. The University hospital is for the use only of those students who have paid the membership semester fee of \$3 and whose names are on the membership list, except in emergent cases duly covered by the *Health Service Fee*.

2. Members are entitled to free consultations with the College Physician and nurse at the hospital only during the regular consultation periods.

3. Members who prefer to see the College Physician at his downtown office may have the privilege of doing so by paying the special rate for Association members of \$1 per visit.

4. Any calls for medical or nursing service outside the hospital or at other than the regular consultation periods, or from other persons than those on the regular hospital staff, will have to be paid for by the individual making the request.

5. Students entering the University with some chronic ailment should not expect indefinitely to receive free treatment for it, nor does the Association guarantee free treatment for injuries or ailments contracted off the campus.

6. Members will be given free X-ray and other laboratory tests, free medicines and prescriptions *only* when such have been authorized by the College Physician.

7. When an operation is advised the patient must make his own arrangements for its performance and for the payment of medical, nursing and special hospital fees.

8. The University hospital has a small operating room, suitable for certain types of operation, for the use of which a special charge of \$5 is made.

9. The Association assumes no responsibility for the payment of beds in other hospitals or for sickness expenses incurred without special authorization of the College Physician and of the University Health Committee.

10. Contagious cases cannot ordinarily be cared for in the University hospital. Such patients must go to the city or county isolation hospital or be cared for in private homes.

THE ASSOCIATED WOMEN STUDENTS

The Associated Women Students is an organization made up of all the women students registered at the institution. Its purpose is to bring all the women together in order to obtain more effective action. The dues are 25 cents per semester, which is deducted from the amount paid into the A. S. U. N. treasury. The organization gives a \$25 scholarship each year to the woman student attaining the highest average grade for the year and who receives no other scholarship.

THE FACULTY SCIENCE CLUB

The Faculty Science Club is an organization of those members of the Faculty who are interested in scientific research. The purpose of the organization is to broaden the outlook and to come in touch with scientific progress outside of one's own sphere of activity. Biweekly meetings are held in the lecture room of the Agricultural building. Reports are presented and discussed at each meeting. The subjects of the reports are either the result of individual research or articles of general interest that have recently appeared in scientific journals. The meetings are open to visitors.

Advanced students find the meetings of considerable value.

HONOR AND HONORARY SOCIETIES

The Phi Kappa Phi is a national honor society composed of graduate and undergraduate members of all departments in American universities and colleges. Its prime object is to emphasize scholarship in the thought of college students, to hold fast to the original purpose for which institutions of learning were founded, and to stimulate mental achievement by the prize of membership. This society elects to membership a certain number from the graduating class, on the basis of high scholarship. Local chapter established in 1912.

Coffin and Keys—An honor society composed of members of the faculty and men elected annually from the upper-classes who are considered leaders in student life and activity.

Blue Key—A national honorary, undergraduate, service fraternity composed of those upper classmen who have been leaders in University activities. This organization sponsors the annual Wolves' Frolic and the semiannual get-together dance at the beginning of each semester.

Block "N" Society—An honor society of men who have won the Block "N." Its purpose is to raise the standard of athletics and to promote good fellowship among alumni and resident members.

Gothic "N" Society—An honor organization of women, election to which is based on sportsmanship, sports participation, health habits, sophomore rank, scholarship average of 2.5 or better, participation in at least one nonathletic organization, attendance at W. A. A. meetings and practical unanimity of active members as to acceptability of candidate for election.

Sigma Gamma Epsilon—A national organization of geologists, mining engineers, metallurgists, and ceramists. Upper-class students in these subjects are eligible to membership in the local chapter. Biweekly meetings are held for the discussion of problems related to these professions.

Mu Eta Epsilon—A local honor society established at the University of Nevada in May, 1923, for the purpose of encouraging higher standards of scholarship among engineering students. The qualifications for membership are the same as for the National Honor Society of Tau Beta Pi. Elections are held twice a year, and selections of eligibles are based entirely upon scholarship.

Sigma Sigma—An honor organization whose membership is elected from the students majoring in Home Economics on the basis of scholarship, qualities of leadership and the application of principles taught in Home Economics.

Kappa Kappa Psi—This is an honorary musical fraternity for University men which promotes and encourages better band music, better musicianship, and good scholarship among college band men. Any man accepted as a permanent member of the band is eligible for election to the organization. (Established at Nevada in April, 1929.)

Sigma Sigma Kappa—An honor organization whose membership is elected from the Chemistry Club on the basis of scholarship and ability shown in the field of Chemistry.

Scabbard and Blade—A national honorary military society founded on the basic idea that military service is an obligation of citizenship. The active membership consists of the Cadet Officers of the Reserve Officers' Training Corps at the various institutions. Its purposes are: To unite the Departments of Military Science and Tactics of American Universities and Colleges into closer relationship; to preserve and develop the essential qualities of efficient officers; to promote good fellowship among Cadet Officers; and to prepare them to take an active and influential part in the community in which they may reside and to disseminate intelligent information concerning the military requirements of our National Defense. The local company was organized May 14, 1929.

Chi Delta Phi—A national literary society for women, whose purpose is to form a body of representative women who, by their influence and their literary interests, will uphold the highest ideals of liberal education. (Charter granted April, 1931).

CLUBS AND ASSOCIATIONS

Engineering Societies—All engineering students and the engineering faculty are members of the Associated Engineers. This society meets from time to time during the college year for the consideration of social and scientific matters.

In addition to this general society there is a student branch of each of the four great national societies of Engineering. These groups hold monthly meetings for the discussion of scientific matters relating to their own branch of the profession.

The Women's Athletic Association—An organization which sponsors intramural athletics for women. It is a student organization administered by students. A member of the department faculty acting in an advisory capacity meets with the executive board. Meetings are conducted by the students, and no faculty member attends excepting by special invitation.

W. A. A. is a member of the Athletic Conference of

American College Women which is a national organization with a membership of approximately 300 Women's Athletic Associations in colleges and universities throughout the United States.

The Chemistry Club—This organization includes all students, faculty and others on the campus interested in Chemistry. Its purpose is to keep its members in touch with present developments in the chemical field and to foster interest in the science of Chemistry. Meetings are held each Thursday evening in conjunction with Chemistry 95-96. Once each month a program of special interest to underclassmen is arranged.

The Crucible Club—This is an organization of mining, metallurgical, and geological students and faculty. The club meets once a month and is addressed by prominent members of the mining profession. The Crucible Club is a student branch of the Society of the American Institute of Mining and Metallurgical Engineers.

The Aggie Club—Founded by the agricultural students in 1909. This organization has since been very active, now sponsoring the Aggie Show each year and having many other activities. Men students and faculty members of the College are members. The Club meets the last Wednesday of each month to carry on business and social activities.

The Normal School Club—The membership is open to all students registered in the Nevada State Normal School. Its purpose is primarily social. It has been wholesomely active in this field for a number of years.

Campus Players—Two interrelated and interdependent organizations whose purpose is to stimulate and maintain an interest in all phases of the theater: (1) *Junior Campus Players*, consisting of underclassmen interested in the field of dramatic endeavor; and (2) *Campus Players*, consisting of those members of Junior Players who have fulfilled the requirements for membership and have proven their ability to carry on the tradition of the theater and to make the dramatic literature of all time a living library.

Home Economics Society—The faculty of the Department of Home Economics and all students electing one or more courses in that department may be members of this association.

Fraternalities and Sororities—The following fraternities and sororities have chapters, the figures in parentheses giving the dates chapters were established in this University: National fraternities—Sigma Nu (1914), Sigma Alpha Epsilon (1917), Phi Sigma Kappa (1917), Alpha Tau Omega (1921), Sigma Phi Sigma (1922), Delta Sigma Lambda (1922), Beta Kappa (1925), Lambda Chi Alpha (1929). National sororities—Delta Delta Delta (1913), Pi Beta Phi (1915), Gamma Phi Beta (1921), Kappa Alpha Theta (1922), Beta Sigma Omicron (1931), Alpha Delta Theta (1932).

Lincoln Hall Association—The Lincoln Hall Association is an organization composed of the students of the University of Nevada who reside in Lincoln Hall. Its object is to deal with all matters of student concern in Lincoln Hall and to preserve its customs and traditions.

Manzanita Hall Association—Residents of this hall are organized into a body under the name of Manzanita Hall Association, with president, vice president, secretary and treasurer elected for one year. The chairmen of standing committees, which include the phases of dormitory life (Red Cross work, laundry, room inspection, bell duty, quiet, and fire drill), are appointed by the president of the association. Meetings of the association are held monthly.

Christian Associations—The Young Women's Christian Association has a branch organization among the students with a membership of over one hundred girls in the University. The purpose of the association is the maintenance of high standards in all student relations, mutual helpfulness and pleasure, and the promotion of Christian ideals.

Square and Compass—This is a chapter of a National Fraternity of campus members of the Blue Lodge Masons.

Musical Organizations—Volunteer organizations for the promotion of both vocal and instrumental music are heartily encouraged. The organizations at present are the Men's and Women's Glee Clubs, the University Orchestra and the University Band.

Cap and Scroll—A club organized for the purpose of developing the highest ideals on Nevada's Campus by combining in organized form the women of the University who are leaders in student life and activity.

Omega Mu Iota—A club organized in 1923 by premedical students to promote scholarship and common interests. Its membership is open to second semester freshmen who have made an acceptable scholarship record in the work of the first semester and are preparing themselves for the study of medicine, dentistry or nursing.

Sundowners of the Sagebrush—Nevada's outstanding good fellowship organization is the Sundowners of the Sagebrush. It is composed entirely of men who are elected to membership, not because they have been outstanding in athletics, publications, or other academic activities, but because they have exhibited the characteristics of good fellowship.

Membership is not restricted to undergraduate students, but faculty members as well as post-graduates are active in the organization.

UNIVERSITY PUBLICATIONS

The Bulletin—The Bulletin is the official publication of the University and is issued quarterly or oftener. It gives information concerning the University and such other matters as may be helpful to the cause of education in the State.

STUDENT PUBLICATIONS

The U. of N. Sagebrush—The U. of N. Sagebrush is issued weekly throughout the University year by the students of the University.

The Artemisia—The Artemisia is an annual published by the Associated Students of the University of Nevada.

PHYSICAL EDUCATION AND ATHLETICS

MEN

The purpose of this department is to assist the men of the University to live to the best advantage, and so to aid them in the formation of hygienic habits that during their stay at the University they may make profitable physical preparation for life. There is urgent necessity that each student should have an intelligent appreciation of the means requisite for the preservation of his health, in order that he may be able to formulate wisely his own policy of health control.

REQUIRED PHYSICAL EDUCATION

Physical Education is required of all Freshmen and Sophomores unless excused for disability by the University Physician. Credit counting toward the college degree is given. The individual's grade is largely based on attendance, punctuality, earnestness and application, but practical tests are also given.

PHYSICAL EXAMINATIONS

Each student on entrance to this department is given a physical examination in order that his work may be directed to meet his individual requirements. Members of squads out for varsity teams, reporting regularly, are excused from the practical work during the regular season of that sport, and are entitled to full credit in that portion of their work.

UNIFORM AND FEE

Each student must provide himself with a regulation uniform. These should not be procured until after arrival at the University.

Tentative Cost of Uniform:

White sleeveless gym shirt.....	\$0.75
White running pants, short leg.....	\$1.25 up
White rubber-soled shoes.....	\$2.00 up
Athletic supporter.....	\$0.75 up

A locker-and-laundry fee of \$1 is charged each semester.

ATHLETICS

Excellent facilities are provided on the Mackay Athletic Field for all branches of athletics. American football, baseball, track, basket ball, and tennis are the sports of special

prominence at present. The main policy of the University is to foster the spirit of honor and manliness, to prevent the development of commercialism or professionalism in athletics, and to see to it that athletic sports do not encroach upon the claims of scholarship. Athletic activities in the University are supervised by the Directors of the Departments of Physical Training for Men and for Women, who are counseled by the Athletic Committee of the Faculty.

To represent the University of Nevada in a public contest, a student must conform to the following rules:

1. He must be an amateur.
2. He must have presented 15 Carnegie units for entrance.
3. He must be registered in at least 12 hours of University work.
4. He must have passed two-thirds the normal requirements of his course the preceding semester.
5. He must be successfully carrying two-thirds the normal requirements of his course one week preceding the first conference game. If declared scholastically eligible at this time, he shall be scholastically eligible for the remainder of the season.
6. No student on probation will be permitted to represent the University in any public contest.
7. All students must pass a physical examination satisfactory to the Committee on Athletics.
8. Schedules for all games must be submitted to the Committee on Athletics and approved by them.
9. Approval by the Committee on Athletics is required in the case of every individual intending to represent the University of Nevada in any single contest.

WOMEN

The purpose of this department is three-fold: First, to develop skills which will make possible pleasurable participation in recreational activities; second, to overcome remediable physical defects; third, to give the student who is interested in this field a scientific background upon which to base further study in physical education, and enough material drawn from current practices in physical education to qualify her to direct intelligently recreational activities in the elementary and high school.

All women in the University are given opportunity to

engage in leisure time activities through the Women's Athletic Association, a student organization administered by students. A member of the department faculty acting in an advisory capacity meets with the executive board. She does not attend the general meetings except by special invitation. The activities sponsored by this organization are archery, badminton, basketball, equitation, hiking, hockey, rifle, swimming, tennis, winter sports. The Women's Athletic Association sponsors interclass and interorganization competition in as many activities as possible.

Work in physical education is required of all Freshman and Sophomore women. Upon entering, and at the beginning of each year, medical and physical examinations are given in order to determine individual needs. As far as possible the work of the department is adapted to these needs.

Women taking these courses are required to provide themselves with the regulation gymnasium suit and shoes costing between seven and eight dollars. Students are advised not to purchase suits before coming to the University. A fee of one dollar per semester is charged for locker and laundry.

MILITARY SCIENCE AND TACTICS

1. There is maintained at the University an Infantry Unit of the Reserve Officers' Training Corps.

This corps was established by the Act of Congress of June 3, 1916, for the purpose of preparing, by systematic and standard methods of training, students at civil educational institutions for reserve officers in the United States Army.

2. The corps consists of all physically fit male students in first and second years at the University and such additional students as may elect to continue with the advanced work in their third and fourth years.

3. When registering in Military for the first time at the University, students are required to take an examination to determine their *physical* fitness for enrollment in the Reserve Officers' Training Corps. The blank form prescribed for this examination may be obtained from the University Registrar.

4. The United States Government furnishes service uniforms and all equipment necessary to carry on the instruction. In addition, those who elect to continue the work in their Junior and Senior years are paid commutation of rations and are required to attend a training camp at the end of the Junior year.

NOTE—At the present time, the amount paid to students enrolled in the advanced course approximates \$200 for the two years.

5. The arms, equipment, and uniforms issued to students for military training are the property of the United States for which the University is financially responsible. To protect the University against any charge for loss or damage to government property arising from misuse or neglect on the part of the student, a deposit of \$10 will be required from each student registered in Military.

6. Every male student who is a candidate for graduation in any of the schools of the college will be required to complete the prescribed two-year (Basic) course of Military Training unless excused therefrom by proper authority.

The following students may be excused from all or a part of the prescribed training:

(a) Those over 27 years of age.

(b) Those who have had previous military training in an R. O. T. C. unit, or at an educational institution under the supervision of an officer of the Army regularly detailed as Professor of Military Science and Tactics.

(c) Aliens.

(d) Those physically unfit for military duty.

(e) Transfer students who enter this University with Junior standing having completed Freshman and Sophomore work in an institution not requiring Military Training.

Students excused from Military Training receive no credit toward advanced standing in Military except in cases coming under (b) above.

Excused students not receiving advanced credit are required to take additional work aggregating the number of units allowed for that part of the military course from which they are excused.

7. Students who satisfactorily complete the basic and advanced military courses will be tendered commissions by the United States Government as Second Lieutenants of Infantry in the Reserve Corps of the Army.

8. Special Regulations for the Department of Military Science and Tactics are published in pamphlet form, a copy of which will be issued to each student registered in Military. The cadets will be held to a strict observance of all special regulations of the Military Department and to such orders and instruction as may be issued from time to time in connection with their military training.

9. Upon registration, each cadet will immediately take steps to familiarize himself with the Regulations for the Department of Military Science and Tactics.

HONORS, COMPETITIONS, PRIZES, AND FOUNDATIONS

UNIVERSITY SCHOLARSHIP HONORS

The University gives recognition to such students as attain a high grade of scholarship by announcing at Commencement time the students who have received honorable mention in each of the several colleges, or in their full four-year course. Honorable mention is won by attaining a standing of 90 per cent or better on the average in the full work of any one year or of the four years. At the end of each semester the Faculty Scholarship Committee issues a scholarship Honor List, which includes the upper five per cent of the entire Student Body.

GOLD MEDAL

A gold medal is awarded annually to that member of the graduating class who has attained the highest average grade of scholarship throughout his college course.

Beginning with Commencement of 1923, the firm of R. Herz & Brother, jewelers, of Reno, Nevada, generously makes an annual gift of this gold medal.

PHILO SHERMAN BENNETT PRIZE

(Established 1909)

The Philo Sherman Bennett prize is the interest on a fund of four hundred dollars, given to the University by the Hon. Philo Sherman Bennett of New Haven, Connecticut. The prize is awarded for the best essay on "The Principles of Free Government." The income from this fund is allowed to accumulate until a prize of approximately fifty dollars can be given.

SENIOR PUBLIC SERVICE PRIZE

(Established 1924)

This prize, founded by Dr. Henry Albert, formerly Director of the State Hygienic Laboratory, carries an annual value of twenty-five dollars and is being perpetuated in his memory by Mrs. Albert.

This prize is to be awarded annually at Commencement to that member of the graduating class whose collegiate record

shows the most satisfactory combination of good scholarship, good character, and worthy service in behalf of the University or the community, or both.

The winner of this prize shall be chosen by the Chairmen of the Faculty Committees on Scholarship and on Athletics, the Dean of Women, the Master of Lincoln Hall and the President of the University.

THE ROBERT LARDIN FULTON LECTURE FOUNDATION*

(Established 1924)

In memory of Robert Lardin Fulton, constructive citizen of Nevada for over half a century, Mrs. Mary Bragg Fulton has established a lecture foundation at the University. The income from this foundation is to be used to bring annually to the University some leader in the field of science, art, literature or public affairs, who will give a series of lectures upon his special themes. The foundation was initiated in April, 1925. The Committee chosen by the founder to select the lecturer under this foundation consists of the President of the University, the Deans of the Colleges of Arts and Science, of Agriculture, of Engineering, of the School of Education and the Director of the Mackay School of Mines.

Lecturers	University Year
DR. ROBERT A. MILLIKAN.....	1924-1925
DR. EDWARD T. DEVINE.....	1925-1926
UPTON CLOSE (Josef Washington Hall).....	1926-1927
DR. WILL DURANT.....	1927-1928
COUNT ILYA TOLSTOY.....	1928-1929
DR. FRANK MORTON McMURRY.....	1929-1930
DR. JAMES H. COUSINS.....	1930-1931

THE THEODORA STUBBS FULTON MEMORIAL FOUNDATION

In the spring of 1925 a friend of Mrs. Theodora Stubbs Fulton began an annual anonymous gift of \$50 per year in her honor, the gift to be invested in books in Biology and in Physical Education for Women.

RENO WOMAN'S CHRISTIAN TEMPERANCE UNION PRIZES

Beginning in the spring of 1927 the Reno Chapter of the Woman's Christian Temperance Union has annually offered a \$25 prize for the best essay, written by a student of the

*Suspended for the years 1931-1934 at the desire of the executor of the estate of the donor.

University, entered in competition and dealing with the subject set each year by the National Woman's Christian Temperance Union Committee on Essay Contests. The English Department of the University has charge of this contest and selects the winner whose name is announced at Commencement. Beginning with 1932, the Reno Chapter has annually offered an additional \$25 prize for the best essay, under conditions as given above, to competitors who are students of the University's Normal School. The School of Education has charge of this contest and selects the winner.

THE CLOVIS ALBERTA PRESTON MEMORIAL FOUNDATION

(Established 1929)

The above Foundation of \$50 to \$150 for books in the Departments of French (50%) and History (50%) was established in the spring of 1929 by Mrs. Blanche Preston in memory of her daughter, Clovis Alberta Preston.

A WORD TO DONORS

The University of Nevada will be greatly helped in its program of service to Nevada and to the Nation if it is given the aid of substantial general endowment funds. It can be helped too, at many points, by specific endowment gifts. In the hope that some donors may assure the University aid through their wills, usable forms covering bequests either for general or for specific gift endowments are here given:

FORMS OF BEQUESTS

GENERAL

I give and bequeath to the University of Nevada, located in the city of Reno in the Commonwealth of Nevada, dollars, to be used at the discretion of the Board of Regents of said University.

SPECIFIC

I give and bequeath to the University of Nevada, located in the city of Reno in the Commonwealth of Nevada, dollars, in trust for the following uses and purposes; that is to say: (Here specify in detail the purposes.)

It is advisable for any one contemplating a bequest for charitable purposes to ascertain the requirements of the law in the State in which he resides, and to take special pains to comply with such requirements.

SCHOLARSHIPS AND FELLOWSHIPS

For 1933-1934 the following scholarships are available:

1. REGENTS' SCHOLARSHIPS

A. (Established 1911)

Five Regents' Scholarships of \$50 each, to be awarded annually to regular students on the basis of scholarship, one to a Freshman, two to Sophomores, and two to Juniors. These scholarships will be announced at Commencement, and shall be paid to the winners the first of October following, provided these winners have enrolled for the subsequent year's work in this University, otherwise they shall be paid to alternates satisfying the conditions.

B. (Established 1922-1923)

By formal action the Regents have exempted the following Federal groups from the payment of the nonresident tuition charge:

(a) Officers and enlisted men in active service of the United States Army and Navy and their children.

(b) Sons and daughters of officers, warrant officers and enlisted men in active service in the Coast Guard.

C. (Established 1927)

At the request of the General Federation of Women's Clubs a total of not more than ten students in any one University year will be admissible without the payment of the nonresident tuition fee from Mexico, Central America and South America; provided, that not to exceed three such students from any one nation in this area receive this exemption within the same year. It is understood that such students will be required to pay all other regular University charges.

2. THE ELLA S. STUBBS MEMORIAL SCHOLARSHIP

(Established 1919)

The Women's Faculty Club offers the Ella S. Stubbs Memorial Scholarship of \$100 to a student entering the Junior or Senior class who is working his way, wholly or in part, through the University and who has received no other scholarship.

3. THE ALICE G. CLARK SCHOLARSHIP

(Established 1917)

A yearly scholarship of \$250, established and maintained

by Mrs. W. A. Clark, Jr., in honor of her mother, Katharine Hays McManus, is being continued by Mr. W. A. Clark, Jr., in memory of Mrs. Clark, and is known as the Alice G. Clark Scholarship. It is to be awarded alternately to a man and then to a woman student who is closing the Junior year and is the worthiest Junior of individual ability and need. The Scholarships Committee shall choose an alternate for the scholarship, judging on the same conditions. The scholarship award shall be payable one-half on September 15 and one-half on January 15 following the Commencement announcement and shall be paid only if the winner is then duly enrolled for the Senior year's work in this University, otherwise it shall be paid to the chosen alternate, provided that alternate is duly enrolled for the Senior year's work in this University.

4. ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP

(Established 1918)

A yearly scholarship of \$25 is given by the Associated Women Students of the University of Nevada to the woman student attaining the highest average grade for the year and who receives no other scholarship.

5. THE LEWIS D. FOLSOM SCHOLARSHIP

(Established 1920)

An annual scholarship of \$100, given by Mrs. Mary E. Folsom of Reno, in memory of her husband, Lewis D. Folsom.

This scholarship is to be awarded alternately to a man and then to a woman student of the Junior Class, who is deemed by the Scholarships Committee to be the worthiest member of that class of individual ability and need and who is not receiving another scholarship. The Scholarships Committee shall choose an alternate for this scholarship, judging on the same conditions. This scholarship award is payable on September 15 following the Commencement announcement and shall then be paid to the winner only if enrolled for regular Senior work at the University. Otherwise, it shall be paid to the chosen alternate, provided that the alternate is duly enrolled for Senior work in this University.

6. THE ROSE SIGLER MATHEWS SCHOLARSHIP FUND

(Established 1920)

This scholarship fund was established by Mr. Isaac R.

Mathews of Reno, Nevada, in memory of his wife, Rose Sigler Mathews. The trust fund, given by Mr. Mathews for scholarship purposes, amounts to \$6,900, and yields an annual income above \$300. In 1931 Mr. Mathews presented to the University securities with face value of \$3,300 with understanding the income from these shall go to him during his life and afterwards be added to the annual value of his scholarship. By arrangement with the donor during the earlier years of this scholarship, the Board of Regents will grant scholarships from the income of this trust fund upon the recommendation of Mr. Mathews, and such scholarships may be, on Mr. Mathews's further recommendation, continued to his nominees, provided they make good scholarship records.

7. RENO BRANCH OF THE NATIONAL ASSOCIATION OF UNIVERSITY WOMEN SCHOLARSHIP

(Established 1921)

The Reno branch of the National Association of University Women offers the Theodora Stubbs Fulton Memorial scholarship having annual value of \$200. This was discontinued for the year 1930-1931, but was renewed for the year 1931-1932 at an annual value of \$100. This scholarship is to be awarded to an upper-class woman student of the University of Nevada, who has taken all her work at the University of Nevada, provided that—

1. She shall have maintained a high average during the first two or three years of her college course in the University of Nevada, and shall have been active in college activities.
2. She shall not have received another scholarship for the period covered by this scholarship.

This scholarship shall be awarded on the recommendation of the University Committee on Scholarships with the approval of the Executive Committee of the National Association of University Women.

These same committees shall choose an alternate satisfying similar conditions.

The winner of this scholarship shall be announced at Commencement.

The scholarship shall be paid to the winner in two* equal installments; one at the beginning of each semester in the following University year; provided, she be duly enrolled

*The payment of the second installment for the year 1932-1933 was suspended until the reopening of the Reno banks.

in the University of Nevada; otherwise it shall be paid to the chosen alternate provided she be enrolled.

8. THE MARYE WILLIAMS BUTLER SCHOLARSHIP FUND
(Established 1921)

In the University year 1921-1922, Mrs. Sophie E. Williams of Nye County, Nevada, established a scholarship fund of \$1,000, to be known as the Marye Williams Butler Scholarship Fund, in memory of her daughter, Marye Williams, graduate of the Normal School of the University of Nevada, Class of 1899.

The income from this fund is to be awarded annually by the University Scholarships Committee, beginning with the Commencement of 1923, to the most worthy student who has completed University mathematics through calculus with an average grade of at least 2 in all these University mathematics courses, who has earned due credits in this minimum of mathematics, not later than the closing semester of the Junior year, and who receives no other scholarship.

This scholarship will be payable on or before October 1 following the Commencement of its award, provided the student winner is then enrolled for the new year's work in the University of Nevada, otherwise the scholarship will be payable to an alternate chosen under similar conditions by the University Scholarships Committee and duly enrolled for the new year's work in the University of Nevada.

9. THE AZRO E. CHENEY SCHOLARSHIP FUND
(Established 1922)

The Honorable Azro E. Cheney bequeathed to the University of Nevada \$5,000 in trust, to be controlled and invested by the Board of Regents. The income from this trust fund is to be awarded, by the University Scholarships Committee, at each annual Commencement of the University to that member of the Freshman or Sophomore class who is a bona fide resident of Nevada and whom the Head of the Department of English shall certify is justly entitled thereto as the best student in English, during that year, character and improvement both being considered. This scholarship sum shall be payable one-half on the 15th day of September and one-half on the 15th day of January following the award, provided the winner is then enrolled for a further year's

work in the University of Nevada, otherwise to an alternate satisfying the conditions.

10. THE GENERAL O. M. MITCHELL WOMAN'S RELIEF
CORPS SCHOLARSHIP
(Established 1922)

This yearly scholarship of \$50 was established by the General O. M. Mitchell Woman's Relief Corps No. 27. It is to be awarded to that student of the Sophomore class enrolled in the Reserve Officers Training Corps who has completed the basic course and who, in the opinion of the officers of the Army on duty at the University, best exemplifies the soldierly qualities of attention to duty, punctuality, neatness, and military bearing. This scholarship award is payable on October 1 following the Commencement announcement and shall be paid to the winner or a chosen alternate only if then enrolled in the Advanced Course. Should neither the winner nor alternate qualify by enrolling in the Advanced Course, the award shall accumulate not to exceed \$100 and shall then be payable to the first winner or alternate who qualifies in a succeeding year.

11. WOMEN'S ATHLETIC ASSOCIATION SCHOLARSHIP
(Established 1923)

This scholarship, of \$75 annual value, was established in 1923 by the Women's Athletic Association of the University. It is annually to be awarded to a woman student of the Freshman, Sophomore, or Junior Class, in time for Commencement announcements, by a committee consisting of the Head of the Department of Physical Education for Women, the Athletic Instructor for Women, and the President and two Senior members of the Women's Athletic Association, in accordance with the following conditions:

1. The student, during the year then closing, must have participated in at least four interclass sports and must have been a member of at least three teams of her class.
2. The student must have been a leader in good sportsmanship.
3. The student, for her college course to date, must have earned a scholarship average of not less than 2.5.
4. This scholarship amount will be paid to the winner on the 1st of October following the award, provided the student is then duly enrolled for another year's work in the University of Nevada. Otherwise, the scholarship shall be paid to the alternate best satisfying the conditions.

12. THE WASHOE COUNTY BAR ASSOCIATION
SCHOLARSHIP
(Established 1925)

This \$100 scholarship, given by the Nevada Bar Association and available for award for the first time at Commencement, 1925, and taken over by the Washoe County Bar Association in 1928, is to be awarded annually at Commencement by the University Scholarship Committee to a worthy student who has earned Sophomore standing during the first year's University work and who has made most marked progress in written and in spoken English during that year.

This scholarship sum shall be payable on the first of October following the award, provided the winner is then enrolled for a further year's work at the University of Nevada, otherwise to an alternate satisfying the conditions.

The Bar Association expects that each student to whom this scholarship shall be awarded will, after he is successfully established in business or profession, return the sum awarded to him to the University to be again awarded to a student who satisfies the conditions stated for this scholarship.

13. THE MRS. CARL OTTO HERZ SCHOLARSHIP
(Established 1926)

This scholarship was established early in 1926 by Mrs. Carl Otto Herz of Reno and for 1929 and 1930 was continued by Mr. Carl Otto Herz. At the 1930 Commencement the heirs of Mrs. Herz presented to the University funds perpetually to endow this scholarship in her memory.

The scholarship carries an annual value of \$50 and is to be awarded at the end of each University year, beginning with May, 1926. The scholarship is to be awarded by the University Scholarships Committee to one of three Electrical Engineering students nominated to the Committee by the Head Professor of Electrical Engineering. The nominees must each be Electrical Engineering students who are self-supporting in whole or in part, are of good character and of good scholarship, and who have earned Senior standing in the University of Nevada. The scholarship sum will be payable to the winner on September 15 following the award, provided the winner is then enrolled in the University of Nevada for his Senior year in Electrical Engineering. Otherwise the sum is to be paid to a chosen alternate satisfying the same conditions.

14. THE CHARLES ELMER CLOUGH SCHOLARSHIPS
IN ENGINEERING
(Established 1926)

In the fall of 1926 Mr. Charles Elmer Clough of Reno funded two scholarships in Engineering.

These two scholarships each carry a present annual value of \$160, and are to be awarded at the end of each University year, beginning with the award in May, 1927. The scholarship winners are to be chosen by the head Professors of the Schools of Civil, Electrical, and Mechanical Engineering. The winners each year must be chosen from the students enrolled in Civil, Electrical, and Mechanical Engineering and must, in the judgment of the selecting Professors, be the best all-round students, who are self-supporting in whole or in part, are of good character and of good scholarship, and who have earned one, Senior standing, and the other Junior standing, in the University of Nevada.

The scholarship sums will be payable to the respective winners, one-half on September 15 and the other half on January 15, following the award, provided the winners are then enrolled in the Engineering College of the University of Nevada. In case any winner is not so enrolled, the scholarship sum will then be paid to a similarly chosen alternate satisfying the same conditions.

15. THE JAMES WARD GERMAN-KATHERINE MORRISON
GERMAN SCHOLARSHIP
(Established 1926)

This scholarship, carrying an annual value of \$500, was established in the fall of 1926 by Mr. and Mrs. James Ward German of Reno.

In the spring of each second year, beginning with the spring of 1927, the Principals of the four-year high schools of Nevada will be requested to nominate candidates for this scholarship to the President of the University of Nevada, who shall select the winning German scholar from these nominees.

The following conditions shall be observed:

1. This scholarship is to be awarded alternately to a young man and to a young woman, beginning with an award to a young man for the two University of Nevada years beginning with August, 1927. Each winner shall hold this scholarship for two successive years, provided the conditions stated in 4 and 5, following, are satisfied.

2. Any nominee must have been graduated from a regular four-year Nevada high school, must have maintained a high scholarship record throughout the high school years, must be of good character and must have been helpfully active in the general life of the high school. The candidate must be one who, without aid of a scholarship would have to be self-supporting, in whole or in large part, if he came to college.
3. The family of the candidate must have been resident in Nevada at least four years prior to the date of nomination or, if the candidate is an orphan, or has been wholly self-supporting, then the candidate must have been a bona fide resident of Nevada for at least four years prior to his nomination.
4. The scholarship amount for each winner is to be \$500 for each of two consecutive University of Nevada years, except that: (a) Whenever the award is made to a candidate recommended from the Reno or Sparks high schools, then the winner shall receive \$350 for each of two years, and a second award of the remaining \$150 shall be made for each of two consecutive years to the candidate of second highest record, and (b) when in the judgment of the President two candidates from high schools other than Reno or Sparks lead but have equally good records then the yearly \$500 may be equally divided between these two winners. In each University year one-half of the scholarship amount due shall be paid on September 15 and the other half on January 15, provided that the winner is duly enrolled in the University of Nevada on these dates.
5. If within the two years of the scholarship any holder fails to maintain good standing in the University of Nevada, both in scholarship and in conduct, the President of the University is authorized to stop any further payments to this scholar. The sums accruing from such stoppage of payments or accruing because of any scholar's death or withdrawal from the University of Nevada shall be used to fund an added scholarship, or scholarships, in the discretion of the President of the University, to be awarded at the next regular time for choosing a new scholar. However, if any winner fails to take residence in the University of Nevada in the fall following his selection, the President of the University shall then award the scholarship to an available alternate who next best meets the conditions of the original award.

(At the request of the donor award will not be made in the spring of 1933.)

16. THE RACHEL RAND SCHOLARSHIPS

(Established 1928)

The anonymous donor of these two \$100 scholarships established them in honor of Miss Rachel Rand, a student in the University of Nevada School of Education in 1914. The scholarships are awarded at the end of each University year

by the University Scholarships Committee, one to the most deserving man student and the other to the most deserving woman student of the University of Nevada during the year closing who satisfies the following conditions:

1. Must be working their way through the University.
2. Must have obtained passing grades in all subjects studied during the year.
3. Award is to be made, at the request of the donor, to *any* student meeting these requirements regardless of race, color, or religious creed.

The amount of the scholarship is to be payable to the students chosen by the Scholarships Committee on or after the 15th of September following the award, provided that the winners are then enrolled for another semester's work in this University of Nevada. Otherwise the scholarship shall, on recommendation of the Scholarships Committee, be paid to an alternate then enrolled who satisfies the requirements of the scholarships.

17. THE CARRIE BROOKS LAYMAN SCHOLARSHIP

(Established Spring 1929)

This scholarship, established in memory of Carrie Brooks Layman, provides each year for ten consecutive payments of \$30 each to a worthy, self-dependent Sophomore or upper class man or woman student who, while in college, is an abstainer from debt, intoxicants and tobacco. The recipient of this scholarship is to be chosen each spring by the University Committee on Scholarships and prizes. If any of Mrs. Layman's sons or grandchildren should enter the University of Nevada, then such son or grandchildren shall have prior claim to this scholarship. During the earlier years of this scholarship payments will be made to the winner by the donor through the Comptroller's office. The initial \$30 payments of each semester shall be made on the winner's registration day, and shall be followed by similar payments on the 5th of each September, October, November, December, February, March, April and May, provided the winner is duly enrolled as a student at the University of Nevada. (Suspended for the year 1933-1934.)

18. PREMEDICAL-PRENURSING SCHOLARSHIP

(Established 1931)

This scholarship of one hundred dollars annual value, the gift of an anonymous donor, is to be paid fifty dollars each

semester of the Sophomore year to that man or woman student, chosen by the University Scholarships Committee and the Head of the Department of Biology, as the worthiest among the students who have completed the freshman year's course of this University of Nevada as premedical or pre-nursing students.

This scholarship shall be payable to the winner if duly enrolled in the Sophomore year in this University of Nevada, otherwise to an alternate satisfying the conditions and duly enrolled.

19. THE RHODES SCHOLARSHIPS

Special attention is called to the Rhodes Scholarships in Oxford University, England, to which one appointment from the State of Nevada was made for each of the years 1907, 1908, 1910, and so on, omitting every third year until 1930 when a new district system of selecting American Rhodes Scholars was put into effect. By latest ruling of the Rhodes Scholarship officials Nevada has been placed in a district including five other States, and four Rhodes Scholars are each year to be chosen from this whole district. This new system went into operation in 1930. The scholarships are each of the value of approximately \$2,000 a year, and are tenable for three years.

Scholars will be selected on the basis of the following qualities:

1. Qualities of manhood, force of character, and leadership.
2. Literary and scholastic ability and attainments.
3. Physical vigor, as shown by interest in outdoor sports or in other ways.

The ideal Rhodes scholar should excel in all three of the qualities indicated, but in the absence of such an ideal combination, committees will prefer a man who shows distinction either of character and personality, or of intellect, over one who shows a lower degree of excellence in both. Participation and interest in open-air and athletic pursuits form essential qualifications for a Rhodes scholar, but exceptional athletic distinction is not to be treated as of equal importance with other requirements.

In addition to the above requirements, a candidate to be eligible for election from the State of Nevada must—

1. Be a citizen of the United States, with at least five years' domicile, and unmarried.
2. Be a student in or a graduate of the University of Nevada, or, if a student in some other university or college, a resident of Nevada.

3. By the 1st of October of the year for which he is elected have passed his nineteenth and not have passed his twenty-fifth birthday.
4. By the 1st of October of the year for which he is elected have completed at least his Sophomore year in the University of Nevada or in some other recognized degree-granting university or college of the United States.

The appointments thus far made to Rhodes Scholarships from the State of Nevada are as follows:

- 1907—ARTHUR LEONIDAS ST. CLAIR,¹ Deeth.
 1908—WILLIAM SCOTT UNSWORTH, Reno.
 1910—STANLEY MAYHEW WILTON,² Goldfield.
 1911—CEDRIC HARDING BEEBE,³ Reno.
 1913—FLOYD SHERMAN BRYANT, Sparks.
 1914—WALTER CLARENCE JEPSEN, Verdi.
 1917—THOMAS HENRY EDSALL,⁴ Reno.
 1918—No appointment was made, owing to the war.
 1919—STANLEY M. PARGELLIS, Reno.
 1921—CHARLES M. CHATFIELD, Reno.
 1922—LESLIE MALTBY BRUCE,⁵ Reno.
 1923—PAUL A. HARWOOD, Reno.
 1925—JOHN OCHELTREE, Reno.
 1926—FRED SIEBERT, Reno.⁶
 1928—FRED ANDERSON, Carson City.
 1929—FRANCIS DUBORG, Reno.
 1930, 1931—The District Committee did not appoint a Nevada candidate.
 1932—ALDEN SIBLEY, Reno.

The Rhodes Scholarships offer an unusual opportunity both for a university education in the Liberal Arts, the Sciences, Engineering, or the professions of Jurisprudence or Theology, and for travel among the chief centers of life and activity in foreign lands. These advantages, with the gift of financial means approximately sufficient for their enjoyment, have made these scholarships the most attractive ever established.

Further information about Oxford and the Rhodes Scholarships may be secured by addressing the President of the University of Nevada, or the Secretary of the Committee, Charles M. Chatfield, 621 Washington Street, Reno, Nevada.

¹Died February 20, 1920. ²Withdrew before work completed. ³Died January 4, 1926. ⁴Died January 2, 1918. ⁵Died January 8, 1923. ⁶Died July 30, 1929.

20. THE JOHN ARMSTRONG CHALONER RESEARCH
FELLOWSHIP AND WOMEN'S PRIZES*

(Established 1925)

A. Through the gift of John Armstrong Chaloner of Virginia, the University of Nevada, the United States Bureau of Mines cooperating, offers in the Mackay School of Mines an alternate year fellowship under the following conditions:

1. This fellowship is open to graduates of American mining colleges of recognized standing. Preference will be given to candidates who have had practical experience subsequent to graduation.
2. The income of the fellowship is \$750 per year, payable monthly. The only fees required will be regular laboratory fees in connection with courses in the School of Mines, and the diploma fee, the fellow being exempted from other fees approximating \$175 for the year.
3. The year runs from July 1 following each election to June 30 of the following year, with one month out for vacation.
4. The holder of the fellowship will be required to carry a minimum number of graduate courses in the Mackay School of Mines and, in lieu of the usual thesis, will be assigned to research service with the United States Bureau of Mines Rare and Precious Metals Station located on the Campus. In his research service, the holder of the fellowship will be subject to rules governing employees of the United States Bureau of Mines and he is to begin this research service July 1, 1931.
5. The holder of the fellowship, having satisfactorily completed the year's work, will receive the degree of Master of Science or other advanced mining degree for which he may be qualified.

This fellowship shall be awarded in alternate years, beginning with the University year 1925-1926. If in any year due for this fellowship a fellow satisfying the above conditions shall not have been chosen by September 15, then the \$750 for that year shall be given as prizes to women students in accord with B below.

B. Each alternate year, beginning with the University year 1926-1927, Mr. Chaloner's \$750 is, by his plan, to be awarded in five \$100 first prizes and five \$50 second prizes to women students to be chosen in the fall semester by the Associated Women Students of the University.

*Suspended for the years 1931-1934 at the request of the donor.

BENEFICIARY AID

LOAN FUNDS

The Nevada State Federation Scholarship Fund—The Nevada State Federation of Women's Clubs has established a scholarship fund for the University of Nevada to be loaned to students in amounts varying to suit individual needs. The money thus loaned is to be returned to the fund at the borrower's convenience without interest. The fund is available first to girls, high school graduates, or girls who have completed one year of normal or university work, the latter to have the preference. Boys are eligible under like conditions, but only when the funds are ample and no applications from girls are on file. Students desiring to take advantage of this offer will apply to Mrs. E. E. Wardin, State Chairman of the Committee on Student Loan Fund, 130 West Liberty Street, Reno, Nevada.

The David Russell Loan Fund—By will, David Russell of Loyalton, California, bequeathed, in 1908, the income of his residual estate, amounting to a little above \$19,000 to be paid to the University of Nevada after a small payment had been made to another institution. The Board of Regents established the David Russell Fund to receive these annual payments after they became available in 1913. The Board has set aside \$6,000 of this fund as a revolving fund for loans to deserving students who satisfy the President of the University of their fitness to receive this aid. The money is loaned to students on the basis of 4 per cent interest until maturity. In practice loans are not made to freshmen nor can a loan in excess of \$150 be made to any one student.

The Olin Ward Bequest—Two scholarships of \$300 each, bequeathed by Mr. Olin W. Ward of Reno, Nevada. Under the terms of the will the beneficiaries of such scholarships must be earnest, industrious boys, of good moral character, financially unable to attend or continue their attendance at the University without the aid of such scholarships, and shall be chosen by the President of the University. Each beneficiary so chosen must, as a condition of his receiving such scholarship and before said sum or any part thereof is paid to him, enter into a written agreement with the

Board of Regents that he will, within seven years after receiving such scholarship, pay or cause to be paid to the Board of Regents the sum of \$300 for the purpose of providing a scholarship in the University for some boy having like qualifications and chosen as above specified.

OTHER AID FOR STUDENTS

It is the purpose of the officers of the University to aid meritorious students of limited means so far as it lies in their power. Some of the work in and about the University buildings and grounds is done by young men and young women. Students are favored whenever possible with such work as typewriting, copying, housework, dining-hall service, and janitorial service. A committee allots the open positions to students who apply, giving preference to those who have good scholarship records, who need the assistance, who do the work well, and who are upper-class applicants. During the year 1931-1932 the committee was able to place forty men and women students on the Campus, and through its direct efforts additional students were provided with positions in the city. Applications for campus employment should be made to Dean Margaret E. Mack, Chairman of the Campus Employment Committee. It is to be remembered that the power to favor students with self-help is limited by circumstances and *therefore students cannot expect to earn enough to pay all their expenses while pursuing their studies.*

The *necessary campus* expenses for a University year are covered by about \$450, allowing only about \$75 for personal incidentals, for each Nevada student. Students from other States should add \$150 for tuition. (See page 106 for tabulation of expenses.)

It is clearly better, both for the individual student and for the common student life on the Campus, if students can do their necessary money-earning during the long summer vacation. If they can have all their time during their University year free for their studies and for their participation in general student activities, they will more surely develop themselves into fully rounded men and women than if they are compelled to inroad their time with many hours each week given to work for pay. *Particularly is it desirable that first-year students should, if possible, plan fully to finance their first year without necessity of working for pay during the University year.*

EVERY STUDENT FROM NEVADA SHOULD HAVE AT LEAST \$150 CASH IN HAND, AFTER REACHING THE CAMPUS, PROPERLY TO START ANY UNIVERSITY YEAR. OUTSIDE STUDENTS SHOULD HAVE \$250 IN HAND TO START THE YEAR. THE UNIVERSITY CANNOT DEFER FEES DUE TO THE UNIVERSITY.

EXPENSES OF STUDENTS

TUITION

The Board of Regents is empowered to charge tuition to students who come from outside of Nevada. The Board of Regents set this *tuition charge, payable by students from outside Nevada, at \$75 per semester, beginning with August, 1925. A two-thirds rebate is allowed on this nonresident tuition charge if the student formally withdraws within the first three weeks of any semester and a one-half rebate is allowed if the student withdraws between the end of the third week and the end of the eighth week. No rebate is allowed if the student withdraws after the end of the eighth week.*

Any student due to pay nonresident tuition who registers for seven or less credit hours in any one semester will be charged as nonresident tuition \$10 for each credit hour in which he registers in lieu of the flat \$75 nonresident charge per semester. In this special case, one-half of this nonresident tuition will be rebated if the student withdraws from the University within the first three weeks of the semester for which the student is registered. No rebate on this special tuition charge will be made if the student withdraws any time after the first three weeks of the semester.

There are two classes of applicants for enrollment entitled to exemption from this nonresident tuition:

I

Any applicant whose parents have lived in Nevada continuously for at least six full months just prior to the opening date of the semester in which the applicant matriculates in the University of Nevada.

II

Those applicants who have themselves lived in Nevada continuously for at least six full months just prior to the opening date of the semester in which the student matriculates in the University of Nevada.

The Board of Regents of the University has given instructions to the President concerning these two classes of applicants and has set the University penalty for false testimony in relation to residence as follows:

CASE I

The President of the University of Nevada is authorized and directed to grant exemption from nonresident tuition to any applicant for matriculation whose parents have been continuously resident in Nevada for at least six full months just prior to the opening date of the University semester in which the applicant matriculates in the University of Nevada. "Parents" in this connection mean both father and mother if both are living and are not legally separated. In case one parent is dead or if parents have been legally separated, this residence requirement may be satisfied by residence in Nevada, in accord with the requirement, of the one parent with whom the applicant is living. In case both parents are dead, the applicant may be exempt from nonresident tuition on this basis only if the applicant's legal guardian satisfies the Nevada family residence requirements above stated. In any case of doubt, the President is authorized and directed to require a sworn statement from a parent or guardian of the applicant testifying that the above residence requirements have been satisfied and further to require supporting sworn statements from at least two other established adult Nevada residents.

CASE II

The burden of proof is upon any applicant whose parents do not reside in Nevada to show that said applicant has been a bona fide resident of Nevada continuously for at least six full months just preceding the opening date of the semester of his matriculation in this University of Nevada. The President of the University is authorized and directed, before granting tuition exemption to any applicant whose parents do not reside in Nevada, to require: (a) Every such applicant to furnish a sworn statement that he has satisfied the above residence requirement, and (b) every such applicant to furnish sworn statements testifying to the applicant's fulfillment of the above residence requirement from each of two established adult Nevada residents.

If in any case after the admission of a student receiving exemption from nonresident tuition in either of the above classifications the University receives clear evidence that materially false statements as to Nevada residence have been made in the sworn statements, then the President of the University is authorized and directed to expel such student from the University of Nevada.

LATE REGISTRATION FEES

A fee of \$3 is charged for registration later than the regular enrolling days of each semester. This fee is increased to \$5 for those registering later than the end of the week including enrollment days. *No exception is made to the rule.* Each student shall complete his registration by 4 p. m. of the third day after he begins registration, otherwise he shall pay to the Comptroller 75 cents for each day or fraction of a day thereafter until his registration is completed.

MATRICULATION FEE

Each new student must pay a matriculation fee of \$5. This fee is paid once only by each student at the time of first enrollment in the University.

UNIFORMS

Young women are required to provide themselves with a regulation gymnasium outfit costing about \$8 to \$10.

Students in cooking will provide themselves with two white aprons, costing about \$4.

Military students must make a deposit of \$10 to cover uniform and equipment.

THE DORMITORIES

Manzanita and Artemisia Halls—Manzanita and Artemisia Halls furnish campus residence for women students. They are well ventilated, heated and lighted dormitory buildings, with all modern conveniences and comfortably furnished. They can accommodate one hundred and sixty-five residents.

Dean of Women Margaret E. Mack and Matron Miss Delpha Wood live in Manzanita Hall and have supervision over it. Miss Anita Becaas is in charge of Artemisia Hall. Miss Wood is in charge of the University Dining Hall.

Unless women students have applied for residence in excess of the number that can be accommodated in the women's dormitories, all unmarried women students who are not residents of Reno or Sparks are required to live in one of the women's dormitories during their entire Freshman year. The only exceptions to this rule may be made by the Dean of Women when written request has been filed in advance with the Dean of Women by parents requesting that their daughter be permitted to live with relatives whose home is in Reno or Sparks. Residence privilege in this hall will not be granted to married women unless they were formerly

students of the University. Women students not living in a dormitory are required to select accommodations approved by the Dean of Women. A list of approved places is on file in the office of the Dean of Women.

Application for residence privileges in the women's dormitories should be made to the Dean of Women who will consider such applications in the order of their receipt. Special application blanks for hall residence will be sent on request made either to the Registrar of the University or to the Dean of Women. All applications, to be honored, must (1) Be on file with the Dean of Women at least one week prior to the opening day of any semester; (2) *Be accompanied by a sum covering the room rent for the semester concerned.* Room rent is as follows:

	1st. Sem.	2d Sem.
Room with roommate.....	\$34.00	\$36.00
Single room.....	42.50	45.00
Suite with roommate.....	42.50	45.00
Double room used by one person.....	51.00	54.00

Checks for room rent should be made payable to the Board of Regents. Such sum will be returned in full to the one making the reservation if due notification is sent of desire to cancel reservation, on or before the end of the first enrollment day of the term, to Dean Margaret Mack. If cancellation or withdrawal is made after the end of the first enrollment day, but before the end of the third week of the semester, two-thirds of the room fee will be rebated. If withdrawal is made after the end of the third week and before the end of the eighth week one-half of room fee will be rebated, and no rebate will be made if withdrawal occurs after the end of the eighth week.

No one can be given room in a dormitory until room rent for the term has been paid.

All residents of women's dormitories are required to:

1. Register in and to carry throughout each semester at least fourteen credit hours of University work unless excused by the Dean of Women.
2. Conform to the regulations of the Hall as adopted by the Manzanita Hall Association in consultation with the Dean of Women and the Matron of the Hall.
3. Be provided with the following articles: Bedding for single bed; one mattress protector, 3x6 feet, six good towels, two dresser scarfs, and personal toilet articles. If window hangings and rugs are desired, they must be supplied by the

students. White curtains are furnished by the University. Young women should also have two large aprons for work in the laboratories. All articles of room equipment and wearing apparel should be plainly marked with the name of the owner.

4. Take care of their own rooms and linen.

The women's dormitories will open Saturday, August 26, 1933, to receive student residents for the University year 1933-1934.

Lincoln Hall—Lincoln Hall is the University home for men. The building has accommodations for 78 young men, and it is equal to the best of modern college halls. Men coming to Lincoln Hall must provide themselves with the following articles: Two white bedspreads; one pair blankets; one comfort, 72x90 inches; one mattress protector, 3x6 feet; six good towels, and personal toilet articles. All articles of room equipment and personal wearing apparel should be plainly marked with the name of the owner.

Application for residence privileges in Lincoln Hall should be made to Master of Lincoln Hall, who will consider such applications in the order of their receipt. Spécial application blanks will be sent upon request made either to the Master of Lincoln Hall or to the Registrar of the University.

In order to be honored, *reservations must (1) be on file with the Master of Lincoln Hall at least one week prior to the opening day of any semester; (2) be accompanied by a sum covering the room rent for the semester concerned.* Room rent is as follows:

	1st Sem.	2d Sem.
Room with roommate.....	\$38.00	\$40.50
Single room	46.50	49.50
Double room used by one person.....	55.00	58.50

Cheeks, covering exact amount due, should be made payable to the Board of Regents. Such sum will be returned in full to the one making the reservation if due notification is sent of desire to cancel reservation, on or before the end of the first enrollment day of the term, to the Master of Lincoln Hall. If cancellation or withdrawal is made after the end of the first enrollment day, but before the end of the third week of the semester, two-thirds of the room fee will be rebated. If withdrawal is made after the end of the third week and before the end of the eighth week one-half of this room fee will be rebated. If withdrawal is made after the end of the

eighth week, no rebate on the semester's room rent will be made. For an added payment of \$5 any regular roomer in Lincoln Hall may continue to occupy his room during Christmas holidays.

No one can be given room in the dormitory until room rent for the term has been paid.

Lincoln Hall will be open Saturday, August 26, 1933, to receive students for the University year 1933-1934, and will be closed to roomers the day after Commencement Day.

For men students whose homes are outside the Reno district and who are not living in Lincoln Hall, the Master of Lincoln Hall has a list of homes offering suitable accommodations for men. He invites correspondence with parents or guardians of men students of the University and will gladly cooperate with them in matters making for the welfare of such students.

THE UNIVERSITY DINING HALL

For the accommodation of the students the University conducts a Dining Hall under the supervision of a trained dietitian. The service is maintained for the purpose of offering board and table service of the most acceptable character and at the most reasonable figure. Students boarding at the Dining Hall will be charged \$22.50 per month for board. At each student's first meal at the beginning of a University semester \$5 will be collected at the Dining Hall which will be credited toward the payment of the first month's board of the individual. Each student should therefore come prepared to pay this amount to the head waiter.

All women students residing in a University dormitory are required to board at the University Dining Hall. Men students may board at the University Dining Hall.

REGULATIONS GOVERNING THE UNIVERSITY DINING HALL

1. Board is payable in advance. When board is not paid by the fifth of the month, an additional 50 cents per day will be added until board is paid and receipt therefor from the Comptroller's Office is presented to the head waiter.
2. Students desiring to board regularly at the University Dining Hall will be required to register with the head waiter.
3. Registration at the Dining Hall will be made only on presentation of the Comptroller's receipt for board paid, or of a special permit issued by the President. In order to furnish board at the rate charged, it is imperative that all board bills be paid, and it is therefore ordered that no credit be extended. *Students who intend to*

board at the Dining Hall will be expected to come with sufficient money to keep their board paid one month in advance.

4. Rebate at the rate of \$4.50 per week will be allowed for necessary absences, but no rebate will be made on board for less than one week's continuous absence. Due notice must be given and permission secured from Miss Mack in advance, or no rebate will be allowed.

PREFERENCES IN DINING HALL AND DORMITORIES GIVEN
TO NEVADA STUDENTS

The Board of Regents adopted the following rule:

Whenever the requests for University of Nevada dormitory or dining hall privileges exceed the number that can be accommodated, preference shall be given as follows:

- (1) To Nevada students.
- (2) To formerly enrolled students from outside Nevada.
- (3) To new students from outside Nevada.

N. B. Such preferences for Nevada students in the dormitories are open to all who apply not later than one week before the opening of any given semester. Nevadans making application later than such time will be accommodated if places are still open, but cannot be received otherwise.

LABORATORY FEES

LABORATORY FEES—Departments giving laboratory courses must charge fees to cover special expenses incident to such courses. These fees are calculated to cover cost of materials used and the expense incurred for the individual student.

BLANKET DEPOSIT

At registration time a general deposit of \$10 is required from each student. Breakage or damage in all laboratory courses, in Library, in dormitories and in any other University connection is charged against this deposit. The remainder of this deposit, after all above charges, if any, are deducted, will be returned at the end of the University year only, unless a given student is not returning for the second semester. The military deposit is additional to this general deposit. If there are substantial first semester charges reported against any given student, the Comptroller has authority to require that student to renew his deposit to the full \$10.

ASSOCIATED STUDENTS MEMBERSHIP FEE

At the request of the Associated Students of the University the Board of Regents voted to make the fee for membership in the Student Association a compulsory fee upon all students except: 1. Visitors. 2. Members of the

University staff. 3. Nevada school teachers in active service. 4. Graduates of this or of any other standard four-year University course. 5. Students registering for five or less semestral University credits. It is understood that any student registering in any of the above exempt classifications has the privilege of paying the student fee and securing the benefits which accrue if the student chooses so to do. This fee of \$10 per semester includes subscriptions to the U. of N. Sagebrush and, in the second semester, the Artemisia, pays up each student's class dues and covers admittance to all regular varsity athletic events and must be paid to the Comptroller at the time of registration.

HEALTH SERVICE AND HOSPITAL FEES¹

Hospital Association membership, \$3.
Hospital bed rates, \$2 per day (see page 66).
Health Service Fee, \$1.

TABLE OF TUITION CHARGES, FEES AND DEPOSITS PER SEMESTER

	<i>Fees</i>
Agricultural Engineering 71.....	\$5.00
Agricultural Engineering 73.....	2.00
Agronomy 1, 6.....	3.00
Animal Husbandry 4, 56.....	3.00
Animal Husbandry 59.....	1.50
Associated Students Fee.....	10.00
Bacteriology 51, 52, 53.....	5.00
Botany 3.....	3.00
Botany 52.....	2.00
Botany 1, 2, 5.....	4.00
Change of registration per course (see page 121).....	1.00
Chemistry 9, 10.....	12.00
Chemistry 81, 82 (per semester).....	6.00
Chemistry 1, 2, 5, 6, 7, 8, 25, 51, 52, 53, 64, 67, 71, 72, 74, 99, 100.....	8.00
Chemistry 102.....	4.00
Chemistry 200 (fee per credit hour).....	4.00
Civil Engineering 52, 54, 64.....	3.00
Civil Engineering 58.....	5.00
² Civil Engineering 58 (Transportation).....	15.00
Civil Engineering 72.....	2.50
Civil Engineering 90.....	1.00
Dairy Husbandry 1, 53, 54, 61, 62.....	3.00
Dairy Husbandry 59.....	1.50
Dairy Husbandry 55.....	2.00
Deposit, General.....	10.00
Deposit, Military.....	10.00

¹See page 65 for explanation.

²If a student supplies his own transportation in a satisfactory manner, this fee will not be required.

	<i>Fees</i>
¹ Diploma (Degree or Certificate).....	5.00
² Drawing Outfits.....	20 to 30.00
Education 41, 48.....	1.00
Electrical Engineering 61, 62, 63, 64.....	2.50
Electrical Engineering 67, 68, 76, 77, 78, 79, 85, 86.....	2.50 per lab.
Electrical Engineering 80, fee determined by work taken, maximum.....	10.00 [credit]
Health Service.....	1.00
Geology 52.....	2.00
³ History Syllabus.....	25¢ to 1.00
Home Economics 31, 32, 55, 83, 85.....	5.00
Home Economics 33.....	3.00
Home Economics 9, 15, 16, 18, 66, 67, 68, 87, 95.....	2.00
Home Economics 42, 88.....	1.00
Home Economics 45, 92.....	2.50
Hospital Association Membership.....	3.00
Matriculation (new students only).....	5.00
Mechanic Arts 2, 3, 5, 6, 7, 8.....	5.00 per credit
Mechanic Arts 10.....	5.00
Mechanical Engineering 64, 65, 66, 80.....	5.00
Metallurgy 51.....	15.00
Metallurgy 68, 71.....	5.00
Metallurgy 56.....	2.50
Metallurgy 79, 80, 179, 180 (deposit according to work).....	2.00
Mineralogy 1, 51.....	3.00
Mineralogy 2.....	1.00
Nature Study 1, 2.....	1.00
Physical Education (laundry and locker).....	1.00
Physics 1b, 2b, 5, 6, 19, 20, 55, 56, 57, 58, 63, 77, 78.....	3.00
Physics 75, 76.....	5.00
Poultry 2.....	2.00
⁴ Transcript of student record.....	1.00
Tuition to non-Nevadans.....	75.00
Zoology 2, 4, 70.....	4.00
Zoology 7, 8.....	2.50
Zoology 64.....	2.00
Zoology 91-94, 201 (fee determined by type of work).....	5.00
Zoology 9.....	3.00
Zoology 59, 60.....	3.00

Students must be prepared to pay all of above charges due from them to the University at the time of completing their enrollments. These payments due cannot be deferred.

¹If two diplomas are granted in one year, the charge will be \$5 for the first and \$4 for the second; if three diplomas are granted in any one year, the charge will be \$5 for the first, and \$4 each for the second and the third.

²See footnote 4, page 106.

³According to work being done.

⁴When two or more transcripts of record are asked for at the same time, each additional transcript will be 50 cents. Request for transcript or transcripts, MUST BE accompanied by the stipulated fee. No student may be graduated or be furnished with a transcript of record unless and until all accounts with the University have been fully paid.

REBATES on above semestral charges will be made as follows to students who withdraw: On all laboratory fees and on nonresident tuition, a rebate of two-thirds if withdrawal comes before the end of the third week, a rebate of one-half between the end of the third week and the end of the eighth week, and no rebate after the eighth week. On all other charges there will be full rebate before the end of the third week and no rebate after.

TABULAR ESTIMATE OF NECESSARY ANNUAL EXPENSES OF STUDENTS EXCLUSIVE OF PERSONAL INCIDENTALS, CLOTHING AND TRAVELING¹

	<i>Low</i>	<i>Moderate</i>	<i>Liberal</i>
² Tuition.....	None	None	None
Board, 8½ months.....	\$191.25	\$225.00	\$325.00
Room.....	80.00	90.00	125.00
³ Laundry.....	25.00	35.00	50.00
⁴ Books, stationery, etc.....	30.00	35.00	45.00
Fees (laboratory, athletic, medical, etc.).....	35.00	40.00	50.00
⁵ Totals.....	\$361.25	\$425.00	\$595.00

¹The low and moderate estimates apply to residents of dormitories. The liberal estimate, with the exception of books and fees, applies to students living elsewhere.

²Students from outside the State of Nevada must add a tuition of \$75 each semester.

³This item may be greatly reduced by residents of Manzanita Hall who choose to take advantage of the house-laundry facilities.

⁴All engineering students will require complete drawing outfits. These cost from \$20 to \$30. Students having this equipment should bring it with them.

⁵These amounts do not include the deposit of \$10 required of all students at the beginning of each semester, the required military deposit, nor the cost of drawing outfits needed by all engineering students, nor do they include the cost of special uniforms needed in some departments, such as the gymnasium uniforms.

GOVERNMENT OF THE STUDENTS

In the government of the University the largest liberty consistent with good work, good order, and good character is given the students. Their habits of life are expected to be such as to promote daily cultivation of high moral character. They are expected in all their relations to each other and to the University to observe the usages of good society without requiring special regulations for that purpose. They are expected to be punctual and regular in their attendance upon all University exercises. The State provides its bounty for the earnest and industrious student. The indolent or the unworthy will not be retained in the University. Young men and young women who do not intend to give themselves up to the very highest demand of university life are advised to remain at home or to go elsewhere.

OFFICIAL NOTICES

Students should watch the bulletin-board for notices. AN OFFICIAL NOTICE PROPERLY POSTED IS DEEMED SUFFICIENT INFORMATION TO ALL STUDENTS.

ADMISSION AND DEGREES

Applicants for admission to first-year standing in the University of Nevada should present satisfactory evidence of having completed fifteen units of acceptable high school or preparatory work. A "unit" represents a year's study in any subject in a secondary school, constituting approximately one-quarter of a full year's work. Two periods of laboratory work, or shop work, count as the equivalent of one recitation.

Applicants for entrance who cannot qualify for regular Freshman standing may be admitted as Limited Freshmen¹ or as Specials.²

SCHOLARSHIP REQUIREMENTS FOR NON-NEVADANS

1. COLLEGE OF ARTS AND SCIENCE

Applicants for admission to first-year standing in the University of Nevada from States of the Union other than Nevada must have a grade above 3³ in at least 10 of their 15 acceptable high school units presented for entrance. Of these, 6 units must be in nonvocational subjects. *No new students from outside Nevada will be received as "Specials" in the College of Arts and Science.*

2. COLLEGES OF AGRICULTURE AND OF ENGINEERING

Applicants for admission to first-year standing in the College of Agriculture or in the College of Engineering of the University of Nevada from States of the Union other than Nevada must have a grade above 3³ in at least 6 of their acceptable high school units presented for entrance. Of these 6 units, 4 must be in nonvocational subjects. "Special" students from outside Nevada will be received by both of these colleges.

SCHOLARSHIP REQUIREMENTS FOR NEVADA APPLICANTS

All applicants for regular Freshman standing or for limited Freshman standing who present credentials from

¹Students presenting 13 or more but less than 15 acceptable units may be admitted as "Limited Freshmen."

²See p. 114.

³Grades equivalent to this University's "above 3" in the usual A, B, C, etc., system are grades of B or better, and in the percentage grading system are grades of 80 per cent or better.

Nevada high schools or are from Nevada families, must present at least 6 of their acceptable high school units with a grade better than 3. Of these 6 units, 4 must be in non-vocational subjects.

All high school and other certificates which are to be presented for admission should be forwarded to the Registrar of the University prior to the time the student expects to enter. Applications not received in time for an examination by the Admission Committee prior to the opening day will not be considered until after the regular matriculation days.

Applicants, who for any reason have been unable to secure their credentials, may file a petition with the Registrar for temporary admission. Such petition should contain the name and location of the preparatory school, the reason of the absence of credentials, a list of the subjects taken in the preparatory school, and the College of the University which the applicant desires to enter. These petitions will be acted on by the Admission Committee, and meritorious cases will be permitted to register temporarily, pending the receipt of credentials.

LIMITATION OF ENROLLMENT

The Board of Regents at its Commencement session, held May 11, 1920, unanimously adopted the following rules for limitation of enrollment in the University of Nevada, to be applicable from and after September 1, 1920:

That the University of Nevada shall not, during either semester of any University year, receive students whose families or whose guardians reside outside the State of Nevada or who, if they have been living independently of family or guardian, have themselves been residing outside the State of Nevada, to a number exceeding 50% of the total number of students from Nevada enrolled during the preceding University year, September to May, inclusive; *provided*—

(a) That the above limitation shall not be put into effect until the total enrollment of the University has reached 600 for a given semester, or when it will reduce the enrollment below 600; and

(b) That the above limitation policy shall not operate to exclude any students from outside the State of Nevada who desire to enroll in the regular courses for mining engineers, metallurgists or mining geologists, and who are fully qualified for entrance or advanced standing in the Mackay School of Mines.

REQUIREMENTS FOR ADMISSIONS TO THE SEVERAL COLLEGES AND SCHOOLS

ADMISSION OF CANDIDATES FOR DEGREES

The privileges of the University, while open to all qualified persons of good character and serious purposes, are designed

primarily for those who satisfy the requirements for admission and become candidates for degrees. In order to insure some breadth of view on the part of students as well as some degree of achievement, curricula have been established in the several colleges, each intended to meet the needs of a considerable body of students. So far as is consistent with the purposes the curricula are intended to fulfill, students are left free to choose their work according to their individual needs and tastes. For most persons it is believed that the pursuit and completion of a regular curriculum is of much higher value than any unrestricted selection of courses. The University wishes, therefore, to impress upon parents and students its firm belief that, under all ordinary circumstances, students should satisfy the requirements for admission and pursue the regular curricula.

TO THE COLLEGE OF ARTS AND SCIENCE; AND TO THE NEVADA STATE NORMAL SCHOOL

For unconditional¹ admission, 15 units.

- I. *Required*: English, 3 units.
Mathematics, 2 units.
- II. Ten of the fifteen required units must be from subjects 1 to 20, inclusive.
- III. Not more than 5 units may be taken from subjects 21 to 32, and not more than the highest number indicated in any one of these subjects.

TO THE COLLEGE OF ENGINEERING ALL SCHOOLS

- I. *Required*: English..... 3 units
Mathematics and Science..... 5 units
History..... 1 unit
- II. *Elective*..... 6 units
Total..... 15 units

TO THE COLLEGE OF AGRICULTURE AND THE SCHOOL OF HOME ECONOMICS

- I. *Required*: English..... 3 units
Social Science..... 1 or 2 units
Mathematics..... 2 units
Natural Science..... 1 or 2 units
- II. *Elective*: Academic or vocational subjects... 7 units
Total..... 15 units

¹Students presenting 13 or more but less than 15 acceptable units may be admitted as "Limited Freshmen."

²Recommended units: Algebra, 1½ units; Plane Geometry, 1 unit; Solid Geometry, ½ unit; Physics, 1 unit; Chemistry, 1 unit.

³The electives may be chosen from recognized high school subjects, but in no case may more than 5 units be elected in subjects 22 to 32, inclusive, and not more in any one of these subjects than the highest number which is indicated. It is advised that the electives include 2 units of foreign language, preferably modern language. In certain meritorious cases some entrance credit, not exceeding 1 unit, may be granted for practical experience.

SUBJECTS ACCREDITED FOR ADMISSION

Subject	Units ¹
1. English (a).....	1
English (b).....	1
English (c).....	1
English (d).....	1
2. Latin (a).....	1
Latin (b).....	1
Latin (c).....	1
Latin (d).....	1
3. Greek (a).....	1
Greek (b).....	1
Greek (c).....	1
Greek (d).....	1
4. German (a).....	1
German (b).....	1
German (c).....	1
German (d).....	1
5. French (a).....	1
French (b).....	1
French (c).....	1
French (d).....	1
6. Spanish (a).....	1
Spanish (b).....	1
Spanish (c).....	1
Spanish (d).....	1
7. Italian (a).....	1
Italian (b).....	1
Italian (c).....	1
Italian (d).....	1
8. Ancient History (a).....	1
Medieval and Modern History (b).....	1
English History (c).....	1
American History and Civics (d).....	1
9. Economics.....	1
10. Sociology.....	1
11. Commercial Law.....	1
12. Commercial Geography.....	1/2 to 1
13. Algebra (a).....	1/2 to 1
Plane Geometry (b).....	1
Advanced Algebra (c).....	1
Solid Geometry (d).....	1/2
Trigonometry.....	1/2
14. General Science.....	1/2
15. Physics.....	1
16. Chemistry.....	1
17. Physical Geography.....	1
18. Botany.....	1/2 or 1
19. Zoology.....	1/2 or 1
20. Physiology.....	1/2 or 1

¹A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. Two hours of laboratory work are regarded as the equivalent of one hour of prepared work.

Subject	Units
21. Drawing.....	1/2 to 2
22. Music.....	1/2 to 2
23. Agriculture.....	1/2 to 4
24. Domestic Science.....	1/2 to 4
25. Manual Training.....	1/2 to 3
26. Shopwork.....	1 to 3
27. Bookkeeping.....	1/2 to 3
28. Stenography.....	1/2 to 3
29. Typewriting.....	1 to 2
30. Trades and Industries.....	1/2 to 4
31. Vocational Work.....	1
32. Commercial Arithmetic or Applied Mathematics.....	1/2 to 1

Additional units for subjects listed above or additional subjects will be accepted if approved by the Committee on Admission and Advanced Standing.

METHODS OF ADMISSION

The credits required for admission to the undergraduate department, as detailed above, may be secured:

By examination;

By certificate from an accredited high school or other secondary school;

By transfer from any university or college of recognized standing.

ADMISSION BY EXAMINATION

Examinations for admission are held at the University immediately preceding the opening of the fall semester. Application for examination should be in the hands of the Committee on Admission and Advanced Standing at least one week in advance. These examinations cover all subjects required or accepted for admission, but cannot be taken for the purpose of raising grades obtained in preparatory schools.

ADMISSION BY CERTIFICATE FROM AN ACCREDITED PREPARATORY SCHOOL

On application to the Registrar blank certificates may be obtained by students who wish to enter the University by this method. Students should obtain blanks early and should have them filled out and sent to the Registrar for approval as soon as possible after the closing of the high school year in June. Applications not received in time for an examination by the Admission Committee prior to the opening day

will not be considered until after the regular matriculation days.

Applicants for admission to first-year standing in the College of Arts and Science in the University of Nevada from States of the Union other than Nevada must have a grade above 3¹ in at least 10 of their 15 acceptable high school units.

Applicants for admission to first-year standing in the College of Agriculture or in the Engineering Colleges of the University of Nevada from States of the Union other than Nevada must have a grade above 3 in at least 6 of their 15 acceptable high school units, at least 4 of which 6 quality units must be in nonvocational subjects. "Special" students from outside Nevada will be received in both the Colleges of Agriculture and of Engineering.

Applicants for regular Freshman standing or for limited Freshman standing who come from Nevada high schools or from Nevada families must present 6 of their high school units with grades above 3, at least 4 of which 6 quality units must be in nonvocational subjects.

Applicants, who for any reason have been unable to secure their credentials, may file a petition with the Registrar for temporary admission. Such petition should contain the name and location of the preparatory school, the reason of the absence of credentials, a list of the subjects taken in the preparatory school, and the College of the University which the applicant desires to enter. These petitions will be acted on by the Admission Committee, and meritorious cases will be permitted to register temporarily, pending receipt of credentials.

ADMISSION BY TRANSFER

Admission is granted by transfer from any university or college of recognized standing on presentation of the proper credentials, but such credit is provisional until the first year's work is completed.

Students who are disqualified at other colleges will not be admitted during the semester immediately following their disqualification.

Students transferring from other colleges must present certificates of honorable dismissal unless one or more full

¹Grades equivalent to this University's "above 3" in the usual A, B, C, etc., system are grades of B or better, and in the percentage grading system are grades of 80 per cent or better.

semesters have elapsed since they left their other college. In all cases of transferred students, at least one-half of the credits from other institutions accepted for such transferring students must be of grade above 3. (See, also, three paragraphs beginning with second paragraph on page 133.)

ADMISSION OF PERSONS WHO ARE NOT CANDIDATES FOR DEGREES UNCLASSIFIED STUDENTS

An "unclassified" student is one who has satisfied the regular requirements for admission, but who, for reasons satisfactory to the Dean of his college, does not desire to pursue any regular curriculum. He shall present to his Dean a written application for permission to register as an unclassified student, stating why he does not wish to take a regular curriculum, and specifying the courses of instruction he wishes to elect, the prerequisites to which he must already have satisfied. Unless he is over 21 years of age or is self-supporting, his application must bear the approval of his parents or guardian.

Unclassified students are subject to all rules relating to registration and scholarship. By satisfying the requirements in any curriculum for which they have full admission, they may become candidates for degrees.

SPECIAL STUDENTS¹

A special student is one who *cannot* satisfy the requirements for admission to the college in which he wishes to study. Any person who can satisfy such requirements will be permitted to register only as a regular or as an unclassified student.

Special students must be at least 21 years of age. Except upon the specific recommendation of the principals of their high schools, students who in the previous semester were in high schools will not be admitted to special standing. All applicants must present certificates of good character from reliable persons, credentials covering such academic work as they may have done, or other evidence of their ability and disposition to do satisfactory work in the University. Persons who have shown no serious purposes either in school or in employment will be refused admission. Those admitted will usually be expected to register in not fewer than ten

¹No new special students from outside Nevada will be received in the College of Arts and Science.

hours in courses of elementary character which may be counted for admission. They will be permitted to register in advanced courses only upon the approval of their Dean and the head of the department concerned. They are expected to meet all requirements for regular admission within two years after entering the University. Except by action of the University Faculty, no person will be permitted to register as a special student for more than four semesters.

A special student may obtain status as a regular student by fulfilling any one of the following requirements:

1. College credit may be canceled at the rate of four college credits for each high school unit necessary to fulfill the requirements of the college in which the student is registered.

2. Examinations may be taken within the first two years of residence at the University in sufficient of the subjects (1-32) listed as accredited for admission to fulfill the requirements of the college in which the student is registered.

3. A special student who has successfully carried the regular prescribed work of his college during four semesters and who has made a grade of 2.5 or better in 50% of his work and has no unremoved conditions or failures will be allowed to matriculate as a regular Sophomore student. If he has made a grade of 2.5 or better in 90% of his work and has no unremoved conditions or failures, he will be allowed to matriculate as a regular Junior student.

For any person who can present satisfactory reasons for such action, the rules relating to the minimum age limit and the minimum number of hours of registration may be waived by vote of the University Faculty.

Special students are subject to all the rules relating to registration and scholarship. By satisfying the requirements for admission to any college they may gain regular standing and become candidates for degrees.

PUBLIC SCHOOL TEACHERS

Public School Teachers in actual service in Nevada may be permitted to enroll in a University course or courses during the University year and without payment of fees other than those required of all who enroll in laboratory courses.

WORLD WAR SERVICE MEN SPECIALS

Any special student who is a World War veteran and holds

an honorable discharge from the United States Army, Navy, or Marine Corps will be permitted to graduate without regard to entrance deficiencies if he meets all the other requirements for a degree; provided, that if such student should fail in any college subject having entrance prerequisites for which he has no credit, these prerequisites must be made up before the student will be permitted to repeat the college subject.

VISITORS

With the consent of the President and the instructors concerned, regular visitors may be enrolled as such during the first three weeks of the term, provided they are above 21 years of age or present credentials of graduation from a standard high school. They shall be governed by the regular University rules and are due, if nonresident, to pay regular fees including tuition. Casual visitors may not have the privilege of attending a class in excess of four times during any given semester except with permission from the President. No official record of these visits need be made. Regularly enrolled students of the University, who are registered for the full number of hours, may be allowed only the privilege of the casual visitor. Under no circumstances will visitors be allowed to do laboratory work, engage in class discussion, take the time of the instructor from regular classwork, or receive credit toward a degree. Any eligible visitor who has been a bona fide resident of Nevada for a year or more is exempt from the payment of any fees. These Nevada residents may visit in not to exceed two University courses.

ADMISSION TO ADVANCED STANDING

Students who have graduated from a full four-year high school course and who have also graduated from a one-year professional course in an accredited normal school are allowed one year's credit on advanced standing.

Graduates from a two-year normal school, who are also graduates from a full four-year approved high school course, will be allowed two years' credit on advanced standing, if they have completed all of the prescribed requirements as outlined under Requirements for Admission to Junior Standing, paragraph 2.

The preceding statements refer to advanced standing granted by the College of Arts and Science and the State Normal School. All other applicants for advanced standing

from reputable universities and colleges will receive, upon presentation of their credentials, such credit as the Committee on Admission and Advanced Standing may deem fair. In all doubtful cases the claims will be referred to the heads of the departments. All credit for advanced standing, however, is provisional and subject to revision at the end of the first year following the enrollment of the student. No such student, however, will be granted a Bachelor's Degree or a diploma without at least one full year of work in residence.

High school graduates who have completed more than the full requirements for entrance may be granted college credit by the Advanced Standing Committee, but not after the end of the Sophomore year. No advanced standing will be given for history or natural science, or for the first two years of a foreign language, or for algebra or plane geometry.

A student who desires to take an examination for advanced credit must present to the instructor by whom the examination is to be given a statement from the Registrar certifying that he is eligible to enter the examination. The amount of credit granted on the basis of special examination will not exceed the regular work of one semester in the college in which the student is registered. Application for such advanced credit must bear the recommendation of the head of the department concerned and be accompanied by the written examination on which the recommendation is based.

UNIVERSITY RULES GOVERNING REGISTRATION

The following rules govern matters of registration, classification of students, conditions and failures, late registration, absences, hours of registration, withdrawals, transfer of students from one college to another, and honorable dismissal:

I. METHOD OF REGISTERING

1. On registration day the student will secure a registration blank from the Registrar's representatives. This card will be filled out by the student in accordance with the directions thereon.
2. In registering, the student will observe carefully the rules governing conditions, failures, maximum number of hours, status, and prerequisites.
3. All students having required courses must give preference to such courses in regular sequence; no required course may be deferred beyond one year.

4. Students under twenty-one years of age are expected to remove entrance deficiencies in their Freshman year. At the close of the second semester of each year the Committee on Admission and Advanced Standing will send to the Registration Committee a list of all Freshmen who have not registered for or who have failed in entrance subjects in which they were deficient. The Registration Committee shall then hold up the registration of such students in their Sophomore year until they register for the subjects in which they are deficient.

5. Any "regular" student who is twenty-one years of age and has carried the regular prescribed work of four semesters with 90% of it in grade 2.5 or better, and who has no unremoved conditions or failures, may have any entrance deficiencies canceled.

6. The signature of the instructor must be obtained for courses in which there are sections.

7. The card must then be approved and signed by the Dean of the College in which the student has registered.

8. After having obtained the Dean's approval, fees will be paid to the Comptroller, who will issue receipts for the same. These receipts must be presented to the Registrar.

9. The registration card shall finally be deposited with the Registrar.

10. Any change of residence occurring after the completion of the student's registration should be reported to the Registrar immediately.

II. CLASSIFICATION OF STUDENTS

1. Three classes of students, seeking college credit, are recognized—regular, unclassified, and special.
2. A "regular" student is one who has satisfied the requirements for admission to a college and is pursuing a curriculum leading to a diploma or degree.
3. An "unclassified" student is one who has satisfied the requirements for admission to a college, but, for reasons satisfactory to his Dean, is not pursuing a regular curriculum.
4. A "special" student¹ is one who, though unable to satisfy the requirements for admission to the college in which he wishes to study, is permitted to register in courses for which he has satisfactory preparation.
5. For regular Sophomore, Junior, or Senior standing, a

¹Special students are not admitted from outside Nevada to the College of Arts and Science.

student's deficiencies must not exceed 6 college units from the requirements of his college.

III. REQUIREMENTS FOR ADMISSION TO JUNIOR STANDING

Only those students who have fulfilled one of the following conditions may register as Juniors:

1. Students who have no entrance deficiencies and who have fulfilled all Freshman requirements and have satisfactorily completed within six units of half the number required for graduation in the course for which they are registered. At least one-third of the units presented must have been carried with grades above 3.

2. Students transferring to the College of Arts and Science, who are graduates of recognized junior colleges or two-year normal schools, requiring at least 60 units for graduation, and who have carried at least one-half of the work with grades above 3. In no case will more than 64 units be accepted from these institutions. Such students will not be required to fulfill the specific entrance Freshman and Sophomore requirements prescribed by the University, but will be expected to fulfill all other requirements for graduation including that of carrying at least one-half of the work done at the University of Nevada with grades above 3.

3. Students transferring to the College of Arts and Science from other colleges or universities of recognized standing who present at least 60 acceptable¹ units, of which 10 units are in each of the following branches: English, a foreign language, social science, and natural science or mathematics. Such students will not be required to fulfill the specific entrance Freshman and Sophomore requirements prescribed by the University but will be expected to fulfill all other requirements for graduation, including that of carrying at least one-half of the work done at the University of Nevada with grades above 3.

IV. CONDITIONS AND FAILURES

1. Each instructor will determine the final grade of his students by any method he may consider best adapted to his course.

2. Any student who receives a final grade of 5 in any subject shall be considered as "failed" in that subject.

3. Any student who receives a grade of 4 shall be con-

¹NOTE—The term "acceptable" is intended to mean work of a distinctly college character, one-half of which shall carry grades above 3. Also see Section IX under University Rules Governing Registration.

ditioned. A condition may be removed by satisfying the requirements of the department. A student who desires to remove a term condition must present to the instructor by whom the examination is to be given a statement from the Registrar certifying that he is eligible to enter the examination.

4. A failure in a required subject shall be removed by repeating the subject in class. This must be done as soon as the study is repeated in the University program, and any required subject in which a student has failed takes precedence over all other subjects in the arrangement of his program.

5. If a condition in any course is not removed within the next year of the student's residence after it is incurred, the course must be repeated in class.

6. A student may be dropped from class at any time for negligence or misconduct upon recommendation by the instructor and with the approval of the committee concerned.

7. A student may be placed on probation or suspended from the University at any time his scholarship or conduct warrants such action. Unless a student is passing in two-thirds of his work, he is liable to be placed on probation or to be suspended from the University. Each individual case will be considered by the Committee on Registration and Scholarship.

8. Students who have twice been suspended for unsatisfactory work are not permitted to register again.

9. No student while on scholarship or conduct probation may represent the University in any public contest.

10. By a vote of the Faculty Committee on Registration, the rules stated above may be waived for any student who can show that his unsatisfactory record is due to reasons for which he is not personally responsible.

11. Instructors will report on delinquent students at mid-semester. The time for dropping subjects without failure is at the end of six weeks. A student whose work is of passing grade may drop a subject, without failure, at any time with the consent of his Dean.

V. LATE REGISTRATION

1. A fee of \$3 shall be charged for registration after the two enrollment days but within the week including the enrollment days. A fee of \$5 shall be charged anyone registering

after the week including the enrollment days. There shall be no exception to this rule.

2. A student who begins to register after the regular registration days shall not be permitted to enroll in the number of hours to which he would otherwise be regularly entitled; for every week or fraction thereof of delay in registering one hour will be deducted.

3. No person will be permitted to register as a student after the close of the third week of either semester. This rule applies also to changes in registration.

4. Each student shall complete his registration by 4 o'clock p. m. of the third day after he begins registration, otherwise he shall pay to the Comptroller 75 cents for each day or fraction of a day thereafter until his registration is completed.

5. After the registration coupon has been filed with the Registrar, a student may add a subject or change a subject in which he is registered in accordance with the regular rules, when he has secured the approval of his Dean and the instructor concerned, upon the payment of a fee of \$1 for each course which he adds. The fee will be omitted when the change is caused by Faculty action or at the request of the Registration Committee.

VI. HOURS OF REGISTRATION

1. Including required Military Science and Physical Education, regular students in the College of Engineering shall register for eighteen hours. In the Normal School, in the College of Arts and Science, and in the College of Agriculture, including the School of Home Economics, students shall register for fifteen hours in addition to required Military Science and Physical Education.

2. No Freshman during the first semester shall be allowed to enroll in more credits than his regular course requires.

3. Any student may at any time enroll in as low as three credits less than his course requires, but to take less than this amount the student must have the Dean's permission.

4. In case a student during the previous semester¹ receives above 3 in three-fourths of all of his work, and has no 4

¹Previous semester, when used to determine the maximum number of hours, shall be construed to mean the last semester in which a student was registered.

Students entering from another school with advanced standing who wish to take extra hours must furnish records to the Registration Committee showing that the work previously done was of grade corresponding to that required of our own students who are eligible for extra hours.

or 5, he may enroll in a maximum of three hours above the normal requirement of his course. No other student shall be allowed any extra work.

Two exceptions may be allowed to this rule:

(a) A Senior, who, during the previous semester, carried the allowed three extra hours, received above 3 in three-fourths of his work, received no 4 or 5 in any work, and who needs one to four hours for graduation above that allowed by the rule, may be allowed to register, each semester, in one or two hours above the extra three allowed by the rule.

(b) A Senior, who, during the previous semester, received above 3 in two-thirds of his work, received no 4 or 5 in any work, and who lacks for graduation a few more hours than the rule allows, may be allowed three hours above his regular course. The Registration Committee shall enforce this rule.

5. In case a student failed to pass in some of his work during the previous semester, the Dean may restrict his registration to fewer hours than his course regularly requires.

6. The Registrar shall check up these regulations for each student when he finishes registering.

7. At the beginning of any semester, with the approval of the Deans concerned, a student may change his registration from one college to another. In so transferring, the student shall satisfy the admission requirements of the college to which he transfers, effective at the time he is admitted to the University, and he shall satisfy the course of study of the college to which he transfers,¹ effective at the time the transfer is made, the details of the transfer to be handled by the Committee on Admission and Advanced Standing.

8. Special students must enroll in at least ten hours of work. Exception to this rule can only be made by action of the University Faculty.

VII. WITHDRAWALS

1. A student who wishes to withdraw from any course shall first secure from the Registrar a withdrawal slip. He shall take this to the instructor in the course in question for his signature. He will then report to the Dean of his College, who may grant a withdrawal from the class. The withdrawal slip must be filed by the student with the Registrar, who shall notify the instructors concerned. The date of withdrawal shall be the date on which the slip is filed with the Registrar.

¹See page 131 for Arts and Science requirements.

2. After the end of the sixth week of the semester a student desiring to withdraw from a course must present to the Dean a written statement from the instructor stating that his work done to date is of passing grade, otherwise the record will be "withdrawal with failure."

3. In laboratory courses in which fees are charged rebates of such fees on withdrawal will be made as follows: Two-thirds rebate if formal withdrawal is made before the end of a semester's third week; one-half rebate if formal withdrawal is made between the end of the third and the end of eighth week; no rebate in withdrawals after the eighth week.

VIII. TRANSFER OF STUDENTS TO ONE COLLEGE FROM ANOTHER

1. When a student transfers from one college within this University to another, he shall have the same standing in the college to which he transfers as he had in the college from which he transferred, except that he shall satisfy the specific requirements of the college to which he transfers.

IX. HONORABLE DISMISSAL

1. Upon the request of a student in good standing, the Registrar will issue a letter of honorable dismissal. If the student desires to enter another university, a copy of his or her university credentials, including entrance, and stating thereon whether or not this University recommends such transferee, will accompany the letter. A fee of \$1 must be paid for each transcript of record furnished to students by the University Registrar.

THE GRADING SYSTEM

1. The following grading system became effective in May, 1921:

1	equals 95% to 100%	} (passing)
1.5	equals 90% to 94%	
2	equals 85% to 89%	
2.5	equals 80% to 84%	
3	equals 75% to 79%	
3.5	equals 70% to 74%	} (condition)
4	equals 60% to 69%	
5	equals Below 60%		(failure)

2. In determining honors, the average of the figures representing the grades per credit shall be taken.

3. Except when a clerical error has been made, the passing grade of a student may not be changed after the class

records have been filed with the Registrar, unless the subject has been repeated in a regular college class.

REQUIREMENTS FOR GRADUATION

A candidate for a Bachelor's Degree must pass in all the subjects both prescribed and elective in his chosen course, and he must conform to all directions given in connection with that course in regard to electives.

In order to graduate, a student shall have at least 63 of his credit hours above a grade of 3.

In the College of Arts and Science 126 credits are required for graduation.

In the College of Agriculture 128 credits are required for graduation.

In the School of Home Economics 126 credits are required for graduation.

In the College of Engineering 144 credits are required for graduation.

In the State Normal School a candidate must complete the courses of study as laid down.

The value of a *credit* is defined as three hours of work per week for one semester.

DEGREES*

The College of Arts and Science confers upon its graduates the Degree of Bachelor of Arts. Any student, however, who pursues a course in which the natural sciences or mathematics have received particular emphasis may, upon petition to the faculty of the College of Arts and Science, be granted the Degree of Bachelor of Science.

Upon graduates of the College of Engineering are conferred degrees as follows: Graduates of the Mackay School of Mines receive the degree of Bachelor of Science in Mining Engineering, Metallurgical Engineering or Geological Engineering. Graduates of the Schools of Mechanical Engineering, of Electrical Engineering, or of Civil Engineering receive, respectively, the Degree of Bachelor of Science in Mechanical Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Civil Engineering.

Graduates of the College of Agriculture receive the Degree of Bachelor of Science in Agriculture. Graduates from the School of Home Economics receive the Degree of Bachelor of Science in Home Economics.

Combination curricula leading to the Bachelor's Degree in

*No student may be graduated or be furnished with a transcript of record unless and until all accounts with the University have been fully paid.

each of two schools or colleges in the University may be arranged. The minimum requirements shall be one extra year in residence and 30 credit hours of extra work. More work may be necessary if the specific requirements of the department in which the degree is sought have not been met.

A charge of \$5 is made for all baccalaureate diplomas. If, however, a student in addition to receiving the baccalaureate degree receives a diploma for a teacher's certificate, the arrangement of the charge is as follows: If two diplomas are granted in any one year, the charge will be \$5 for the first, and \$4 for the second; if three are granted in one year, the charge will be \$5 for the first, and \$4 each for the second and for the third.

DIPLOMAS

For information concerning teachers' diplomas, see The School of Education.

RESIDENCE REQUIREMENT

If a student is in residence at the University for one year only, that year's work must be done in the college from which the degree is expected. No college faculty in the University will recommend a student for a degree unless he has been a regularly registered student in that college for at least one year. Attendance at the summer session is construed as resident study.

THESES

A thesis, if satisfactory, may be offered by each candidate for graduation from any school of the University.

The thesis is intended to give the student an opportunity to make a comparatively independent effort in some chosen field while still under the guidance of some department, and to test his ability for such independent work in a way that cannot be done in connection with ordinary classwork.

It is expected, therefore, that the thesis will show scientific and literary knowledge and good arrangement and presentation of subject.

In order to insure time for the satisfactory preparation of his thesis, the student will elect and pursue thesis work in some department as he would any regular elective course.

The thesis should be typewritten upon 8½x11 paper and bound in a 9x11¼ flexible backed cover. All maps and drawings or other illustration should be so arranged that they

can be bound within the same cover. Two copies of each thesis accepted for graduation must be placed in the library.

The title page should conform to the style of the following sample title page:

The Origin of the English Gilds

A THESIS

SUBMITTED TO THE FACULTY OF THE COLLEGE OF ARTS AND
SCIENCE IN CANDIDACY FOR THE DEGREE
OF BACHELOR OF ARTS
(Department of History)

By

JOHN EDWARDS SMITH
RENO, NEVADA
1934

GRADUATE COURSES

Admission—Graduates of this University or of other colleges or universities of equal rank are admitted to graduate standing in this University without examination. Admission to graduate study should not be understood as implying admission to candidacy.

Registration—Students wishing to register for graduate study should present their credentials to the Committee on Admission and Advanced Standing, and if approved a card of admission will be issued to the applicant. When the student has decided in what department he desires to do his major work, he will confer with the head of that department, who, in consultation with the student, will outline the work to be done. The student will then submit the major and minor courses chosen to the Graduate Committee for approval.

Fees—Graduate students pay the same fees as the undergraduates in the various departments of the University, except that they are exempt from payment of the A. S. U. N. semestral fee of \$10 unless they choose to pay it.

Degrees Offered—The University offers the following advanced degrees in residence: Master of Arts and Master of Science.

Residence and Candidacy—The student desiring to become a candidate for an advanced degree should file a petition, approved by his major professor, with the Chairman of the

Graduate Committee, stating the graduate work already done, and setting forth the proposed work to be offered in candidacy for the degree. No graduate student is considered a candidate for any advanced degree unless he has been definitely advanced to candidacy by his major professor and the Graduate Committee. At least one semester must elapse between the formal advancement to candidacy for any degree and the conferring of that degree. Actual residence and study, except for graduates of this University, must precede formal advancement. Graduate work done in other universities may be accredited toward an advanced degree at the University of Nevada, but such allowance of credit will not reduce the period of residence. The time of residence for students of this University shall not be less than one semester and for graduates of other universities not less than one year.

Outside Work—Work which has been accepted for the Bachelor's Degree may not be used to meet any of the requirements for the Master's Degree. In general one year of the student's full time will be necessary to complete the work for a Master's Degree. Candidates for advanced degrees who do not wish to spend more than one year in residence may be allowed to give only a limited amount of time to instruction, laboratory assistance, or other outside work. The amount and nature of this work must be definitely set forth by the student and officially allowed by the Graduate Committee. Students who are giving full time to outside service may not receive more than five or six hours' graduate credit in any one semester. Those who do outside work in excess of the equivalent of two or three units per week will require more than one year to complete the work for a Master's Degree.

Courses of Study—The courses of study shall represent 30 units of work distributed between a major and at least one minor department not less than one-half of which, nor more than three-fourths, shall be done in one department in the College of Arts and Science, or in one school in the College of Agriculture or the Engineering College. With the permission of the Graduate Committee, however, upon the recommendation of the major department and approval of the University Faculty, less than one-half or more than three-fourths of the work may be done in one department or school. The major work should be distributed among two

or more instructors where this is possible. At least 7 units of graduate work must be done in the minor department. The remainder of the 30 units may be elected by the student from advanced courses in any department of the University. Graduate credit will be given only for courses accepted by the major professor, authorized by the Graduate Committee, and approved by the University Faculty. So far as possible these courses should be listed in the catalogue as available for such credit. Courses numbered below 50 will not be accepted for graduate credit.

A thesis shall constitute a part of the prescribed course of study. It shall represent an equivalent of six to ten units, and shall have the general form prescribed for the Bachelor's thesis, or shall be a reprint of an article appearing in a reputable periodical. It must be presented to the Graduate Committee for their final approval at least two weeks before the date set for the conferring of the degree.

The Master's degree will be conferred only after the candidate has passed an examination in the general field offered for the degree in the major and minor subjects and the thesis. The examiners shall consist of the major professor, the minor professor, and one or two additional professors appointed by the Graduate Committee.

When semester examinations are taken, the grades received will be averaged with the oral examinations and the thesis. An average grade of at least 2 must be attained in all the work offered for the Master's degree, and no credit be allowed for any course where the grade falls below 3.

The Degree of Master of Arts is conferred upon students who have received the Degree of Bachelor of Arts; and the Degree of Master of Science upon those who have received the Degree of Bachelor of Science or the Degree of Bachelor of Arts in science groups. The diploma fee for a Master's degree is \$5.

ENGINEERING DEGREES

The engineering degrees—Engineer of Mines (E.M.), Metallurgical Engineer (Met. E.), Mechanical Engineer (M.E.), Civil Engineer (C.E.), and Electrical Engineer (E.E.)—may be conferred upon graduates who have taken corresponding courses in the College of Engineering of the University of Nevada, or upon graduates of other institutions who have obtained the Master of Science degree in engineering from the University of Nevada; who have been

engaged in honorable and successful engineering work in positions of responsibility for a period of at least five years in the case of holders of the B.S. degree, or four years in that of holders of the M.S. degree; and who submit theses showing ability to conduct advanced engineering work. These will not be considered when they are merely investigations in literature, compilations of routine laboratory tests, or presentations of the work of others.

The engineering degrees may also be conferred upon graduates of the College of Engineering of the University of Nevada and upon graduates of other engineering colleges of equal standing, who, after graduation, have been engaged for a period of at least one year in honorable and successful engineering work in a position of responsibility, and who subsequently complete successfully one year of graduate work in engineering, including thesis, at the University of Nevada. Graduates of other institutions must include in their graduate work any subjects in the corresponding undergraduate curricula which are required by the College of Engineering of the University of Nevada, but whose equivalents were lacking in their undergraduate courses.

Formal application for an engineering degree must be filed with the Registrar not later than the beginning of the second semester of the year in which the degree is sought, and approved in turn by the Engineering Faculty and the Graduate Committee. The application must be accompanied by detailed and satisfactory evidence as to the extent and character of the applicant's professional work. The thesis shall have the general form prescribed for the Bachelor's thesis, or shall be a reprint of an article appearing in a reputable magazine. In the case of a nonresident applicant, it shall be presented to the Engineering Faculty and to the Graduate Committee at least eight weeks before the date set for conferring the degree. The diploma fee for an engineering degree is \$5.

THE COLLEGE OF ARTS AND SCIENCE

THE COLLEGE OF ARTS AND SCIENCE

FACULTY

WALTER E. CLARK, Ph.D., LL.D., President of the University.
 MAXWELL ADAMS, Ph.D., Vice President of the University; Dean of the College of Arts and Science; Professor of Chemistry.
 JAMES EDWARD CHURCH, JR., Ph.D., Professor of the Classics.
 JEANNE ELIZABETH WIER, A.B., LL.D., Professor of History and Political Science.
 PETER FRANDSEN, A.M., LL.D., Professor of Biology.
 LEON WILSON HARTMAN, Ph.D., Professor of Physics.
 REUBEN CYRIL THOMPSON, A.M., Professor of Philosophy.
 ALBERT ELLSWORTH HILL, A.B., Professor of English.
 JAMES REED YOUNG, Ph.D., Professor of Psychology.
 COLONEL JOHN PAUL RYAN, Professor Emeritus of Military Science and Tactics.
 JOHN WILLIAM HALL, A.M., Professor of Education.
 SARAH LOUISE LEWIS, M.A., Professor of Home Economics.
 BENJAMIN F. CHAPPELLE, Ph.D., Professor of Modern Languages.
 GEORGE WALLACE SEARS, Ph.D., Professor of Chemistry.
 FRED W. TRANEER, Ph.D., Professor of Education.
 PHILIP A. LEHENBAUER, Ph.D., Professor of Biology.
 FRANCIS CLARK MURGOTTEN, Ph.D., Professor of Modern Languages.
 THEODORE H. POST, M.A., Professor and Director of Music.
 JOHN EDWARD MARTIE, M.P.E., Professor of Physical Education for Men.
 ELSA SAMETH, M.S., Professor of Physical Education for Women.
 ALFRED LESLIE HIGGINBOTHAM, M.A., Professor of English.
 COLONEL ROBERT M. BRAMBILA, M.A., Professor of Military Science and Tactics.
 CHARLES ROGER HICKS, Ph.D., Professor of History and Political Science.
 FREDRICK WOOD, Ph.D., Professor of Mathematics.
 KATHERINE LEWERS, Associate Professor of Freehand Drawing and Art.
 KATHARINE RIEGELHUTH, A.M., Associate Professor of English.
 MARGARET ELIZABETH MACK, A.M., Associate Professor of Biology.
 SILAS CALVIN FEEMSTER, A.M., Associate Professor of History and Political Science.
 GILBERT BRUCE BLAIR, A.M., Associate Professor of Physics.
 EDWARD G. SUTHERLAND, A.B., Associate Professor of Economics, Business and Sociology.
 JESSIE P. POPE, M.A., Associate Professor of Home Economics.
 SIGMUND W. LEIFSON, Ph.D., Associate Professor of Physics.
 JOHN R. GOTTARDI, M.A., Associate Professor of Modern Languages.
 PAUL A. HARWOOD, M.A., Associate Professor of English.
 EDITH RUEBSAM, B.A., Assistant Professor of Education.
 CHARLES L. SEARCY, A.M., Assistant Professor of Mathematics.
 WILLIAM R. BLACKLER, M.S., Assistant Professor of Economics, Business and Sociology.

¹Absent on leave, 1932-1934.

S. ALLEN LOUGH, M.S., Assistant Professor of Chemistry.
 CHESTER M. SCRANTON, M.A., Assistant Professor of Physical Education for Men.
 CHARLES LEROY BROWN, M.A., Assistant Professor of Biology.
 CLAUDE CARSON SMITH, M.A., Assistant Professor of History.
 RALPH A. IRWIN, M.S., Assistant Professor of Psychology.
 MERYL WILLIAM DEMING, Ph.D., Assistant Professor of Chemistry.
 HAROLD N. BROWN, A.M., Assistant Professor of Education.
 MILAN J. WEBSTER, M.A., Assistant Professor of Economics, Business and Sociology.
 HERBERT B. WILCOX, 1st Lt., U. S. A., Assistant Professor of Military Science and Tactics.
 MAE SIMAS, M.A., Assistant Professor of Physical Education for Women.
 ROBERT STUART GRIFFIN, B.S., Instructor in English.
 GRANT H. HUSTIS, Sergeant, U. S. A., Instructor in Military Science and Tactics.
 LORETTA ROSE MILLER, B.S., Instructor in Biology.
 ALDEN J. PLUMLEY, M.A., Instructor in Economics, Business and Sociology.
 LAWTON B. KLINE, M.A., Instructor in Modern Languages.
 ERNEST S. BROWN, B.A., Instructor in Economics, Business and Sociology.
 WILLIAM C. MILLER, B.A., Fellow in English.
 MRS. LEHMAN FERRIS, B.A., Fellow in English.
 GORDON L. ROBERTSON, B.A., Fellow in Economics, Business and Sociology.
 B. D. BILLINGHURST, LL.B., LL.D., Lecturer in Education.
 CLYDE D. SOUTER, LL.B., Lecturer in Law.
 BERTHA V. AKIN, B.S., Lecturer in Vocational Home Economics.
 ROBERT B. JEPPESON, B.S., Lecturer in Education.
 ALDA LAVENDER RUSSELL, Lecturer in Education.
 MARY TORNEY RYAN, B.A., Secretary of the College.

AIM

The aim of the College of Arts and Science is twofold:

1. To lay a foundation for the professions, both learned and technical, and
2. To increase knowledge in and sympathy with the broader and cultural aspect of life.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects and the number of credits belonging to each, see pages 108-116.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN ARTS AND SCIENCE

In order to be recommended for the Degree of Bachelor of Arts² a candidate must, first, have satisfied the requirements

²Students who have majored in Mathematics or Science may, on petition to the Faculty, be granted the Degree of Bachelor of Science.

for admission; and, second, have gained credits in prescribed and elective courses aggregating 126 semester units. These units are to be distributed as follows:

FRESHMAN AND SOPHOMORE REQUIREMENTS

Freshman Year

<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
English 1 (Composition and Rhetoric)	3	English 2 (Composition and Rhetoric)	3
Foreign Language	3 or 4	Foreign Language	3 or 4
History 1	3	History 2	3
Physics, Chemistry, Biology, or Mathematics	3 or 4	Physics, Chemistry, Biology, or Mathematics	3 or 4
Military and Physical Education	$\frac{1}{2}$ to $1\frac{1}{2}$	Hygiene 1	1
Orientation 2	1	Military and Physical Education	$\frac{1}{2}$ to $1\frac{1}{2}$
Elective	2	Elective	0-2

Sophomore Year

<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
English 41 or 44 (Literature)	2 or 3	English 42 or 45 (Literature)	2 or 3
Foreign Language	3	Foreign Language	3
Economics, Philosophy or Psychology	3	Economics, Philosophy or Psychology	3
Natural Science or Mathematics	2 to 4	Natural Science or Mathematics	2 to 4
Military and Physical Education	$\frac{1}{2}$ - $1\frac{1}{2}$	Military and Physical Education	$\frac{1}{2}$ - $1\frac{1}{2}$
Elective	3 to 5	Elective	3 to 5

In case of 4 units entrance in one foreign language, 2 units in each of two, or 3 units in one and 1 in another, one year in college in advanced work in one of these languages will suffice. Otherwise two years in college shall be in the same language.

History 1-2 is required of all Freshmen. However, the History requirement in the Freshman year may, in the case of premedical students, with the consent of the Dean, be deferred until the Sophomore or Junior year.

English 41-42, or 44-45, in the case of premedical students, may be deferred until the Junior year.

In Science a total of 12 units in Freshman and Sophomore work is required, at least 6 of which must be laboratory Science or Mathematics.

The Sophomore requirement in Social Science may be satisfied by six units chosen from the departments of Economics, Philosophy, or Psychology.

A variation of one or two units in the above requirements in Language, Social Science, or Natural Science may be made by the Registration Committee upon recommendation of the Major Professor of the Department concerned.

No subject with the number of 50 or more will be open to Freshmen or Sophomores without the permission of the Dean.

Students transferring to Arts and Science from other institutions and from other colleges in the University of Nevada must meet the above Freshman and Sophomore requirements.

When students transfer to the College of Arts and Science from other colleges, they will be considered deficient in as many hours in Arts and Science as they are deficient in the college from which they transferred.

No student may transfer from the College of Agriculture or the College of Engineering to the College of Arts and Science unless he be a regular student in the college from which he transfers. Any regular student not eligible for entrance to the College of Arts and Science at the time of his admission to the University may transfer when he has met the following conditions:

1. He shall have attended the University at least two full semesters.
2. He shall have completed more than one-half of the regular course required by his college with a grade above 3.
3. He shall have no conditions or failures at the time of his transfer.

Courses given primarily in other colleges of the University may be taken by Arts and Science students, but not to exceed twenty units of such work shall be counted for Arts and Science Degrees.

JUNIOR AND SENIOR REQUIREMENTS

Candidates for a Baccalaureate Degree must select courses in a group of departments consisting of a major and one or two correlated minors, the total aggregating not fewer than thirty hours of work designed primarily for Juniors and Seniors. Subject to the requirement of correlation, the group may be chosen from any department in the College of Arts and Science. The combined work of the two or three departments should represent a unity of aim. The particular grouping, however, will depend upon the particular aim of the student. For example, a student making some one language his major may find it desirable to elect a considerable amount of History. A student planning to study medicine

should elect a major in Biology or Chemistry, but may find it desirable to take additional work in Physics. Those intending to study law, should elect a major in Political Science or Economics, but may find it desirable to take advanced work in English. Students taking a Science major will generally find it profitable to have a good reading knowledge of French and German.

The foregoing directions must be regarded as general in nature; any grouping of major and minor subjects showing an intelligent purpose will be approved.

The specific requirements for majors and minors in the different departments will be found in the description of courses of study under their respective heads in the courses of instruction.

It is advisable that students should plan their work for the Junior and Senior years as early as the Sophomore year, in order that the studies then elected may fit in with their later work. At the beginning of the Junior year, each student must give the Dean written notice of his selection of major and minor departments; such selection should bear the approval of the instructors concerned.

Any student after electing his major and minor departments may, with the consent of the department concerned and of the Dean, change his major department or major and minor departments, as the case may be, provided he complies with all the requirements in the case of the new major and minor departments.

The remaining units necessary to make a total of 128 may be freely elected from any department, or, subject to the limit of twenty units named above, from the other colleges of the University.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CHEMISTRY

The following course of study is designed for students looking toward the field of chemistry as a profession. It is intended to fit students to enter directly into industrial work or to prepare them for more advanced study. Certain electives are provided in order to fill the needs of students interested in the different branches of chemistry. These electives, therefore, are subject to the approval of the head of the department, and should be chosen in consultation with him.

Freshman Year

First Semester		Units	Second Semester		Units
Chemistry 7	.....	4	Chemistry 8	.....	4
English 1	.....	3	English 2	.....	3
Mathematics 11	.....	2	Mathematics 14	.....	3
Mathematics 13	.....	3	German 2	.....	3
German 1	.....	3	Hygiene 2	.....	1
Orientation 2	.....	1	Elective	.....	2
		16			16

Sophomore Year

First Semester		Units	Second Semester		Units
Chemistry 9	.....	4	Chemistry 10	.....	4
Physics 1a	.....	3	Physics 2a	.....	3
Physics 1b	.....	1	Physics 2b	.....	1
English 41	.....	2	English 42	.....	2
German 3	.....	3	German 60 or 60a	.....	3
History 1	.....	3	History 2	.....	3
		16			16

Junior Year

First Semester		Units	Second Semester		Units
Chemistry 51	.....	4	Chemistry 52	.....	4
Chemistry 71	.....	3	Chemistry 72	.....	3
Chemistry 95	.....	0	Chemistry 96	.....	1
Mathematics 25	.....	3	Mathematics 26	.....	3
Bus. Adm. 41 or Economics 1	.....	3	Psychology 5 or Economics 2	.....	3
Elective	.....	3	Elective	.....	2
		16			16

Senior Year

First Semester		Units	Second Semester		Units
Chemistry 81	.....	4	Chemistry 82	.....	4
Chemistry 75	.....	2	Chemistry 92	.....	2
Chemistry 95	.....	0	Chemistry 96	.....	1
Chemistry 99	.....	2	Chemistry 100	.....	2
Elective	.....	8	Elective	.....	7
		16			16

In addition to the above course of study, students will be required to fulfill the regular University requirements in Military and Physical Education.

Students primarily interested in the engineering aspects of chemistry may enroll in the course leading to the degree of Bachelor of Science in Metallurgical Chemistry outlined on page 151 under the announcement of the School of Mines.

PRELEGAL COURSES

Students who intend to study law will find it advantageous to plan their college work in such a way as to comply with the requirements of the better law schools. Before registering, they should consult with Professor E. G. Sutherland, who is designated adviser for prelegal students. The requirements of the leading law schools usually embrace:

(1) Fundamental courses in English; (2) logic; (3) a good general background in the social sciences; and (4) French, Latin or German. The following *recommended course* is based upon the above requirements:

Freshman Year			
First Semester		Second Semester	
	Units		Units
English 1	3	English 2	3
French 1 or German 1	3	French 2 or German 2	3
History 1	3	History 2	3
Math. Chemistry, Physics or Biology	3-4	Math. Chemistry, Physics or Biology	3-4
Military and Phys. Ed.	1-2	Hygiene 2	1
Orientation 2	1	Military and Phys. Ed.	1-2
Elective	1	Elective	1

Sophomore Year			
First Semester		Second Semester	
	Units		Units
English 41 or 44	2-3	English 42 or 45	2-3
French 3 or German 3	3	French 4 or German 4	3
Economics 1	3	Economics 2	3
Natural Science or Math.	2-4	Natural Science or Math.	2-4
Military and P. E.	1-1½	Military and P. E.	1-1½
Political Science 1	3	Political Science 2	3

For Junior and Senior work is recommended the following: General Psychology, Social Psychology, Logic, Constitutional History, Sociology, and basic courses in Political Science and Economics.

The leading law schools prefer that their students shall have completed four years of college work before entrance. Some, however, admit students upon the completion of three years of college work. The University will confer the degree of Bachelor of Arts upon any student of high rank who, after completing three years of approved work in this University, shall enter a law school of approved standing and shall complete worthily one year's work in such law school. (A student of high rank is one who stands above the average of his class.) In order to receive the degree in this way the student must, at the end of his first year in the law school, present a signed testimonial from the Dean of the Law School to the Dean of the College of Arts and Science, such testimonial to include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

PREMEDICAL COURSES

The requirements for admission to Class A medical colleges vary from a minimum of two years of standard college work to the possession of a Bachelor's Degree. Students contemplating studying medicine should communicate early in their

undergraduate course with the Dean of the particular medical college they may wish to enter in order to learn the exact entrance requirements at the time they expect to enter. Practically all medical colleges prescribe the same minimum of subject matter which includes general zoology, vertebrate anatomy, embryology, general inorganic chemistry, qualitative analysis, organic chemistry, general physics, and a reading knowledge of French or German. Quantitative analysis is also required by some and advised by others.

PREMEDICAL COURSE

To permit the conclusion of all the premedical requirements and to satisfy the University requirements for the A.B. Degree, the following arrangement of the course of study will be found a desirable one.

Freshman Year			
First Semester		Second Semester	
	Units		Units
English 1	3	English 2	3
French or German	3	French or German	3
General Chemistry	3 or 4	General Chemistry	3 or 4
Botany 1	3 or 4	Zoology 2	3 or 4
Military and Physical Education	1	Hygiene 2	1
Orientation 2	1	Military and Physical Education	1-1½
Elective	1-2	Elective	0-2

Sophomore Year			
First Semester		Second Semester	
	Units		Units
English 41	2	English 42	2
French or German	3	French or German	3
Quantitative Analysis or Organic Chemistry	5	Quantitative Analysis or Organic Chemistry	5
Comparative Anatomy	5	Embryology	5
Military and Physical Education	1-1½	Military and Physical Education	1-1½

Junior Year			
First Semester		Second Semester	
	Units		Units
Psychology or other Social Science	3	Psychology or other Social Science	3
General Physics	4	General Physics	4
Chemistry or Biology	4	Chemistry or Biology	4
History 1	3	History 2	3
Elective	2	Elective	2

The University will confer the degree of Bachelor of Arts upon any student of high rank who, after completing three years of approved work in this University, shall enter a medical school rated Class A by the American Medical Association, and shall complete worthily one year's work in such medical school. In order to receive the degree in this way, the student must, at the end of his first year in the medical school, present a signed testimonial from the Dean of the

Medical School to the Dean of the College of Arts and Science, such testimonial to include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

For further advice relative to this work, the student is referred to Professor Frandsen, who is designated adviser of premedical students.

PRENURSING COURSE

In the University year 1923-1924, an affiliation with the Stanford School of Nursing was established similar to that existing within Stanford University. The Pre-nursing curriculum is designed primarily for those who wish to prepare themselves for administrative, teaching, social service or public health work. It consists of three years' work at the University of Nevada and two years at the Stanford School of Nursing, Lane Hospital, San Francisco, the Degree of Bachelor of Arts being conferred by the University of Nevada and the Degree of Graduate Nurse by the Stanford School of Nursing at the end of five years. The completion of 98 semester units with 50 per cent of the grades above a 3 are necessary before the student may enter the School of Nursing. The following course is advised for those who wish to satisfy these requirements:

<i>Freshman Year</i>			
<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
Botany 1	4	Zoology 2	4
English 1	3	English 2	3
History 1	3	History 2	3
German or French	3	German or French	3
Physical Education	1	Hygiene 2	1
Orientation 2	1	Physical Education	1
Elective	1	Elective	1

<i>Sophomore Year</i>			
<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
Physiology (Hygiene 7)	3	Physiology (Hygiene 8)	3
English 41	3	English 42	3
Economics 1	3	Economics 2	3
French or German	3	French or German	3
Chemistry 5	3	Chemistry 6	3
Physical Education	1	Physical Education	1
Elective	2	Elective	2

<i>Junior Year</i>			
<i>First Semester</i>	<i>Units</i>	<i>Second Semester</i>	<i>Units</i>
Zoology 9	4	Zoology 64	4
Bacteriology 51	4	Zoology 66	4
Elective	8	Elective	8

The fourth and fifth years consist of a course of instruction in Nursing, Theory and Practice in Lane and Stanford University Hospitals, in residence at Stanford School of Nursing.

TEACHERS' DIPLOMAS

For the requirements for a Teacher's Diploma see School of Education pages 146, 147.

THE MASTER'S DEGREE IN ARTS AND SCIENCE

For the requirements for the Master's Degree, see pages 125-127.

THE SCHOOL OF EDUCATION AND THE
NEVADA STATE NORMAL SCHOOL

THE SCHOOL OF EDUCATION AND THE NEVADA
STATE NORMAL SCHOOL

FACULTY

- WALTER E. CLARK, Ph.D., LL.D., President of the University.
 JOHN W. HALL, M.A., Dean of the School of Education; Professor of Education.
 REUBEN CYRIL THOMPSON, M.A., Professor of Philosophy.
 ALBERT ELLSWORTH HILL, A.B., Professor of English.
 JAMES REED YOUNG, Ph.D., Professor of Psychology.
 SARAH LOUISE LEWIS, M.A., Professor of Home Economics.
 FRED W. TRANEER, Ph.D., Professor of Education.
 THEODORE H. POST, A.M., Professor and Director of Music.
 JOHN EDWARD MARTIE, M.P.E., Professor of Physical Education for Men.
 ELSA SAMETH, M.S., Professor of Physical Education for Women.
 KATHERINE LEWERS, Associate Professor of Freehand Drawing and Art.
 MARGARET ELIZABETH MACK, M.A., Associate Professor of Biology.
 SILAS CALVIN FEEMSTER, A.M., Associate Professor of History and Political Science.
 EDITH M. RUEBSAM, B.A., Assistant Professor of Education.
 HAROLD N. BROWN, M.A., Assistant Professor of Education.
 MAE SIMAS, M.A., Assistant Professor of Physical Education for Women.
 B. D. BILLINGHURST, A.B., LL.D., Lecturer in Education.
 ROBERT B. JEPSON, B.S., Lecturer in Education.
 ALDA LAVENDER RUSSELL, Lecturer in Education.
 BERTHA V. AKIN, B.S., Lecturer in Vocational Home Economics.
 MRS. HELEN CODD, Secretary to the Dean.

COOPERATING TEACHERS

In the Reno High School—

- MARGARET ERNST, B.A., Mathematics.
 DAVID W. FINCH, B.A., English and History.
 HERBERT E. FOSTER, B.A., Coaching.
 KARL W. GALLAGHER, B.A., Mathematics and Science.
 KATHLEEN GRIFFIN, B.A., Commercial.
 EDITH C. HARRIS, B.A., Latin.
 MARGUERITE R. HUGHES, B.S., Home Economics.
 MILDRED KLAUS, B.A., Commercial.
 ALICE LEMAIRE, B.A., Spanish.
 EFFIE M. MACK, Ph.D., History and Civics.
 RANDALL T. ROSS, B.A., Public Speaking and English.
 ALWINE E. SIELAFF, B.A., Geometry.
 BUELAH SINGLETON, B.A., History and English.
 EDWIN C. STRENG, M.S., Opt. D., Chemistry.

In the Sparks High School—

LAVERNE BLUNDELL, B.A., Language.
 MARGARET M. GRIFFIN, B.S., Home Economics.
 PROCTOR R. HUG, B.A., History.
 EVELYN MANTLE, B.A., English and Civics.
 ALFRED McCONAUGHY, B.S., Science.

In the North Side Junior High School—

LOIS S. BICKNELL, B.A., Mathematics and Spanish.
 ANNA FREY, B.S., Home Economics.
 HELEN HALLEY, B.A., Mathematics and Spanish.
 JEAN JACKSON, B.A., English and History.
 ROCHELLE KINCAID, B.A., English.
 GEORGIA A. MACNAIR, M.A., History.
 MILDRED MELLON, B.S., Science and History.
 ESTELLA PROUTY, M.A., History and English.
 ESTHER SCOFIELD, B.S., Home Economics.
 WINIFERED THOMAS, B.A., History.

In the B. D. Billingshurst Junior High School—

GLADYS A. CAFFERATA, B.A., History.
 GEORGE F. GADDA, B.A., Physical Education.
 GLADYS JACKSON, B.A., Mathematics.
 RUTH MARIE JONES, B.S., Home Economics.
 LUCILE SANFORD, B.S., Spanish.
 GERTRUDE F. WYCKOFF, B.A., History.

In the Sparks Junior High School—

KENNETH L. BALL, B.M., Music.

In the Reno Elementary Schools—

MRS. L. C. BOOTH, Sixth Grade.
 GRACE WARNER, Low Sixth and High Fifth Grades.
 ELEANOR MILLER, Fifth Grade.
 KATHRYN CLARK, Low Fifth and High Fourth Grades.
 FAIRY F. ADAMS, Low Fourth and High Third Grades.
 VALENTINE OLDS, B.A., Low Third Grade.
 ALPHONSINE LIOTARD, Low Third and High Second Grades.
 DOROTHY GRACEY, High First and Low Second Grades.
 RITA A. CANNAN, Sixth Grade.
 ISABELLE MOE, Fifth Grade.
 EMMA N. SMITH, Fourth Grade.
 RUTH SEXSMITH, Third Grade.
 ALICE LUNSFORD, B.S., Second Grade.
 MAY CLARESSE, First Grade.
 MRS. PEARL G. DOMINGUEZ, High Sixth Grade.
 ALICE B. TWADDLE, B.A., Low Sixth Grade.
 VIOLET PALSGROVE, Fourth Grade.
 MRS. EVA B. POSVAR, Second Grade.
 THELMA WILLIAMS, Low Second and High First Grades.
 HELEN HANLEY, High Third and Low Fourth Grades.
 MARGARET HINCH, Sixth Grade.
 MAMIE TOWLES, Low Sixth and High Fifth Grades.
 LOUISA N. WORDEN, Low Fifth Grade.

ADNA BROWN, Third Grade.

ELLEN RUSSELL, B.A., Low Third and High Second Grades.
 MABEL FLOURNOY, Low Second and High First Grades.
 LOUYNE ANDERSON, First Grade.
 EDITH HURD, Sixth Grade.
 EDITH PEDDICORD, Fifth Grade.
 MATILDA FERETTI, Low Fourth and High Third Grades.
 DAISY BENJAMIN, First Grade.
 ELIZABETH McCORMACK, B.A., First Grade.
 RENA SEMENZA, B.A., Kindergarten.

In the Sparks Elementary Schools—

REGINA MULLANEY, First Grade.
 MRS. GLADYS PUTNEY, Fourth Grade.
 BETH BEEMER, B.A., Third Grade.
 ROXCENA BONHAM, Second Grade.

The Nevada State Normal School was established as an integral part of the University of Nevada by an Act of the Legislature approved February 7, 1887. The first session was in the academic year 1887-1888. In the fall of 1920 it took up its work in the finely equipped Education Building. The connection of the Normal School with the other departments of the University gives it certain advantages. Its students enjoy the same rights and privileges as those enrolled in any other school or college of the University. Their association with those students who are pursuing four-year courses gives them greater breadth of view and higher academic ideals. Its students and graduates, if they satisfy the requirements for admission to any other school or college of the University, may become candidates for the University degrees. Subject only to the provision that they meet the specific requirements of the college which they enter, they are given full credit in all of the Colleges of the University for the work they have done in the Normal School.

AIM

The aim of the Normal School is to give adequate preparation and training to those students of the University who wish to teach in the public schools of the State. To achieve this purpose, thoroughgoing courses in the theory and practice of teaching and in academic subjects are offered for those who are preparing to teach in the elementary schools. The School of Education will recommend no student or graduate for any teaching position who is seriously deficient in the subject matter to be taught.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of units belonging to each, see pages 108-117.

TEACHERS' ELEMENTARY CERTIFICATE

FIRST-GRADE CERTIFICATES

Students who satisfy the admission requirements and complete both years of the following outlined curriculum will be granted diplomas entitling them to first-grade elementary certificates from the State Board of Education. These give the holders the right to teach, without examination, for five years in any of the elementary schools of the State. On evidence of successful teaching for not less than forty-five months, the State Board of Education will grant the holders first-grade elementary certificates valid for life.

A first grade elementary certificate, valid for three years, will be issued by the State Board of Education to graduates of the four-year university course who present 18 semester hours of professional work, including four semester hours in methods of teaching in elementary school subjects and at least four hours of supervised teaching in the elementary grades. This certificate is renewable.

SECOND-GRADE CERTIFICATES

Students who, for financial or other reasons, cannot continue their studies for two years, may, upon satisfying the requirements for admission, and completing one year of the two-year course, be granted second-grade elementary certificates by the State Board of Education. These give the holders the right to teach, without examination, for three years in any of the elementary schools of the State. At the expiration of the time for which they are valid, these certificates cannot be renewed. If holders wish to continue teaching, they must either complete the requirements of the two-year course of study, or pass the State examination for a first-grade certificate.

SUPERVISED TEACHING

No supervised teaching in the Freshman year. Candidates for supervised teaching must have a general average of 3 or better; must have an average in introductory educational course of 2.5; and must have demonstrated a genuine interest in the teaching field. If a student should fail in any of these points his eligibility to teach will be subjected to serious question.

Under the sanction of the officials of the Reno and Sparks public schools, student teaching is permitted and the teachers of these schools cooperate with the School of Education in supervising this work.

COURSE OF STUDY

	First Semester	Second Semester
FIRST YEAR		
Orientation 2	1	.....
Education 20 (Principles of Teaching).....	.....	3
Education 23 (Problems in Rural Education).....	2	.....
Education 24 (School Law).....	.....	1
Education 25 (Observation).....	1	.....
Education 31 (The Teaching of Arithmetic).....	.....	2
Education 33 (Community and School).....	.....	2
Education 34 (The Teaching of English).....	3	.....
Education 41 (Constructive Activities).....	.....	1
Nature Study 1-2.....	2	2
Home Economics 9 (General Home Economics).....	3	.....
Geology 1 (Physiography).....	2	.....
Music 1-2.....	1	1
Physical Education 1-2.....	1	1
Art 1 and 2.....	1	1
Political Science 79-80.....	1	1
Penmanship	0	0
English 1 (Composition and Rhetoric).....	.....	3
	17½	17½
SECOND YEAR		
Psychology 5 (General Psychology).....	3	.....
Psychology 6 (Educational Psychology).....	.....	3
Education 28 (Practice Teaching).....	5	.....
Education 29 (Practice Teaching).....	.....	5
Education 35 (Teaching of English).....	.....	3
Education 46 (Management and Organization).....	.....	2
Education 48 (Tests and Measurements).....	1	.....
English 2 (Composition and Rhetoric).....	3	.....
Hygiene 4 (For Teachers).....	2	.....
Philosophy 28 (Social Ethics).....	.....	2
Education 21 (Teaching of Music).....	2	.....
Physical Education 10 (Teaching of P. E.).....	.....	1
Art 8 (Art for Teachers).....	.....	1
	16	17

SCHOOL OF EDUCATION

The School of Education is included as a division of the College of Arts and Science, but with its own Dean, and direct affiliations with the other colleges in cooperative work in the training of teachers. It offers a liberal and professional course of study of four years to prospective secondary-school teachers and to those students looking forward to supervisory and administrative positions in the schools of Nevada. At the end of this time successful candidates are granted a Bachelor's Degree and a teacher's diploma, the latter giving title to a teacher's first-grade high school certificate. On evidence later of at least forty-five months of successful teaching, this certificate is exchangeable by the State Board of Education for a life diploma.

THE HIGH SCHOOL TEACHER'S CERTIFICATE

The high school teacher's certificate is granted by the State Board of Education to any graduate of the four-year course who has met the requirement. This requirement consists of the following prescribed courses:

In the regular academic departments 18 hours of professional work are required, distributed as follows: Psychology 5 (3 hours) prerequisite; Psychology 6 (3 hours), Education 60 (3 hours), Education 63 (1 hour), Education 66 (1 or 2 hours) elective; Education 71 (3 hours), Education 75 (2 hours), Education 76 (2 hours), Education 82 (2 hours).

SUPERVISED TEACHING

The candidate for supervised teaching must have Senior standing; must give evidence of preparation to teach in two high school subjects by having at least 12 semester hours or its equivalent in each; must have a general average of 2.5; must have an average in his teaching subjects of 2; must have an average of 2.5 in his introductory educational subjects; and must have demonstrated a genuine interest in the teaching field. If a student should fail in any of these points his eligibility to teach will be subjected to serious question.

For teachers of the following subjects, special certificates are required: Art, Commercial Subjects, Home Economics, Languages, Manual Training, Music, and other vocational subjects.

In addition to the work in Education:

Graduation from the School of Home Economics is necessary for the teacher's certificate in Home Economics;

Graduation from the College of Agriculture is necessary for the teacher's certificate in Agriculture.

At least a minor in any of the other special subjects is necessary for a teacher's certificate in that subject, except Commercial subjects, for which the academic requirement follows:

(1) Eighteen credits in the department, namely, Economics 1-2, Business Administration 43-44, and Business Administration 68, and additional three units chosen according to the needs of the student. Business Administration 53-54 and Business Administration 41-42 are recommended.

(2) Proficiency in stenography and typewriting, to be

secured outside the University and before the end of the Junior year. Students should consult the instructor in Business Administration about this requirement at some time during their Sophomore year.

IMPORTANT

All candidates for the high-school teacher's diploma should confer with the Dean of the School of Education at the beginning of the Sophomore year, as it is highly desirable that they begin their professional studies at that time. Failure to do this will limit the opportunity for choice in the advanced academic courses.

CALIFORNIA CERTIFICATION

Elementary and Junior High School Credentials: Graduates of the University of Nevada who in this University have completed the requirements for the California general elementary and junior high school credential may be recommended directly to the California State Department of Education for this credential by the University's Department of Education. These requirements for the *elementary certificate* include the completion of a minimum of twenty-four semester hours of work, approved by the University's Department of Education, as affording adequate preparation for teaching the statutory subjects, with not less than eight semester hours of directed teaching. If the applicant has completed one major and one minor in subjects taught in high school, he will also be granted the junior high school credential. The *Junior high school credential* includes (a) eighteen semester hours of work in education with not less than four semester hours of directed teaching and (b) one major and one minor in subjects taught in high school.

Secondary Credentials—Students who have secured a Master's degree from the University of Nevada and who have completed the requirements for the California general secondary credential will be granted this credential by the California State Department of Education upon the completion in a California teacher-training institution of six units of professional courses to be prescribed. These requirements for the general secondary credential include (a) eighteen hours of specified work in the University's Department of Education and (b) one major and one minor in high school subjects.

THE COLLEGE OF ENGINEERING

1. THE MACKAY SCHOOL OF MINES
2. THE SCHOOL OF MECHANICAL ENGINEERING
3. THE SCHOOL OF ELECTRICAL ENGINEERING
4. THE SCHOOL OF CIVIL ENGINEERING
5. THE ENGINEERING EXPERIMENT STATION

THE COLLEGE OF ENGINEERING

FACULTY

- WALTER E. CLARK, Ph.D., LL.D., President of the University.
 MAXWELL ADAMS, Ph.D., Vice President and Professor of Chemistry.
 FREDERICK H. SIBLEY, M.E., Dean of the College of Engineering;
 Professor of Mechanical Engineering.
 JOHN ALLEN FULTON, E.M., Director Mackay School of Mines and
 Professor of Mining.
 HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering.
 LEON WILSON HARTMAN, Ph.D., Professor of Physics.
 WALTER S. PALMER, E.M., Professor of Metallurgy.
 Colonel JOHN PAUL RYAN, Professor Emeritus of Military Science
 and Tactics.
 STANLEY G. PALMER, M.E., Professor of Electrical Engineering.
 GEORGE WALLACE SEARS, Ph.D., Professor of Chemistry.
 FREDERICK L. BIXBY, C.E., Professor of Civil Engineering.
 JAY ARNOLD CARPENTER, E.M., Professor of Mining.
 JOHN EDWARD MARTIE, M.P.E., Professor of Physical Education for
 Men.
 Colonel ROBERT M. BRAMBILA, M.A., Professor of Military Science
 and Tactics.
 FREDRICK WOOD, Ph.D., Professor of Mathematics.
 KATHERINE LEWERS, Associate Professor of Freehand Drawing.
 KATHARINE RIEGELHUTH, A.M., Associate Professor of English.
 GILBERT BRUCE BLAIR, A.M., Associate Professor of Physics.
 SILAS CALVIN FEEMSTER, A.M., Associate Professor of History and
 Political Science.
 SIGMUND W. LEIFSON, Ph.D., Associate Professor of Physics.
 VINCENT P. GIANELLA, M.S., Associate Professor of Geology and
 Mineralogy.
 PAUL A. HARWOOD, M.A., Associate Professor of English.
 CHARLES L. SEARCY, M.A., Assistant Professor of Mathematics.
 WILLIAM I. SMYTH, E.M., Assistant Professor of Metallurgy.
 S. ALLAN LOUGH, M.S., Assistant Professor of Chemistry.
 CHESTER M. SCRANTON, M.A., Assistant Professor of Physical Edu-
 cation for Men.
 MERYL WILLIAM DEMING, Ph.D., Assistant Professor of Chemistry.
 IRVING J. SANDORF, M.S., Assistant Professor of Electrical Engineer-
 ing.
 HERBERT B. WILCOX, 1st Lt., U. S. A., Assistant Professor of Military
 Science and Tactics.
 BERTRAND F. COUCH, Instructor in Mine Accounting.
 ROBERT STUART GRIFFIN, B.S., Instructor in English.
 GRANT H. HUSTIS, Sgt., U. S. A., Instructor in Military Science and
 Tactics.
 HAROLD CLARK AMENS, B.S., Instructor in Engineering.
 ALDEN J. PLUMLEY, M.A., Instructor in Economics.

JOHN TORNEY RYAN, Instructor in Shop Practice.
 CARL STODDARD, Instructor in Geology.
 WILLIAM C. MILLER, M.A., Fellow in English.
 MRS. LEHMAN FERRIS, B.A., Fellow in English.

AIM

The aim of the College of Engineering is to give young men a knowledge of those subjects which form the basis of the Mining, Mechanical, Electrical, and Civil Engineering professions. The technical courses of study are arranged and directed with the purpose of preparing students not only for immediate usefulness but also for future professional growth. The work is in the form of both lectures and recitations, supplemented by exercises in the drafting room, field, laboratory, and shop.

EQUIPMENT

For a general description of the equipment of the College of Engineering, see Mackay School of Mines, Mechanical Building, Electrical Building, Chemistry Building, Laboratories for Geology and Mineralogy, Laboratories of the Mining Department, Mining and Geological Museum, and the Chemical Laboratories, in the earlier part of this catalogue.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of credits belonging to each, see pages 108-116.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN ENGINEERING

The Degree of Bachelor of Science in (a) Mining Engineering, Metallurgical Engineering, or Geological Engineering, (b) Mechanical Engineering, (c) Electrical Engineering, and (d) Civil Engineering is conferred upon students who have satisfactorily completed the full course in the Schools of (a) Mines, (b) Mechanical Engineering, (c) Electrical Engineering, and (d) Civil Engineering, aggregating 144 semester units.

Combination curricula leading to the Bachelor's Degree in more than one school in the University may be arranged. The minimum requirements shall be one extra year in residence and 30 credit hours of extra work. More work may be necessary if the specific requirements of the department in which the degree is sought have not been met.

For students taking advanced military work, where sufficient elective credits (10) are not provided, arrangement will be made by substitution or other adjustment.

The State law of Nevada requires that all candidates for a degree must study, during one University year, the Constitutions of the United States and of the State of Nevada.

UNIFORM FRESHMAN COURSE

COMMON TO ALL FOUR SCHOOLS OF ENGINEERING

<i>Freshman Year—First Semester</i>		LAB.	LEC.
English 1.....	Composition and Rhetoric.....	2	3
Chemistry 5.....	General Inorganic Chemistry.....	2	1
Mathematics 15.....	Mathematical Analysis.....	2	5
Mechanical Engineering 2.....	Elementary Mechanical Drawing.....	2	..
*General Engineering 2.....	Freehand Drawing.....	1	..
General Engineering 1.....	Orientation.....	..	1
Military 1.....	Basic Course.....	1	..
Physical Education 1.....	Developmental Exercises.....	½	..
*Elective.....	.....	..	1

17½

Freshman Year—Second Semester

English 2.....	Composition and Rhetoric.....	2	3
Chemistry 6.....	General Inorganic Chemistry.....	2	1
Mathematics 16.....	Mathematical Analysis.....	2	5
Mechanical Engineering 6.....	Descriptive Geometry.....	2	..
Geology 8.....	Engineering Geology.....	..	3
Hygiene 1.....	Personal Hygiene.....	..	1
Military 2.....	Basic Course.....	1	..
Physical Education 2.....	Developmental Exercises.....	½	..

18½

SCHOOL OF MINES

Subject to approval by the Engineering Faculty, substitution of courses may be made in the following School of Mines curriculum. This makes it possible to arrange satisfactory courses in

Mining Engineering
 Geological Engineering
 Metallurgical Engineering
 Metallurgical Chemistry

and in the different phases of the separate branches such as design work, operating work, sales work, etc.

Summer Work

Mining 5.....	Practical Mine Work.....	Four Weeks
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Sophomore Year—First Semester

<i>Sophomore Year—First Semester</i>		LAB.	LEC.
Mathematics 25.....	Differential Calculus.....	..	3
Physics 3.....	Engineering Physics.....	..	5
Mineralogy 1.....	Determinative Mineralogy.....	2	..
Metallurgy 53.....	General Metallurgy.....	..	1
Chemistry 9.....	Qualitative Analysis.....	3	1
Geology 11.....	Historical Geology.....	..	3
Military 3.....	Basic Course.....	..	1
Physical Education 3.....	.....	½	..

5½ 14

19½

*To be selected with the approval of the head of the Department.

<i>Sophomore Year—Second Semester</i>		LAB.	LEC.
Chemistry 10.....	Volume Analysis	3	1
Mathematics 26.....	Integral Calculus .....	..	..
Physics 4.....	General Physics for Engineers.....	..	50
Metallurgy 58.....	General Metallurgy .....	..	25
Mineralogy 2.....	Blowpipe Analysis	2	..
Mineralogy 4.....	Descriptive Mineralogy .....	..	1
Military 4.....	Basic Course .....	..	1
Physical Education 4.....	.....	1	..
		5½	14
		<hr/>	
		19½	

<i>Junior Year—First Semester</i>			
Mining 51.....	Excavation .....	..	2
Metallurgy 51.....	Assaying	3	..
Mathematics 55.....	Analytic Mechanics .....	..	50
Economics 65.....	Introduction to Economics, Business and Sociology .....	..	3
Civil Engineering 51 and 52.....	Surveying	2	2
Geology 51.....	Petrology	1	1
		6	12
		<hr/>	
		18	

<i>Junior Year—Second Semester</i>			
Mining 52.....	Mine Plant	3	..
Metallurgy 66.....	Ore Dressing .....	..	2
Metallurgy 68.....	Ore Dressing	2	..
Geology 60.....	Economic Geology Nonmetallic.....	..	3
Civil Engineering 53 and 54.....	Surveying	2	2
Geology 52 (or Metal- lurgy 56).....	Petrography (Metallography)	2	1
		6	11
		<hr/>	
		17	

<i>Summer Work</i>			
Civil Engineering 58.....	Summer Surveying	Four Weeks	

<i>Senior Year—First Semester</i>			
Geology 61.....	Economic Geology of Metals.....	..	3
Mining 61.....	Mining Methods .....	..	3
Metallurgy 71.....	Hydro-Metallurgy	1	3
Metallurgy 61.....	Pyro-Metallurgy, nonferrous metals.....	..	3
Political Science 79.....	.....	..	1
Project in Mining 79, Metallurgy 79 or Geology 79.....	.....	2	..
Electrical Engineering 75.....	Electricity in Mining.....	..	3
		3	14½
		<hr/>	
		17½	

<i>Senior Year—Second Semester</i>			
Mining 72.....	Mine Administration .....	..	3
Mining 74.....	Mineral Industry Economics.....	..	3
Civil Engineering 90.....	Hydraulics .....	..	3
Civil Engineering 72.....	Testing Materials	1	..
Civil Engineering 74.....	Strength of Materials.....	..	3
Political Science 80.....	.....	..	1
Project in Mining 80, Metallurgy 80 or Geology 80.....	.....	2	..
Elective .....	.....	..	2
		3	14½
		<hr/>	
		17½	

PROSPECTORS' SHORT COURSE

A short course for prospectors was established in 1915, withdrawn in 1925 and reestablished in 1933. This course is designed to aid the prospectors of Nevada, but is open to

residents of other States. For a description of the work and other information concerning the Prospectors' Short Course, see under "Short Courses."

SCHOOL OF MECHANICAL ENGINEERING

Freshman Year—Both Semesters

Uniform course for all Engineering Schools. See page 151.

<i>Sophomore Year—First Semester</i>		LAB.	LEC.
Physics 3.....	General Physics for Engineers.....	..	5
*Physics 5.....	Physical Measurements	2	..
Mathematics 25.....	Differential Calculus .....	..	3
Military 3.....	Basic Course, second year.....	..	1
Physical Education 3.....	Advanced Exercises	½	..
*History or Language.....	.....	..	3
Elective.....	.....	..	3½
		<hr/>	
		18	

Sophomore Year—Second Semester

Physics 4.....	General Physics for Engineers.....	..	5
*Physics 6.....	Physical Measurements	2	..
Mathematics 26.....	Integral Calculus .....	..	3
Metallurgy 54.....	Engineering Metallurgy .....	..	2
Military 4.....	Basic Course, second year.....	..	1
Physical Education 4.....	Advanced Exercises	½	..
*History or Language.....	.....	..	3
Elective.....	.....	..	1½
		<hr/>	
		18	

Junior Year—First Semester

Electrical Engineering 51.....	Direct Current Machinery.....	..	3
*Electrical Engineering 61.....	Electrical Laboratory	1	1
Civil Engineering 51-52.....	Elementary Surveying	2	2
Mechanical Engineering 54.....	Engines and Boilers.....	..	3
Mathematics 55.....	Analytic Mechanics .....	..	3
Mechanic Arts 2.....	Forging	2	..
Elective.....	.....	..	1
		<hr/>	
		18	

Junior Year—Second Semester

Electrical Engineering 72.....	Alternating Current Machinery.....	..	3
Civil Engineering 74.....	Strength of Materials.....	..	3
Civil Engineering 72.....	Testing Materials	1	..
Civil Engineering 90.....	Hydraulics .....	..	3
Mechanical Engineering 51.....	Kinematics	2	1
Mathematics 56.....	Analytic Mechanics .....	..	2
Mechanic Arts 3.....	Machine Shop	2	..
Elective.....	.....	..	1
		<hr/>	
		18	

Senior Year—First Semester

Mechanical Engineering 53.....	Machine Design .....	..	3
Mechanical Engineering 55.....	Thermodynamics .....	..	3
Mechanical Engineering 64.....	Mechanical Laboratory	2	1
*Mechanic Arts 5.....	Machine Shop	2	..
*Economics 65.....	Introduction to Economics and Business.....	..	3
†Political Science 79.....	Constitutions of United States and Nevada .....	..	1
Elective .....	.....	..	4
		<hr/>	
		18½	

*See footnote p. 151. †Students who take History are not required to take Political Science 79.

Senior Year—Second Semester		LAB.	LEC.
Mechanical Engineering 56.....	Thermodynamics .....	..	3
*Mechanical Engineering 58.....	Advanced Machine Design.....	2	1
*Mechanical Engineering 65.....	Mechanical Laboratory	2	1
*Economics 66.....	Financial and Business Organization.....	..	3
Mechanic Arts 6.....	Pattern Making	1	..
†Political Science 80.....	Constitutions of United States and Nevada .....	..	1
Elective .....	.....	..	5
		18½	

SCHOOL OF ELECTRICAL ENGINEERING

Freshman Year—Both Semesters

Uniform course for all Engineering Schools. See page 151.

Sophomore Year—First Semester		LAB.	LEC.
Physics 3.....	General Physics for Engineers.....	..	5
Physics 5.....	Physical Measurements	2	..
Mathematics 25.....	Differential Calculus .....	..	3
Civil Engineering 51-52.....	Elementary Surveying and Plotting.....	2	2
Mechanic Arts 3.....	Machine Shop	1	..
Military 3.....	Basic Course, second year.....	..	1
Physical Education 3.....	Advanced Exercises	½	..
Elective .....	.....	..	1
		17½	

Sophomore Year—Second Semester

Physics 4.....	General Physics for Engineers.....	..	5
Physics 6.....	Physical Measurements	4	..
Mathematics 26.....	Integral Calculus .....	..	3
Metallurgy 54.....	Engineering Metallurgy .....	..	1
Military 4.....	Basic Course, second year.....	..	1
Physical Education 4.....	Advanced Exercises	½	..
Elective .....	.....	..	3
		18½	

Junior Year—First Semester

Electrical Engineering 51.....	Direct Current Machinery.....	..	3
Electrical Engineering 61.....	Electrical Engineering Laboratory.....	1	1
Mechanical Engineering 54.....	Engines and Boilers.....	..	3
*Mechanical Engineering 51.....	Kinematics	1	2
Mathematics 55.....	Analytic Mechanics .....	..	3
Mechanical Engineering 64.....	Mechanical Laboratory	1	2
Elective .....	.....	..	1
		18	

Junior Year—Second Semester

Electrical Engineering 52.....	Alternating Current Machinery.....	..	3
Electrical Engineering 62.....	Electrical Engineering Laboratory.....	1	1
Civil Engineering 74.....	Strength of Materials.....	..	3
*Civil Engineering 72.....	Testing Materials Laboratory.....	1	..
Civil Engineering 90.....	Hydraulics .....	..	3
Mathematics 56.....	Analytic Mechanics .....	..	3
Elective .....	.....	..	3
		18	

Senior Year—First Semester

Electrical Engineering 53.....	Advanced Alternating Currents.....	..	3
Electrical Engineering 63.....	Electrical Engineering Laboratory.....	3	1
Electrical Engineering 67.....	Communication Engineering	1	..
*Economics 55.....	Introduction to Economics and Business.....	..	3
Political Science 79.....	Constitutions of the United States and Nevada .....	..	1
Elective .....	.....	..	3
		18½	

*See footnote p. 151. †Students who take History are not required to take Political Science 80.

Senior Year—Second Semester		LAB.	LEC.
Electrical Engineering 54.....	Electrical Design .....	..	3
Electrical Engineering 64.....	Electrical Engineering Laboratory.....	3	1
*Electrical Engineering 68.....	Communication Engineering	1	2
*Physics 57.....	Electrical Measurements	2	..
*Economics 66.....	Industrial and Financial Organization.....	..	3
Political Science 80.....	Constitutions of United States and Nevada .....	..	1
Elective .....	.....	..	3
		18½	

SCHOOL OF CIVIL ENGINEERING

Freshman Year—Both Semesters

Uniform course for all Engineering Schools. See page 151.

Sophomore Year—First Semester		LAB.	LEC.
Mathematics 25.....	Differential Calculus .....	..	3
Physics 3.....	General Physics for Engineers.....	..	5
Civil Engineering 51-52.....	Elementary Surveying	2	2
*Geology 9.....	Historical Geology .....	..	3
Mineralogy 1.....	Determinative Mineralogy	2	..
Military 3.....	Basic Course .....	..	1
Physical Education 3.....	Advanced Exercises	½	..
		18½	

Sophomore Year—Second Semester

Mathematics 26.....	Integral Calculus .....	..	3
Metallurgy 54.....	Engineering Metallurgy .....	..	2
Physics 4.....	General Physics for Engineers.....	..	5
Civil Engineering 20.....	Technical Report	1	..
Civil Engineering 53-54.....	Advanced Surveying	2	2
Civil Engineering 69.....	Graphic Statics	1	1
Military 4.....	Basic Course .....	..	1
Physical Education 4.....	Advanced Exercises	½	..
		18½	

Junior Year—First Semester

Mathematics 55.....	Analytic Mechanics .....	..	3
Civil Engineering 63-64.....	Railroad Engineering	2	3
Civil Engineering 75.....	Structural Analysis .....	..	3
*Mechanical Engineering 54.....	Engines and Boilers.....	..	3
Electrical Engineering 75.....	Electricity in Mining .....	..	3
Political Science 79.....	Constitutions of United States and Nevada .....	..	1
Elective .....	.....	..	1
		18½	

Junior Year—Second Semester

Mathematics 56.....	Analytic Mechanics .....	..	2
Civil Engineering 55A-55B.....	Foundations and Substructures.....	1	2
Civil Engineering 72.....	Testing of Materials.....	1	..
Civil Engineering 74.....	Mechanics of Materials.....	..	3
Civil Engineering 76.....	Structural Analysis .....	..	3
Civil Engineering 90.....	Hydraulics .....	..	3
Political Science 80.....	Constitutions of United States and Nevada .....	..	1
Elective .....	.....	..	3
		17½	

CIVIL ENGINEERING 58. *Summer Surveying*. Required of all Civil Engineering students who cannot furnish a satisfactory substitution of practical experience on survey work, including considerable instrument work.

*See footnote p. 151.

<i>Senior Year—First Semester</i>		LAB. LEC.
Civil Engineering 67.....	Engineering Economics	2
Civil Engineering 77.....	Structural Design	3
Civil Engineering 85.....	Reinforced Concrete	2
Civil Engineering 94.....	Irrigation Engineering	3
Economics 65.....	Introduction to Economics.....	3
Elective.....	.....	3
		18
<i>Senior Year—Second Semester</i>		
Civil Engineering 78.....	Structural Design	2
Civil Engineering 86.....	Reinforced Concrete	2
Civil Engineering 91.....	Sanitary Engineering	3
Civil Engineering 99.....	Engineering Problems	3
or		
Civil Engineering 100.....	Thesis	2
Economics 66.....	Industrial Organization	3
Elective.....	.....	5
		18
<i>Senior Year—Second Semester</i>		
Civil Engineering 78.....	Structural Design	2
Civil Engineering 86.....	Reinforced Concrete	2
Civil Engineering 91.....	Sanitary Engineering	3
Metallurgy 54.....	Metallurgy of Iron, Steel.....	2
Civil Engineering 99.....	Engineering Problems	3
or		
Civil Engineering 100.....	Thesis	2
Economics 66.....	Industrial Organization	3
Elective .....	.....	3
		18

*See footnote p. 151.

¹Civil Engineering 55A and B and 67 given alternate years. See pages 182, 183.

THE ENGINEERING EXPERIMENT STATION

WALTER E. CLARK, Ph.D., LL.D., President of the University.

HORACE P. BOARDMAN, C.E., Director, Chairman Executive Committee.

FREDERICK H. SIBLEY, M.E., Member Executive Committee.

STANLEY G. PALMER, M.E., Member Executive Committee.

The Engineering Experiment Station was established by the Board of Regents November 1, 1921.

The objects are to cooperate with engineering experiment stations in other institutions and to conduct useful investigations along engineering lines and publish bulletins from time to time whenever the results justify such publication.

THE COLLEGE OF AGRICULTURE

1. THE SCHOOL OF AGRICULTURE
2. THE SCHOOL OF HOME ECONOMICS

THE COLLEGE OF AGRICULTURE

FACULTY

- WALTER E. CLARK, Ph.D., LL.D., President of the University.
 MAXWELL ADAMS, Ph.D., Vice President, Professor of Chemistry.
 ROBERT STEWART Ph.D., Dean of the College of Agriculture: Professor of Agronomy.
 HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering.
 FREDERICK WESTON WILSON, M.S., Professor of Animal Husbandry.
 RUEBEN CYRIL THOMPSON, M.A., Professor of Philosophy.
 Colonel JOHN PAUL RYAN, Professor Emeritus of Military Science and Tactics.
 FREDERICK H. SIBLEY, M.E., Dean of the College of Engineering, Professor of Mechanical Engineering.
 SARAH L. LEWIS, M.A., Professor of Home Economics.
 GEORGE WALLACE SEARS, Ph.D., Professor of Chemistry.
 PHILIP A. LEHENBAUER, Ph.D., Professor of Biology.
 FREDERICK L. BIXBY, C.E., Professor of Civil Engineering.
 JOHN EDWARD MARTIE, M.P.E., Professor of Physical Education for Men.
 ELSA SAMETH, M.S., Professor of Physical Education for Women.
 Colonel ROBERT M. BRAMBILLA, M.A., U. S. A., Professor of Military Science and Tactics.
 FREDRICK WOOD, Ph.D., Professor of Mathematics.
 KATHERINE LEWERS, Associate Professor of Freehand Drawing.
 KATHARINE RIEGELHUTH, A.M., Associate Professor of English.
 MARGARET ELIZABETH MACK, A.M., Associate Professor of Biology.
 SILAS CALVIN FEEMSTER, A.M., Associate Professor of History and Political Science.
 GILBERT BRUCE BLAIR, A.M., Associate Professor of Physics.
 EDWARD G. SUTHERLAND, A.B., Associate Professor of Economics, Business and Sociology.
 JESSIE P. POPE, M.A., Associate Professor of Home Economics.
 PAUL A. HARWOOD, M.A., Associate Professor of English.
 CHARLES L. SEARCY, M.A., Assistant Professor of Mathematics.
 LYMAN R. VAWTER, D.V.M., Assistant Research Professor of Veterinary Science.
 S. ALLAN LOUGH, M.S., Assistant Professor of Chemistry.
 MERYL WILLIAM DEMING, Ph.D., Assistant Professor of Chemistry.
 CHESTER M. SCRANTON, M.A., Assistant Professor of Physical Education for Men.
 CHARLES LEROY BROWN, M.A., Assistant Professor of Biology.
 RALPH A. IRWIN, M.S., Assistant Professor of Psychology.
 MILAN J. WEBSTER, M.A., Assistant Professor of Economics, Business and Sociology.
 HERBERT B. WILCOX, 1st Lt., U. S. A., Assistant Professor of Military Science and Tactics.
 MAE SIMAS, M.A., Assistant Professor of Physical Education for Women.

ROBERT STUART GRIFFIN, B.S., Instructor in English.
GRANT H. HUSTIS, Sgt. U. S. A., Instructor in Military Science and Tactics.

HAROLD CLARK AMENS, B.S., Instructor in Engineering.
LORETTA ROSE MILLER, B.S., Instructor in Biology.
ALDEN J. PLUMLEY, M.A., Instructor in Economics, Business and Sociology.

JACK L. RYAN, Instructor in Shop Practice.
DELPHA WOOD, B.S., Assistant in Home Economics.
CLARENCE J. THORNTON, B.S., Instructor in Poultry Husbandry.
GEORGE ERNEST BROOKS, B.S., Instructor in Dairying.
WILLIAM C. MILLER, M.A., Fellow in English.
MRS. LEHMAN FERRIS, B.A., Fellow in English.

AIM

The aim of the School of Agriculture is to give such training in farming, gardening, and stock raising, and in the sciences and other related subjects as will furnish a well-rounded education.

EQUIPMENT

AGRICULTURAL BUILDING—For description of Agricultural Building, see p. 39.

UNIVERSITY FARM—The University Farm, comprising 213 acres formerly owned by the D. C. Wheeler Company, Incorporated, is located three miles south of Reno along the Virginia road.

DAIRY—The laboratory in the Agricultural Building, equipped with up-to-date machinery and apparatus, furnishes opportunity for instruction in methods of handling milk and dairy products, as milk testing, butter making, and the marketing of milk.

EXPERIMENT STATION FARM—This is a farm of sixty acres lying east of the Campus and devoted to research projects of the University Agricultural Experiment Station.

SHOPS—The shops for teaching of wood-work and blacksmithing are equipped for the best of work.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of credits belonging to each, see pages 108-116.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN AGRICULTURE

The Degree of Bachelor of Science in Agriculture will be conferred upon students who satisfactorily complete the full

course of study in the School of Agriculture, aggregating 128 semester units.

COLLEGE OF AGRICULTURE

COURSES OF STUDY

	First Semester	Second Semester
FRESHMAN YEAR		
Military 1-2	1	1
Hygiene 2	1	1
Physical Education 1-2.....	3	3 or 4
Chemistry	3 or 4	3 or 4
English 1-2	3	3
Agricultural Electives	4	3
Nonagricultural Electives	4 or 5	4 or 5
	16½	16½
SOPHOMORE YEAR		
Military 3-4	1	1
Physical Education 3-4.....	3	3
Agricultural Electives	6	6
Nonagricultural Electives	6	6
Open Elective	2	2
	15½	15½
JUNIOR YEAR		
Agricultural Elective	8	8
Nonagricultural Elective	6	6
Open Elective	2	2
	16	16
SENIOR YEAR		
Political Science 79-80.....	½	½
Agricultural Elective	11	11
Open Elective	4½	4½
	16	16

SCHOOL OF HOME ECONOMICS

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN HOME ECONOMICS

The degree of Bachelor of Science in Home Economics is conferred upon students who have satisfactorily completed the full course of study aggregating 128 semester units (including 3 units in Physical Education and 1 unit in Hygiene in the Freshman and Sophomore years) in the School of Home Economics as given on the following pages.

AIM

The aim of the School of Home Economics is to raise the ideals of home-making, to prepare young women for the successful management of a home, and to impart to them scientific and technical knowledge, coupled with sufficient practice to fit them to become either thoughtful home-makers, teachers of home economics, or workers in any field where this knowledge is needed.

Experience in actual home-making, either as a daughter

working in the family or as a manager of a house, is a great aid to the successful work of the Home Economics course. Home problems are required after completing beginning courses in Home Economics to give students this experience.

EQUIPMENT

School of Home Economics: For detailed description, see page 39.

SCHOOL OF HOME ECONOMICS

COURSES OF STUDY

Freshman Year—First Semester

	LAB.	LEC.
English 1.....Composition and Rhetoric.....	1	3
Physics 19.....Household Physics.....	1	2
Physical Education 1.....Freshman Practice.....	1	1
Home Economics 3.....Introductory Course.....	1	1
Home Economics 31.....Food.....	2	1
History or Modern Language.....	2	3
Botany 3.....Morphology and Physiology of Flowering Plants.....	1	2

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Freshman Year—Second Semester

English 2.....Composition and Rhetoric.....	1	3
Physics 20.....Household Physics.....	1	2
Physical Education 2.....Freshman Practice.....	1	1
Home Economics 32.....Food.....	2	1
History or Modern Language.....	2	3
Hygiene 2.....	1	1
Home Economics 16.....Textiles.....	1	1

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Sophomore Year—First Semester

English 11 or 41.....Public Speaking or Literature.....	2	2
Chemistry 1.....or.....Elementary Inorganic Chemistry.....	2	2
Chemistry 5.....General Inorganic Chemistry.....	2	1
Physical Education 3.....Sophomore Practice.....	1	1
Home Economics 15.....Clothing.....	2	1
Art 5.....Principles of Art.....	2	1
Psychology 5.....General Psychology.....	2	3
Elective.....	1	1

15½

Sophomore Year—Second Semester

English 12 or 42.....Public Speaking or Literature.....	2	2
Chemistry 2.....or.....Elementary Inorganic Chemistry.....	2	2
Chemistry 6.....General Inorganic Chemistry.....	2	1
Physical Education 4.....Sophomore Practice.....	1	1
Home Economics 18.....Clothing.....	2	1
Home Economics 45.....Related Art.....	2	3
Philosophy 22.....Applied Ethics.....	2	3
Elective.....	2 or 3	3

16½

Junior Year—First Semester

Chemistry 25.....Household Chemistry.....	2	2
Zoology 7.....Physiology.....	1	2
Economics 1.....Principles of Economics.....	1	3
Home Economics 55.....Foods and Cookery.....	3	1
Elective.....	2	1

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Junior Year—Second Semester

	LAB.	LEC.
Zoology 8.....Physiology.....	1	2
Economics 2.....Principles of Economics.....	1	3
Home Economics 66.....Advanced Clothing.....	2	1
Home Economics 87.....House Decoration.....	2	1
Elective.....	4	1

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Senior Year—First Semester

Home Economics 81.....Dietetics.....	3	2
Home Economics 83.....Dietetics.....	3	1
Elective.....	11	1

16

Senior Year—Second Semester

Home Economics 86.....Household Administration.....	1	2
Home Economics 88.....Care of the House.....	1	1
Home Economics 76.....Child Care.....	1	2
Elective.....	9	1

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All regular Home Economics courses are open to Arts and Science students.

RECOMMENDED ELECTIVES

Group I—Related Subjects:

Zoology 2, Bacteriology 51, History 53, English 25-26, Latin 41 (Greek Art), and Latin 42 (Roman to Modern Art), Philosophy 7, 8, 61, 62, Business Administration 41, 65, Sociology 71-72; Art 3-4, 51-52.

Group II—Home Economics Electives:

Home Economics 33, 34, 42, 45, 52, 54, 67, 68, 85, 92, 95; Vocational Education 88.

Group III—For a Minor in Education, Electives Should Be Chosen as follows:

Sophomore year, second semester, Psychology 6; Junior year, first semester, Education 63; second semester, Education 60; Senior year, first semester, Education 71, 75; second semester, Education 76, Vocational Education 88.

Group IV—For Student Dietitians, Electives Should Be Chosen from the following:

Bacteriology 51; Chemistry 9 instead of Chemistry 26, and Chemistry 51, 52, 67; Sociology 71 and 72; Business Administration 65; Home Economics 42.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

On the following pages, listed under their respective headings, are given all the courses in which instruction is offered by the University. These are arranged in alphabetical order, as in the table below. If all the instruction given by a department is intended for a particular College, this fact is indicated by the name of the College below the name of the Department. If certain courses offered by a Department are intended for a particular College, this fact is indicated by the name of the College following the number of the course. In all cases where no limitations of this character are found, it may be assumed that, so far as the curricula and regulations of the several colleges permit election, the instruction offered is open to all qualified students of the University.

The numbers prefixed to the courses ordinarily denote the classes of students for whom the work is intended, courses numbered from 1 to 50 being designated primarily for Freshmen and Sophomores, 51 to 100 for Juniors and Seniors, and 101 to 200 for graduate students.

COURSE OFFERINGS

Agricultural Engineering	Geology
Agronomy	History and Political Science
Animal Husbandry	Home Economics
Art	Mathematics
Biology	Mechanic Arts
Bacteriology	Mechanical Engineering
Botany	Metallurgy
Horticulture	Military Science and Tactics
Hygiene	Mineralogy
Nature Study	Mining
Zoology	Modern Languages
Business (See Economics, Business, and Sociology)	Arabic
Chemistry	French
Civil Engineering	German
Classics	Italian
Latin	Portuguese
Dairy	Spanish
Drawing (See Mechanical Engineer- ing)	Music
Economics, Business, and Sociology	Philosophy
Education	Physical Education
Vocational Education	Men
Agriculture and Home	Women
Economics	Physics
Courses Primarily for Teachers	Political Science (See History and Political Science)
Electrical Engineering	Poultry Husbandry
English Language and Literature	Psychology
General Engineering	Sociology (See Economics, Business, and Sociology)

AGRICULTURAL ENGINEERING

PROFESSOR SIBLEY
 PROFESSOR BOARDMAN
 PROFESSOR BIXBY
 MR. RYAN
 MR. CARROLL
 MR. AMENS

51. FARM SURVEYING. Elementary course. Lectures, recitations and computations, covering the common types of surveying, special emphasis on topographic and farm surveying. *Prerequisite:* Mathematics. *First semester. Four credits.* Electrical Building. Boardman.

58. IRRIGATION AND DRAINAGE. A study of the principles of irrigation. Sources of water supply; measurements of water; water requirements of crops; duty of water; losses in use of irrigation water; preparation of land and methods of irrigation; farm ditches and structures; drainage of farm lands and reclamation of alkali lands. *First semester, alternate years. Lectures, three hours. Three credits.* Bixby.

71. FARM MECHANICS. A course embracing general forge work, including heating, bending, drawing, upsetting, etc., also making and tempering punches, drills and chisels, and annealing and case-hardening. One period will be given to bench and machine work. *First semester. Two credits.* Mechanical Building. Ryan and Carroll. Fee, \$5.

72. FARM EQUIPMENT. Design and construction and cost estimates of farm buildings, including houses, barns, sheds, granaries and silos. Field trips will be taken whenever possible to observe buildings under construction. Farm implements such as road drags, levelers, irrigation boxes and forms for concrete work will be studied. Principles of rural sanitation, sewage disposal, water supply and heating, ventilating and lighting of buildings. *Second semester, alternate years. Laboratory, two periods. Two credits.* Electrical Building. Sibley.

73. FARM MOTORS AND TRACTORS. The study of water, gasoline, and electric farm motors, gasoline and steam tractors. Demonstrations and practice will be given in the operation of the various types of motors. *First semester. Lecture, one hour; laboratory, two periods. Three credits.* Fee, \$2. Amens.

AGRONOMY

College of Agriculture
 PROFESSOR STEWART, HEAD OF DEPARTMENT

1. ELEMENTARY AGRICULTURE. Introduction to general agriculture. The soil—its formation, texture, plant food requirements, moisture, tillage, and fertility; the plant—its relation to soil and climate, its propagation, growth, and cultivation, and the kinds of crops and their culture. *For Freshmen only. First semester. Lectures, three hours; laboratory, one period. Four credits.* Stewart. Fee, \$3.

4. FIELD CROPS. An advanced study of the principal cereal crops—corn, wheat, oats, barley, rye, rice, sorghum, etc. *First semester. Lectures, three hours. Three credits.* Stewart.

6. SOIL MANAGEMENT. A general lecture and laboratory course in geology of soils, origin, formation, physical composition, soil moisture, moisture movements and conservation, physical processes, surface tension, osmosis, capillarity, aeration and temperature. Influence of washing, drainage, and irrigation. Laboratory—comparison of the physical properties of different soil types as: specific gravity, water retention, capillarity, organic matter, alkalies, etc. Effect of mulches; soil sampling; mechanical analysis. *Prerequisite:* Sophomore standing. *First semester. Lecture, three hours; laboratory, one period. Four credits.* Stewart. Fee, \$3.

53. FORAGE CROPS. Legumes and grasses, the special use of these crops as hay, soiling, silage, pasture, green manure, cover crops, etc.; the care and management of pastures; plans for the rotation of soiling crops; adaptation of grasses and other crops for growing under different climatic and soil conditions. *Second semester. Lectures, three hours. Three credits.* Stewart.

57. FARM MANAGEMENT. The evolution of farming; the relation of capital and labor to farm management; the general management of implements and equipment; ownership versus rental of land; the choice of a farm; system of farming; farming compared with other lines of business; marketing problems; advertising; farm records and farm accounts; the management of fields, crops, and manures. *Prerequisite:* Senior standing. *Second semester. Lectures, three hours. Three credits.* Given alternate years. Stewart.

58. IRRIGATION AND DRAINAGE. A study of the principles

of irrigation as follows: Sources of water supply; measurement of water; water requirements of crops; duty of water; losses in use of irrigation water; preparation of land and methods of irrigation; farm ditches and structures; drainage of farm lands and reclamation of alkali lands. *Prerequisite: Junior standing. Second semester. Lectures, three hours. Three credits.* Given alternate years. (Not given in 1932-1933.) Stewart.

62. SOIL FERTILITY. Composition and value of fertilizers, barn-yard and green manures; maintenance and improvement of fertility; effect of various crops and different systems of farming on the fertility of the soil. Studies of crop rotation and fertility. Study of the productivity, best uses of Nevada soils and their improvement. *Prerequisite: Agronomy 6. Second semester. Lectures, two hours. Two credits.* Given alternate years. (Not given in 1932-1933.) Stewart.

64. PRINCIPLES OF EXTENSION WORK. This course is designed to acquaint students with the operation of the Agricultural Extension Service of the United States Department of Agriculture and agricultural colleges and relationships of different Bureaus of the United States Department of Agriculture to the Extension Service and agriculture of Nevada.

A history of the development of the land grant colleges and agricultural extension work will be given, and particular emphasis placed on the organization of this work in Nevada. *Prerequisite: Junior standing. Second semester. Lectures, two periods. Two credits.* Given alternate years. Buckman.

76. HISTORY OF AGRICULTURE. A review of the history of organized agriculture together with a consideration of the various agrarian movements, their causes and effect. Review of the history of reclamation, of irrigation institutions, economics, water rights, etc. *Second semester. Three credits.* Given alternate years. (Not given in 1932-1933.)

157. ADVANCED FARM MANAGEMENT. A course for graduate students consisting of assigned special problems in farm management. *Either semester. Three to five credits.* Stewart.

200. THESIS COURSE IN AGRONOMY. *Either semester. Credit to be arranged.* Stewart.

ANIMAL HUSBANDRY

College of Agriculture

PROFESSOR WILSON, HEAD OF DEPARTMENT
ASSOCIATE PROFESSOR VAWTER

1. BREEDS OF LIVE STOCK. The origin, development, characteristics, and uses of types and breeds of farm animals. For illustration, the animals owned by the department and stock farms in the vicinity will be used, also lantern slides of typical animals of the various types and breeds. *First semester. Three credits.* Wilson.

4. LIVESTOCK JUDGING. Practice in judging live stock to gain familiarity with the points of excellence in the various breeds of farm animals. *Prerequisite: Animal Husbandry 1. First semester. Lectures, two hours; laboratory, two periods. Four credits.* Wilson. Fee, \$3.

30. LIVESTOCK FEEDING. The principles underlying and problems connected with the feeding of farm animals. *Prerequisite: Animal Husbandry 1 and 4, Chemistry 5, 6. Second semester. Lectures, three hours. Three credits.* Wilson.

50. ANIMAL HYGIENE. A lecture course covering the principles of livestock sanitation and first aid. *Prerequisite: Zoology 51 and Bacteriology 51. Second semester. Three credits.* Vawter.

51. GENETICS. A discussion of the principles underlying the science of breeding, the aim of which is to develop, maintain, and improve the various types and breeds of farm animals and farm crops, studied with special reference to their application to breeding of farm animals. *Prerequisite: Zoology 2. Second semester. Lectures, three hours. Three credits.* Wilson.

54. LIVESTOCK REGISTRATION. The details of registering pure bred animals, requiring the use of blanks for making application for registry; the use of herd books. A study of the history of the recognized registry associations and the rules governing them; a study of the value of pedigrees and how to keep the herd records. *Prerequisite: Animal Husbandry 1 and 4. First semester. One credit.* Wilson.

55. ADVANCED LIVESTOCK FEEDING. *Prerequisite: Animal Husbandry 30. First semester. Lectures, three hours. Three credits.* Wilson.

56. **ADVANCED STOCK JUDGING.** Comparative scoring and judging. The judging of animals in classes, as at fairs and stock shows. *Prerequisite:* Animal Husbandry 4. *First semester. Three credits.* Wilson. Fee, \$3.

57. **LIVESTOCK MANAGEMENT.** A study of the problems confronting the livestock farmer; calculating profits under various conditions; systematic keeping of records of farming operations; selection of animals for the feed yard, show ring, market, and butcher. *Prerequisite:* Animal Husbandry 1, 4, 30. *Second semester. Three credits.* Given alternate years. Wilson.

58. **RANGE MANAGEMENT.** Lectures covering the following subjects in Animal Husbandry: Development and proper distribution of stock salting grounds; rotation and proper location of drift fences; estimation of carrying capacity; methods of mapping in range lands; range destroying rodents; grazing administration within the National forests; various systems of handling range lands within the United States and foreign countries; general range problems. *Prerequisite:* Animal Husbandry 1, 4, 30; Botany 1, 52. *Second semester. Two credits.* Course must be taken simultaneously with Botany 58. Given in alternate years. (Not given in 1932-1933.) Wilson and Lehenbauer.

59. **PROFESSIONAL JUDGING.** *First semester. Laboratory, one period. One credit.* Given in alternate years. (Not given in 1932-1933.) Wilson. Fee, \$1.50.

Ed. 86. **TEACHER TRAINING IN AGRICULTURE.** *See Education.*

ART

ASSOCIATE PROFESSOR LEWERS, HEAD OF DEPARTMENT

Requirements for a minor in Art: Art 1-2 (2 units), 3-4 (2 units), 51-52 (3 units), and 53-54 (3 units), and additional Junior-Senior work to make 18 units.

Requirements for a major in Art: Art 1-2 (2 units), 3-4 (2 units), 51-52 (6 units), and 53-54 (6 units), and additional Junior-Senior work to make 24 units.

Requirements for a special art teacher's certificate are listed elsewhere.

1-2. **ELEMENTARY ART.** The fundamental principles of form, color, and light and shade. Application of principles in drawing and painting in all mediums, pencil, charcoal, oil color, water color, and pastel. Drawing and painting

from nature in landscape and still life. Fundamental principles of design. Applied design in manual arts. *Both semesters. One credit required each semester.* More credits may be elected. Education Building. Lewers.

3-4. **INTERMEDIATE ART.** A continuation of the work of Art 1-2, with addition of clay modeling, drawing, and painting from life. *Both semesters. Credits to be arranged.* Education Building. Lewers.

5-6. **ART APPLIED TO THE HOME.** (School of Home Economics.) The fundamental principles of form, color and light and shade. Color and form studied from nature in landscape and still life. Color and line harmony as applied to dress, millinery, and house furnishing. Fundamental principles of design. Original designing and its application in all ways relating to the home. *Two credits required each semester.* Education Building. Lewers.

7-8. **TEACHERS' COURSE.** A continuation of the first year's course (Art 1-2) in all branches and its application to each grade in public school work. *Second semester. One credit.* Education Building. Lewers.

51-52. **ADVANCED ART.** The continuation of Art 3-4 in more advanced work. *Both semesters.* Education Building. Lewers.

53-54. **ADVANCED ART.** Continuation of Art 51-52 in more advanced work. *Both semesters. Credits to be arranged.* Education Building. Lewers.

For the history of Art, see Latin 41, 42, 43 and 44.

BIOLOGY

PROFESSOR FRANDSEN, HEAD OF DEPARTMENT

PROFESSOR LEHENBAUER

ASSOCIATE PROFESSOR MACK

ASSISTANT PROFESSOR BROWN

MISS MILLER

The Department of Biology includes the following divisions: Bacteriology, Botany, Horticulture, Hygiene, Nature Study, and Zoology.

Requirements for a minor in biology: Botany 1, 2, 52, Zoology 2, 59, 60.

Requirements for a major in biology: Same as requirement for minor with six additional hours from courses in Botany or Zoology numbered above 50.

Students who intend to teach in secondary school are advised to take the combination minor or major in Biology rather than the major or minor in either subject alone.

Bacteriology

51. GENERAL BACTERIOLOGY. A course of lectures and laboratory exercises on the morphology and life processes of the bacteria, with some references to allied organisms. The relationship of microorganisms to soil fertility, dairy products, water purity, sewage, and the production of disease will be considered. *Prerequisite:* Zoology 2, Botany 2, or Hygiene 7-8. *First semester. Lectures, two hours; laboratory, two periods. Four credits.* 212 Agricultural Building. Frandsen. Fee, \$5.

52-53. SPECIAL BACTERIOLOGY. *Two to four credits.* Given in alternate years for four or more students. 212 Agricultural Building. Frandsen. Fee, \$5.

Botany

Requirements for a minor in Botany: Botany 1 and 2, and 21. Zoology 2 and six hours of Junior-Senior work.

Requirements for a major in Botany: Botany 1 and 2, and 21. Zoology 2 and twelve hours of Junior-Senior work.

Students pursuing Agriculture or Forestry are advised to take Botany 1, 52, 55, and 64.

1. MORPHOLOGY AND PHYSIOLOGY OF THE FLOWERING PLANTS. A study of the principles of botany. The laboratory work consists in the study of the structure, physiology, and adaptations of plants. For students who have not presented laboratory entrance Botany. *Both semesters. Two lectures; two laboratory periods. Four credits.* 109 and 103 Agricultural Building. Lehenbauer and Miller. Fee, \$4.

2. MORPHOLOGY AND PHYSIOLOGY OF THE NONFLOWERING PLANTS. A study of representative types of algæ, liverworts, fungi, mosses, ferns, and gymnosperms. The evolution of the plant kingdom. *Prerequisite:* Botany 1. *Both semesters. Two lectures; two laboratory periods. Four credits.* 109 and 103 Agricultural Building. Miller. Fee, \$4.

3. GENERAL BOTANY. (For students in the School of Home Economics.) A study of the structure and physiology of the higher plants and of selected types of the lower plants, such as bacteria, molds, mushrooms, and yeast. *First semester. Two lectures; one laboratory period. Three credits.* 103 Agricultural Building. Lehenbauer and Miller. Fee, \$3.

5. BOTANY. For students who have presented one year of Botany with laboratory for matriculation. Content of course same as Botany 1. *One lecture; two laboratory periods.*

Three credits. 109 and 103 Agricultural Building. Lehenbauer and Miller. Fee, \$4.

21. ECOLOGY. The geographical distribution of plants and their relation to environment. *Prerequisite:* Botany 1. *First semester. Two lectures. Assigned readings and reports. Two credits.* 109 Agricultural Building. Lehenbauer.

51. GENETICS. A study of variations in plants, methods of selection and hybridization, Mendel's Law and its applications. *Prerequisite:* Botany 1. *First semester. Two lectures. Two credits.* 103 Agricultural Building. Miller.

52. TAXONOMY. A systematic and comparative study of the principal families of flowering plants represented in the local flora, with special reference to their field recognition characters. *Prerequisite:* Botany 1. *Second semester. One lecture; two laboratory periods. Three credits.* 103 Agricultural Building. Lehenbauer. Fee, \$2.

55. PLANT PHYSIOLOGY. A more advanced study of plant nutrition, photosynthesis, transpiration, and the environmental factors as they affect plant growth. *Prerequisite:* Botany 1. *First semester. Three lectures. Three credits.* 103 Agricultural Building. Lehenbauer.

58. BOTANY OF THE RANGE. A study of the plants of the range, their distribution, requirements, methods of reproduction and limiting factors. Poisonous plants, their identification and distribution. This course must be taken simultaneously with Animal Husbandry 58. *Prerequisite:* Botany 1 and 52; Animal Husbandry 1, 4, 30. *Second semester. Two credits.* Given in alternate years. Not given in 1932-1933. Room 103 Agricultural Building. Lehenbauer and Wilson.

64. PLANT PATHOLOGY. A study of the important diseases of economic plants, their causes, identification, and control. *Prerequisite:* Botany 1. *Second semester. Three lectures. Three credits.* Alternates with Horticulture 2. Not given in 1932-1933. 103 Agricultural Building. Lehenbauer.

91(a,b)-92(a,b). SEMINAR. Special problems in some field of botany, physiology, pathology, histology, or taxonomy. Assigned readings and reports. *Prerequisite:* Two years of botany. *Both semesters. One to three credits each semester.* 103 Agricultural Building. Lehenbauer.

201-202. Thesis course for graduates.

Horticulture

2. ELEMENTS OF HORTICULTURE. A general survey of the principles of fruit growing, vegetable and ornamental gardening. *Prerequisite*: Botany 1. *Second semester. Three lectures. Three credits.* Alternates with Pathology 64. 103 Agricultural Building. Lehenbauer.

Hygiene

2. GENERAL HYGIENE. Two lectures per week. Required of all Freshmen. *Second semester. One credit.* Men, Martie; women, Mack.

4. TEACHERS' HYGIENE. This course consists of lectures, assigned readings, and demonstrations covering the elementary principles of human anatomy and physiology, and paying particular attention to the hygienic applications. The problems of sex hygiene, including the control, the suppression and the prevention of venereal diseases, are discussed both in their individual and in their public bearings. Special attention is placed upon that phase of the subject pertaining to school life, as ventilation, cleanliness, etc. *First semester. Two lectures. Two credits.* 210 Agricultural Building. Mack.

Nature Study

1-2. GENERAL NATURE STUDY. The object of this course is two-fold: (1) To cultivate a better understanding and appreciation of natural phenomena with emphasis on the biological features; and (2) to prepare for the teaching of nature study in the public schools. It comprises the study of life histories, pond life, native birds, etc., and includes the making and care of aquaria, terraria, school garden, etc. *Both semesters. Two credits each semester.* 110 and 210 Agricultural Building. Mack. Fee, \$1.

Zoology

Requirements for a minor in Zoology: Zoology 2 or 4, Zoology 7-8 (Physiology) or 9, Botany 1, and six units of Junior-Senior work.

Requirements for a major in Zoology: Zoology 2, 7-8 or 9, Botany 1 or 2, and twelve units of Junior-Senior work.

Additional courses advised: Physics 1-2 (or admission credit), general chemistry, qualitative and quantitative analysis and organic chemistry; German 1-2 and 3-4.

2. GENERAL ZOOLOGY. An introductory course dealing with the general principles of the science. The laboratory work consists of the study of the structure, activities, and

habits of a number of types representative of the principal animal groups, and chosen as much as possible from local forms. For students who have not presented laboratory Zoology for matriculation. *Either semester. Lectures, two hours; laboratory, two periods. Four credits.* 110 and 211 Agricultural Building. Frandsen and Brown. Fee, \$4.

4. For students who have presented one year of Zoology with laboratory for matriculation. Content of course similar to Zoology 2. *Second semester. One lecture; two laboratory periods. Three credits.* Frandsen and Brown and Fee, \$4.

7-8. PHYSIOLOGY. The general principles of animal physiology, with special reference to the human being. The laboratory work consists of the dissection of some vertebrate, microscopic study of tissues and organs, physiological experiments and demonstrations, and the study of anatomical and physiological models. Some work on microorganisms is included. *Both semesters. Lectures, two hours; laboratory, one period. Three credits each semester.* 110 and 210 Agricultural Building. Brown. Fee, \$2.50 each semester.

9. COMPARATIVE ANATOMY OF VERTEBRATES. Lectures on the progressive development of structures and functions from the lower to the higher vertebrates, leading up to human anatomy. Laboratory dissection of the dog-fish, salamander, and a mammal. *Prerequisite*: Zoology 2, or 7-8. *First semester. Lectures, three hours; laboratory, two periods. Five credits.* 5 Agricultural Building. Frandsen. Fee, \$5.

55. EVOLUTION. Lectures illustrated by lantern slides on the evidence and factors of organic evolution, with a discussion of the bearing of evolutionary principles upon science and life in general. No prerequisite for Juniors or Seniors. Open to Sophomores who have had one year of college biology. *First semester. Two credits.* 110 Agricultural Building. Frandsen.

59. GENERAL ENTOMOLOGY. A course adapted to those interested in insect life histories, their classification, economics and control. Field trips will be taken to collect and to discover their places of hiding, hibernation and transformation. *Prerequisite*: Zoology 2, or a working knowledge of the subject. *First semester. Lecture, two hours; laboratory, one period.* Agricultural Building. Brown. Fee, \$3.

60. VERTEBRATE ECOLOGY. This course is especially designed for teachers, naturalists, field workers and those preparing for Biological Survey work. It includes a study of the classification, economic and ecological interests of mammals, birds and reptiles, primarily of Nevada. Occasional field trips will be taken. *Prerequisite:* Zoology 2 or 59. *Second semester. Lectures, two hours; laboratory, one period. Three credits.* Agricultural Building. Brown. Fee, \$3.

64. EMBRYOLOGY. Lectures on comparative embryology of vertebrates. The laboratory work consists of the study of preparations of the frog, chick, pig, and human embryos at various stages of development. Some training in the preparation of embryological material will be given. *Prerequisite:* Zoology 2 and 9, or 7-8. *Second semester. Lectures, three hours; laboratory, two periods. Five credits.* 212 Agricultural Building. Frandsen. Fee, \$2.

68. HISTOLOGY. The microscope and accessory apparatus, histological methods, comparative cytology. *Prerequisite:* Zoology 2. A knowledge of Physics and Organic Chemistry is desirable. *Second semester. Three lectures. Two credits.* 212 Agricultural Building. Frandsen.

70. HISTOLOGY. Laboratory course. Methods of micro-manipulation. Preparation of slides and recognition of tissues. *Prerequisite:* Zoology 2 and 9 or 7 and 8. *Second semester. Two laboratory periods.* Brown. Fee, \$4.

91-94. ADVANCED ZOOLOGY. Special zoological problems. Major students may select some problem for investigation under the direction of the instructor. Library reading, laboratory work, and reports, with final results embodied in the form of a thesis. *Both semesters. Credits to be arranged.* 212 Agricultural Building. Frandsen. Fee determined by type of work.

201. Thesis course for graduates.

CHEMISTRY

PROFESSOR SEARS, HEAD OF DEPARTMENT

PROFESSOR ADAMS

ASSISTANT PROFESSOR LOUGH

ASSISTANT PROFESSOR DEMING

Requirements for a minor in Chemistry: Either (for students without admission credit) courses 1-2, or (for students with one admission credit) courses 5, 6, and, in either case, courses 9, 10 and three additional units of Junior-Senior work.

Requirements for a major in Chemistry: Mathematics 11, and Physics 1a-b (or admission credit), and either (for students without admission credit in Chemistry) courses 1-2, or (for students with one admission credit) courses 5-6, and, in either case, courses 9, 10, 51-52, and 95-96, and three additional units of Junior-Senior work.

Requirements for the degree, Bachelor of Science in Chemistry: See outline for Course of Study, page 135.

1-2. ELEMENTARY INORGANIC CHEMISTRY. Lectures, recitations, and laboratory work covering the elementary principles of Chemistry. This course will cover all of the more common elements and their most important compounds, including their relation to each other and to the different industries. Its purpose is to give the student sufficient acquaintance with the field of Chemistry so that he will be able to understand and appreciate its numerous applications to industry and to everyday life and at the same time prepare him for Chemistry 9. Designed for students who have not presented matriculation Chemistry. *Both semesters. Two lectures and two laboratory periods. Four credits each semester.* Mackay Science Hall. Sears and Staff. Fee, \$8.

5-6. GENERAL INORGANIC CHEMISTRY. A course in general Chemistry covering all of the more common elements and their relation to each other. Use is made of the periodic table to correlate the facts and to show their relation to industry and to everyday life. Open to students who have presented matriculation Chemistry. *Both semesters. One lecture and two laboratory periods. Three credits each semester.* Mackay Science Hall. Sears and Staff. Fee, \$8.

7-8. GENERAL INORGANIC CHEMISTRY. A course in general chemistry similar to Chemistry 5-6, except that more time is given to problems and equations as a preparation for more advanced work in chemistry. Designed primarily for students registered in the course leading to the degree of Bachelor of Science in Chemistry. *Both semesters. Two lectures and two laboratory periods. Four credits each semester.* Mackay Science Hall. Sears. Fee, \$8.

9. PRINCIPLES OF INORGANIC AND ANALYTICAL CHEMISTRY. A lecture and laboratory course designed to give the student a knowledge of the fundamental principles underlying chemical change and to give him training in the methods of chemical change and a few of the more fundamental and simpler processes of gravimetric analysis. Numerous equations and problems involving chemical manufacture and the mass law

will be assigned. *One lecture and three laboratory periods each week. Prerequisite:* Chemistry 2 or 6. *Either semester. Four credits.* Mackay Science Hall. Sears. Fee, \$12.

10. QUANTITATIVE ANALYSIS. A lecture and laboratory course covering the more important methods used in both gravimetric and volumetric analysis. Designed to train the student in the technique of quantitative analysis and to give him a knowledge of the principles and problems involved. *One lecture and three laboratory periods each week. Prerequisite:* Chemistry 9. *Second semester. Four credits.* Mackay Science Hall. Sears. Fee, \$12.

25. HOUSEHOLD CHEMISTRY. (College of Agriculture.) A laboratory and lecture course open only to students in Home Economics. Deals primarily with the practical applications of chemistry to problems of the household. *Prerequisite:* Chemistry 5. *First semester. Two lectures and two laboratory periods. Four credits.* Mackay Science Hall. Lough. Fee, \$6.

51-52. ORGANIC CHEMISTRY. A lecture and laboratory course dealing with the compounds of carbon. *Prerequisite:* Chemistry 10 or Junior standing. *Both semesters. Two lectures; two laboratory periods. Four credits each semester.* Mackay Science Hall. Adams. Fee, \$8.

53. ADVANCED ORGANIC CHEMISTRY. (Graduate credit given with consent of instructor.) A lecture and laboratory course on special chapters in organic Chemistry. *Prerequisite:* Chemistry 51-52. *First semester. Two lectures and two laboratory periods. Four credits.* Mackay Science Hall. Adams. Fee, \$8.

64. SPECIAL ANALYTICAL PROBLEMS. A laboratory course designed to give the student training in commercial methods of analysis. Such substances as food, water, fuel, fertilizer, soil, insecticides, minerals, etc., may be taken up. *Prerequisite:* Two years of college Chemistry. *Second semester. Two credits.* Mackay Science Hall. Sears, Adams, Lough and Deming. Fee, \$8.

67. PHYSIOLOGICAL CHEMISTRY. (Graduate credit given with consent of instructor.) For students of chemistry, medicine, biology, bacteriology and nutrition. Lectures and recitations on the chemistry of carbohydrates, fats, proteins,

body tissues, blood, secretions, putrefaction and the physiological processes such as digestion, absorption and assimilation of food, general enzyme action, metabolism and the fundamental principles of nutrition. The laboratory work consists of qualitative and quantitative experiments on the lecture material. *Prerequisite:* Chemistry 10 and 52. *First semester. Two lectures, two laboratory periods. Four credits.* Mackay Science Hall. Lough. Fee, \$8.

71. ADVANCED ANALYTICAL CHEMISTRY. A lecture and laboratory course designed particularly for chemistry and mining students but open to all students desiring a more complete knowledge of analytical methods. *Prerequisite:* Chemistry 10. *First semester. One recitation and two laboratory periods. Three credits.* Mackay Science Hall. Deming. Fee, \$8.

72. ADVANCED INORGANIC PREPARATIONS. (Graduate credit given with consent of instructor.) A laboratory and discussion course. The student will be expected to prepare a number of inorganic substances involving some of the more difficult reactions and technique. Special emphasis will be given to method, technique, and equations involved. *Prerequisite:* Chemistry 51. *Second semester. One recitation and two laboratory periods. Three credits.* Mackay Science Hall. Adams. Fee, \$8.

74. CHEMISTRY OF THE RARER METALS. (Graduate credit given with consent of instructor.) A lecture and laboratory course designed to give a more intimate knowledge of the elements. Emphasis will be given to the preparation and properties of the metals and their more important compounds. *Prerequisite:* Chemistry 10. *Second semester. One lecture and two laboratory periods. Three credits.* Mackay Science Hall. Sears. Fee, \$8.

75. THE PERIODIC LAW. (Graduate credit given with consent of instructor.) A lecture and seminar course designed to give the student a rather intimate knowledge of the less common elements and their relation to the more common elements. A critical study is made of the more important periodic tables in the light of recent developments in atomic structure and the known properties of the elements. Practical use is made of the periodic law to correlate the facts of Chemistry. *Prerequisite:* Three years of college Chemistry. *First semester. Two credits.* Mackay Science Hall. Sears.

81-82. PHYSICAL CHEMISTRY. (Graduate credit given with consent of instructor.) A lecture and laboratory course designed to illustrate the application of physical laws to chemical phenomena. The elementary principles of the following subjects are discussed: Atomic structure and the periodic law; thermodynamics; gaseous, liquid and solid state; solutions; equilibrium; chemical kinetics; electrochemistry; photochemistry. *Prerequisite:* Chemistry 10, Physics 2a, Mathematics 10 or their equivalent. A knowledge of Calculus is desirable. *Both semesters. Two lectures and two laboratory periods. Four credits each semester.* Mackay Science Hall. Deming. Fee, \$6 each semester.

92. HISTORY OF CHEMISTRY. (Graduate credit given with the consent of the instructor.) A lecture course on the history and development of the science of Chemistry. *Prerequisite:* Two years of College Chemistry. *Second semester. Two credits.* Adams.

95-96. CURRENT CHEMICAL LITERATURE. (Graduate credit given with consent of instructor.) A seminar course designed to help the student become familiar with the various sources of chemical information as well as to afford him practice in summarizing such information for discussion. Each student will be required to present at least one report each semester upon an assigned topic. The class will meet not oftener than once each week for the presentation and discussion of assigned topics. *Prerequisite:* Two years of College Chemistry. *Both semesters. One credit per year.* May be repeated for credit. Mackay Science Hall. Staff.

99. ADVANCED LABORATORY PRACTICE. A laboratory course designed to give the student practice in careful quantitative work. Special work suited to the individual needs of the student will be taken up in inorganic, analytical, organic or physical Chemistry. *Prerequisite:* Two years of college Chemistry. *First semester. Two credits.* Mackay Science Hall. Adams, Sears, Lough and Deming. Fee, \$8.

100. THESIS COURSE FOR UNDERGRADUATES. Laboratory and library work on a special topic to be chosen by the student in consultation with instructors. *Prerequisite:* Chemistry 10, 51-52 or 81-82 and German, and recommended by the head of the department. *Second semester. Two credits.* Mackay Science Hall. Adams, Sears, Lough and Deming. Fee, \$8.

102. COLLOID CHEMISTRY. (Open to advanced undergraduates with the consent of instructor.) A lecture and laboratory course covering the principal physical and chemical properties of dispersed systems, such as methods of preparation, stability, precipitation, methods of measuring size of particles, electrical and optical properties. Practical application will be made to such problems in chemistry, physics, geology, metallurgy, and biology as will be of most value to those enrolled. *Second semester. One lecture and one laboratory period. Two credits.* Lough. Fee, \$4.

200. THESIS COURSE FOR GRADUATE STUDENTS. Special problems for research chosen in consultation with some member of the department and carried on under his direction. No student will be admitted to this course who has not completed four years of work in Chemistry and graduated from an approved college. *Both semesters. Credits to be arranged.* Mackay Science Hall. Adams, Sears, Lough and Deming. Fee, \$4 per credit hour, according to work.

CIVIL ENGINEERING

College of Engineering

PROFESSOR BOARDMAN, HEAD OF DEPARTMENT

PROFESSOR BIXBY

MR. AMENS

2. MAP DRAWING. The work in this course consists of plotting engineering and topographic maps from field survey notes. *First semester. Laboratory, one period. One credit.* Electrical Building. Bixby.

8. THE ELEMENTS OF CIVIL ENGINEERING. An outline of the general field included in Civil Engineering, followed by a brief discussion of a few of the fundamental principles involved in the following: Engineering computations, excavation and other volumes, elementary surveying, transportation engineering, structural engineering and hydraulics. The solution of many problems is required and numerous applications are pointed out of mathematics and the other fundamental sciences which form the basis of engineering. *Second semester. Two credits.* Electrical Building. Boardman.

11-12. ENGINEERING LITERATURE. The presentation and discussion of topics selected from current engineering literature. *Both semesters. One credit each semester.* Electrical Building. Boardman.

20. TECHNICAL REPORT. A systematic write-up of an approved technical subject in Civil Engineering. This course is designed primarily for civil engineering students and those registering in same will be required to obtain their assignments within the first two weeks after registration. Outlines and bibliography, together with a reasonable showing of progress, must be presented for approval within six weeks after registration. *Prerequisite:* English 1-2. *First semester. One credit.* Electrical Building. Bixby.

51-53. SURVEYING. Lectures, recitations and computations, covering the common types of surveying, elementary in the first semester and more advanced in the second semester with special emphasis on Polaris and sun observations for meridian, and topographic and mine surveying. *Prerequisite:* Mathematics 13. *Both semesters. Two credits each semester.* Electrical Building. Boardman.

52-54. SURVEYING LABORATORY. Field practice in the use and adjustment of surveying instruments and drafting room work in the reduction and plotting of the field notes. This work is made practical by the actual survey and mapping of a portion of the University grounds. This course accompanies Civil Engineering 51-53. *Both semesters. Two credits each semester.* Campus and Electrical Building. Bixby. Fee, \$3 each semester.

55A-55B. FOUNDATIONS AND SUBSTRUCTURES. A study of the principles and practice of design and construction of substructures and of the materials and manufacture of concrete. *A. Lectures, two credits; B. Laboratory, one credit. Second semester.* Electrical Building. Boardman. (Alternates with C. E. 67.)

58. Sm. SUMMER SURVEYING. This course starts directly after the close of the regular college year in May. The work consists principally of topographic and mine surveying accompanied by related computations and mapping. The former involves careful base line measurement and triangulation for control, followed by topographic surveying by the plane table method. In the mine surveying, both surface and underground work is done and a mine map showing the underground working is made by each student. Direct solar observations are taken for meridian and latitude and special emphasis is given to computations. *Prerequisite:* C.

E. 51, 52, 53, and 54. Four weeks. Fee, \$20, including automobile transportation costs. Boardman and Bixby.

60. HIGHWAY ENGINEERING. A detailed study is made of the location, construction, and maintenance of highways. *Second semester. Two credits.* Electrical Building. Bixby.

63-64. RAILROAD ENGINEERING. Lectures, recitations, and field work on the location and construction of railroads. Also a study of locomotive tractive power and train resistances and their effects on the economic location and operation of railroads. *Prerequisite:* Civil Engineering 51-52. *First semester. Lectures, three credits; laboratory, two credits.* Electrical Building. Bixby. Fee, \$3.

67. ENGINEERING ECONOMICS. Economic selection, sinking funds, salvage value, depreciation, estimating, etc. Illustrated by engineering problems. *First semester. Lectures, two credits.* Electrical Building. Boardman. (Alternates with C. E. 55.) Not given in 1933-1934.

69. GRAPHIC STATICS. A course which covers the principles of graphic statics, and their applications to the analysis of stresses in statically determinate structures for various conditions of loadings. *Second semester. Lectures, one credit; laboratory, one credit.* Electrical Building. Bixby.

72. TESTING MATERIALS LABORATORY. The experiments are as follows: Tension tests on steel, wrought and cast iron; compression tests on wood, building stone, brick, cast iron, wrought iron, and steel; effects on the strength of mortar by varying the proportions of sand, water, and cement; tests on standard cement briquettes; cross-bending tests on wooden and steel beams; cross-breaking tests on standard cast-iron test bars; tests of small iron, steel, and wood columns. A carefully prepared report clearly stated is required of each test. *Prerequisite:* C. E. 74 must be taken as a prerequisite or at the same time as C. E. 72. *Second semester. Laboratory, one period. One credit.* Electrical Building. Bixby. Fee, \$2.50.

74. STRENGTH OF MATERIALS. A study of the behavior of materials under stress and a discussion of stress and strain due to bending, buckling and torsion. The applications of the cardinal principles of mechanics to riveted joints, pipes cylinders, beams, columns, and shafts. The principle of work and area moments applied to finding

deflections and moments of continuous beams. An extended discussion covering the general relations between stress and strain, with applications to combined stress, composite beams, resilience, hooks, and fatigue of metals. *Prerequisite:* Physics 1a and 2a or 3 and 4; Mathematics 25, 26 and 55. *Second semester. Lectures, three hours. Three credits.* Electrical Building. Amens.

75-76. STRUCTURAL ANALYSIS. A study of the determination of stresses in roof and bridge trusses and girders, and of the economic problems involved in the selection of the type of structure, materials to be used, length and number of bridge spans. *Prerequisite:* Mathematics 26. *Both semesters. Lectures three credits first semester, two credits second semester.* Electrical Building. Boardman.

77-78. STRUCTURAL DESIGN. Application of courses 75-76 and the principles and standard practice methods of design to the designs of several common types of steel structures. Complete working drawings are made of at least two structures, one of them being a railroad plate girder bridge. *Prerequisite:* Civil Engineering 75-76. *Laboratory, three credits first semester, two credits second semester.* Electrical Building. Boardman.

85-86. REINFORCED CONCRETE. The theory and practice of reinforced concrete design and construction. In the laboratory part of the course applications are made to the design of several types of structures, including a retaining wall and an arch bridge. *Prerequisite:* Mathematics 55 and Civil Engineering 74. *First semester, lectures, two credits; laboratory, two credits. Second semester, lectures, one credit; laboratory, two credits.* Electrical Building. Bixby.

90. HYDRAULICS. A study of the principles of hydraulics and hydrostatics, the pressure and buoyancy of water and the laws of its flow through openings and in channels of various kinds. Especial emphasis is laid on the solution of numerous practical problems by the student. *Prerequisite:* Mathematics 25 and 26, Physics 1a, 1b and 2a, 2b, or Physics 3 and 4. *Second semester. Lectures, three hours. Three credits.* Electrical Building. Boardman. Fee, \$1.

91. SANITARY ENGINEERING. A combination course dealing with public water supplies and the sewerage and drainage of towns. Especial attention is given to methods of

sewage disposal and to the purification of water. *Prerequisite:* C. E. 90. *Second semester. Lectures, three credits.* Electrical Building. Bixby.

94. IRRIGATION ENGINEERING. A study is made of the collection, storage, and distribution of water for irrigation, with special reference to the structures involved. *Prerequisite:* C. E. 90. *First semester. Lectures. Three credits.* Electrical Building. Bixby.

96. WATER-POWER ENGINEERING. A study is made of the more important problems of water-power development, including the characteristics of hydraulic motors affecting selection and installation. A study is also made of the costs and the feasibility of water-power projects. *Prerequisite:* C. E. 90. *First semester. Lectures, three hours. Three credits.* Electrical Building. Amens.

97-98. HYDROLOGY. The occurrence of water in the atmosphere, on the earth's surface and beneath the surface. The understanding of some of the many divisions of this subject is essential to a proper planning for any utilization or control of water by man. *Prerequisite:* Junior standing. *Two credits each semester.* Electrical Building. Boardman.

99. ENGINEERING PROBLEMS. This course consists of the working of assigned problems, the solution of which requires the application of various phases of engineering practice. A complete report of the work done on each problem, including all necessary drawings, costs, estimates, and conclusions, must be furnished to the department. This course is intended as an optional substitute for a thesis. *Second semester. Two credits.* Electrical Building. Boardman.

100. THESIS. Thesis on an approved subject in which the student is especially interested. *Second semester. Two credits.* Boardman.

121-122. ADVANCED STRUCTURAL ENGINEERING. The analysis and design of one or more of the following types: Arch, cantilever, suspension and various types of movable bridges. *Prerequisite:* Civil Engineering 75, 76 and 77. *Lectures and laboratory. Four to six credits for the year according to work accomplished.* Electrical Building. Boardman.

199-200. GRADUATE THESIS. Advanced research work in the investigation of engineering materials or other engineering problems. *Both semesters. Credits to be arranged.* Electrical Building. Boardman.

THE CLASSICS

PROFESSOR CHURCH

Requirements for a minor in Classics: With no admission credits in Latin, Classics 1-2, 3-4, and six units; with two admission credits, Classics 3-4, and six units.

Requirements for a major in Classics: With no admission credits, Classics 1-2, 3-4, 7-8, and ten units; with two admission credits, 3-4, 7-8, and ten units.

Entrance credits in Latin above two, especially if they include Vergil's *Æneid*, will be accepted in meeting major and minor requirements.

I. LANGUAGE

Only the courses in Language can be used to satisfy the general language requirement in the University.

1. LATIN

1-2. BEGINNING LATIN. This course is designed to prepare for the reading of Vergil and also for admission to the professional schools. Comparative Language, Medical Latin and Law Latin are stressed. *Both semesters. For students entering without high school credit in Latin, five credits each semester.*

For students entering with one year credit in high school Latin, three credits first semester and five credits second semester.

For students entering with two years' credit in high school Latin, three credits second semester only. 203 Morrill Hall. Church.

NOTE—This course may also be taken at three credits per semester but with the exclusion of most of the Medical and Law Latin.

3-4. VERGIL. *Æneid*. This course is intended for such students as present one or two years of Latin at entrance, but wish to continue the study in college. *Both semesters. Three credits each semester.* 203 Morrill Hall. Church.

5. CICERO. *De Senectute*. *First semester. Three credits.* 203 Morrill Hall. Church.

6. HORACE AND CATULLUS. Latin Lyric Poetry. *Second semester. Three credits.* 203 Morrill Hall. Church. Courses 5-6 given alternate years.

7-8. LATIN PROSE COMPOSITION. Required of all students who have elected Latin as their major department, or who seek to be recommended as teachers of Latin. *Both semesters. One credit each semester.* 203 Morrill Hall. Church.

101. SEMINAR FOR GRADUATES. (a) The study of the

Roman burial formulæ, their development, and religious significance. (b) Comparative Mythology. Its religious, art, and literary forms. (c) Comparative Classical Literature.

II. ART

NOTE—A knowledge of Latin or Greek is not required for courses in Art and Literature.

41. GREEK ART. Illustrated by lantern slides and reproductions. *First semester. Two credits.* 203 Morrill Hall. Church.

42. ROMAN TO MODERN ART. Illustrated by lantern slides and reproductions in color. *Second semester. Two credits.* 203 Morrill Hall. Church.

43-44. SUPPLEMENTARY COURSE IN APPRECIATION OF ART. Readings and reports. Open only to those who are taking or have taken the corresponding semester of Classics 41-42 or its equivalent. Particularly for students who desire to increase their credit hours in 41-42. *Both semesters. One credit each semester.* 203 Morrill Hall. Church.

III. LITERATURE

51-52. COMPARATIVE CLASSICAL POETRY IN ENGLISH. The Epic, Lyric, Drama, and Pastoral, with supplemental reference to Classical and Teutonic Mythology and Modern Literature and Opera. *Both semesters. Two credits each semester.* 203 Morrill Hall. Church.

61-62. ADVANCED ART APPRECIATION. Readings and discussions in architecture, sculpture or painting. American art will be given large attention. Open only to those who are taking or have taken 41-42 or their equivalent. *Both semesters. One credit each semester.* 203 Morrill Hall. Church.

DAIRY HUSBANDRY

College of Agriculture

PROFESSOR WILSON, ACTING HEAD OF DEPARTMENT

MR. BROOKS

1. DAIRYING. The composition and secretion of milk and causes of variation in its composition; the operation of the Babcock test as applied to milk and milk products; the various methods of cream-raising, including the study of the construction and operation of centrifugal separators; methods of making and marketing butter, with special reference to farm conditions, and the proper handling of milk on the

farm will be discussed in the lectures. The laboratory work includes the testing of milk and other dairy products, operation of centrifugal cream separators, and the making and scoring of butter, and an observation of the essential points of the sanitary production and handling of dairy products. *Second semester. Lectures, two hours; laboratory, one period. Three credits.* Brooks. Fee, \$3.

53. MILK PRODUCTION. Dairy husbandry in its relation to the producer of dairy products rather than the manufacturer. The lectures deal with the problems of the dairy farmer, such as adaptations of the dairy breeds, selection, management, feeding of dairy cattle, dairy barns, and calf-raising. The laboratory includes the judging of dairy cattle, visits to the local dairy farms and the observation of systems of dairy management followed by them. *Prerequisite: Dairying 1. First semester. Lectures, two hours; laboratory, one period. Three credits.* Brooks. Fee, \$3.

54. BUTTER-MAKING. Laboratory practice in the manufacture of creamery butter and ice cream. Instruction will cover sampling and testing of cream; pasteurizing and ripening of cream for butter-making, churning, with special attention to the factors that control the composition of butter; preparing butter for the market; the preparation and use of home-made and commercial starters; creamery accounts; determining the amount of water in butter; testing for oleomargarine; manufacture of ice cream, sherbets; ices, lacto. *Prerequisite: Dairying 1. Second semester. Lecture, one hour; laboratory, two periods. Three credits.* Brooks. Fee, \$3. (This course will not be given unless elected by five or more students.)

55. DAIRY SANITATION. This course is the application of bacteriology to the problems of the producer and consumer of milk. It deals with the fundamental principles upon which are based sanitary production and handling of milk, cream-ripening and curing of cheese, the market milk industry; the relations of milk to the public health and the important relations of butter- and cheese-making. *Prerequisite: Dairying 1 and Zoology 2. First semester. Lecture, one hour; laboratory, one period. Two credits.* Brooks. Fee, \$2.

57. ADVANCED MILK PRODUCTION. Use of dairy herd books; special feeding for high records; interpretation of

official tests. *Prerequisite: Dairying 1. First semester. Lectures, two hours. Two credits.* Wilson.

59. PROFESSIONAL JUDGING. *First semester. Laboratory, one period. One credit.* Wilson. Fee, \$1.50. (Not given in 1932-1933.)

61-62. THESIS COURSE. Special problems in production or sanitation and city milk supply. Laboratory material is available through the dairies furnishing milk for the city of Reno. *Prerequisite: Dairying 1 and 53 or 55. Either semester. Two to six credits.* Wilson.

ECONOMICS, BUSINESS, AND SOCIOLOGY

ASSOCIATE PROFESSOR SUTHERLAND, ACTING HEAD OF DEPARTMENT

ASSISTANT PROFESSOR BLACKLER

ASSISTANT PROFESSOR WEBSTER

MR. PLUMLEY

JUDGE SOUTER

Requirements for a minor: Six credits in Economics 1-2; twelve additional credits in the department, not less than six of which shall be in courses numbered above 50.

Requirements for a major: Twelve credits in Economics 1-2, and Economics 91-92. Eighteen additional credits in the department, not less than twelve of which shall be in courses numbered above 50.

Recommended for a major: Philosophy 7-8, Psychology 5-51, Mathematics 28, French and German.

Economics

1. PRINCIPLES OF ECONOMICS. An introduction to the economics of production, value and exchange, money and credit, business cycles, international trade, distribution of wealth, labor, transportation, agricultural credit and marketing, public finance and taxation. *Prerequisite: Sophomore standing. First semester. Three credits.* Education Building. The Staff.

2. PRINCIPLES OF ECONOMICS. A continuation of 1. *Second semester. Three credits.* Education Building. The Staff.

3. INDUSTRIAL HISTORY OF EUROPE. The economic history of Europe in modern times, agricultural, industrial, and commercial development, rise of economic organization. *First semester. Two credits.* Open to Freshmen. Education Building. Plumley.

5. ECONOMIC HISTORY OF THE UNITED STATES. Introductory historical treatment of the economic development of

America, the industrial revolution, agricultural, commercial, and industrial development, immigration, geographical determinism, land policy, the labor movement, taxation, railroads and government regulation, etc. Open to Freshmen. *Second semester. Two credits.* Education Building. Plumley.

51. PUBLIC FINANCE. Public expenditure, classification of revenues, principles of taxation, growth of indebtedness, financial administration in peace and war, the connection between public finance and social reform. *Prerequisite:* Economics 1-2. *First semester. Two credits.* Education Building. Sutherland.

52. MONEY AND BANKING. Economic and governmental problems centering in the use of money and credit, the inflation vs. stabilization movements and their connection with business and labor conditions. *Prerequisite:* Economics 1-2. *First semester. Three credits.* Education Building. Plumley.

53. INTERNATIONAL TRADE. Theory of international trade, history of the controversy between free trade and protection, the new interest in foreign trade. *Prerequisite:* Economics 1-2. *First semester. Two credits.* Education Building. Plumley.

54. PUBLIC UTILITIES. The development, organization, characteristics, and legal status of public service industries: regulation; labor relationships; taxation; valuation; capitalization; ownership; returns; cost and price of service. *Prerequisite:* Economics 1-2. *Second semester. Two credits.* Education Building. Sutherland.

55. TRANSPORTATION. The growth and development of railway transportation in the United States; the organization, construction, and management of modern railway systems; the theory of rates; the relation of the railroads to the public; the general scope and importance of the railway problem at the present time. *Prerequisite:* Economics 1-2 and Business 41. *Second semester. Two credits.* Education Building. Webster.

56. INSURANCE. A study of insurance institutions, and of the various kinds of property and life insurance. *Prerequisite:* Economics 1-2, Business 41. *Second semester. Two credits.* Education Building. (Not given in 1932-1933.)

61. STATISTICAL METHODS. Elementary statistical methods

as used in business and in the social sciences. Scrutiny of data, defining of units, tabulation, index numbers, correlation, law of averages, graphical methods of presenting facts. *Second semester. Two credits.* Education Building. Webster.

64. LABOR PROBLEMS. Modern issues concerning the wage-earning classes considered in the light of English and American history. A study of labor organizations with regard to wages, hours, conditions, control, labor of women and children, immigration, economic insecurity, unemployment, turnover, social insurance, employer's associations, government agencies, personnel administration, motives in industry. *Prerequisite:* Economics 1-2. *Second semester. Three credits.* Education Building. Sutherland.

65. INTRODUCTION TO ECONOMICS AND BUSINESS ADMINISTRATION. (College of Engineering.) *Prerequisite:* Junior standing. *First semester. Three credits.* Education Building. Plumley.

66. INDUSTRIAL AND FINANCIAL ORGANIZATION. (College of Engineering.) *Prerequisite:* Economics 65. *Second semester. Three credits.* Education Building. Plumley.

69. ECONOMICS OF DISTRIBUTION. A study of the distribution of goods from the producer to the consumer. Study of demand and demand creation. Correlated material of markets and marketing; advertising; salesmanship and the economics of retailing will also be studied. Assigned case problems and research. *Prerequisite:* Economics 1 and 2. *Second semester. Three credits.* Education Building. Plumley.

91. ADVANCED ECONOMIC THEORY. Advanced study of the principles of demand and supply including costs; of the functions of the different agents of production; of wages, interest, rent, and profits; and of the means for the promotion of welfare. *First semester. Three credits.* Education Building. Sutherland.

92. HISTORY OF ECONOMIC THOUGHT. A study of the development and trend of economic thought in its historical setting. *Second semester. Three credits.* Education Building. Sutherland.

95. SEMINAR. Hours to be arranged with individual students. *First semester. One credit.* Education Building. The Staff.

96. SEMINAR. Hours to be arranged with individual students. *Second semester. One credit.* Education Building. The Staff.

Business

41. FUNDAMENTALS OF BUSINESS ORGANIZATION. An introductory survey course in business, covering: The business structure; the business executive; internal and external factors in management; personnel administration; finance; accounting as an aid to management; production; marketing; administration of risk; business management and the business cycle; law and its relationship to business management. Functionalized management will also be studied. Principles and problems. *Prerequisite:* At least Sophomore standing. *First semester. Three credits.* Education Building. Plumley.

43-44. ELEMENTARY ACCOUNTING. Accounting theory and practice for single proprietorships, partnerships and corporations. Problems and practice sets. *Prerequisite:* At least Sophomore standing. *Two lecture periods and one laboratory period. Both semesters. Three credits each semester.* 202 Education Building. Blackler.

48. FUNDAMENTAL PRINCIPLES OF THE LAW PRACTICALLY APPLIED TO THE PROFESSIONS, BUSINESS AND CITIZENSHIP. A comprehensive investigation of the fundamental principles of the law, designed to provide the prospective engineer, architect, physician, or other professional or business man with an intelligent understanding of the legal problems which constantly arise in the practice of any profession or business; to inculcate a deeper respect and reverence for the law by developing an appreciation of its sources, its growth, its importance, and its administration; and finally, by so doing, to elevate and vitalize citizenship. *Second semester. Three credits.* 109 Agricultural Building. Souter.

55-56. ADVANCED ACCOUNTING. Intensive study of the advanced theory of accounts and its application. Selected problems and readings. *Prerequisite:* Business 43-44. *Both semesters. Three credits each semester.* Education Building. Blackler.

65. ADMINISTRATION OF FINANCE. Principles and problems of financing business enterprises of various sizes and character. The course will also consider the principles of

investment from the standpoint of the individual as to how and when to make investments; how to read the financial page; the principles of sound investments. Assigned case problems and research. *Prerequisite:* Business 41. *First semester. Three credits.* Education Building. Blackler.

66. ADMINISTRATION OF PRODUCTION. Internal organization and control for different forms of business enterprise. Principles of purchasing. Budgetary control; forecasting and planning in management; financial and operating ratios in business control; systems of internal check. Public relations. *Prerequisite:* Business 41. *Second semester. Three credits.* Education Building. Blackler.

74. ADVANCED BUSINESS LAW. A course in advanced business law designed for those students who are specializing in a preparation for business, including an intensive study of the law of contracts, negotiable instruments and banking practice in reference thereto, sales of personal property, industrial law, suretyship and guaranty, bankruptcy, agency, partnership, corporations, public utilities, common carriers, warehouse men, and related subjects. Open only to those students who have attained an average of at least 2.5 in B. A. No. 48. *Second semester. Three credits.* 215 Mackay Science Hall. Souter.

85. COST ACCOUNTING. A comprehensive study of all elements of manufacturing cost accounting; actual practice in recording, presenting and interpreting all elements involved in the computation of manufacturing costs; practice in design and preparation of cost accounting forms. *Prerequisite:* Business 43-44. *First semester. Two credits.* Education Building. Blackler. (Not given unless elected by six or more students.)

86. INCOME TAX ACCOUNTING. Study of the history of the federal income tax; the federal revenue acts and their interpretation; actual preparation of individual, partnership and corporation income tax returns; the important federal treasury department decisions on income tax problems. *Prerequisite:* Business 43-44. *Second semester. Two credits.* Education Building. Blackler. (Not given unless elected by six or more students.)

95-96. SEMINAR IN BUSINESS. *One hour each semester.* Education Building. The Staff.

Sociology

1. PRINCIPLES OF SOCIOLOGY. A general course in the principles of sociology. Origin and development of societies, institutions, cultures, the state, civilizations. Conditions of modern society. *Prerequisite*: Sophomore standing. *First semester. Three credits.* Education Building. Webster.

2. SOCIAL PROBLEMS. A study of the problems of modern society and their remedies. *Prerequisite*: Sophomore standing. *Second semester. Three credits.* Education Building. Webster.

71. INTRODUCTION TO SOCIOLOGY. The social nature of man; climatic, geographic, and economic environment; group relations; contacts, primary and secondary; morality and social control; population, its quantity and quality; heredity; the differential birth rate; culture and social progress; race. *First semester. Three credits.* Education Building. Webster.

72. SOCIAL INSTITUTIONS. A detailed study of the more important institutions of our social organization; the family, religious institutions and origins, educational institutions, the state, private property, legal and political organizations, charity and charitable organizations, stratification, etc. *Second semester. Three credits.* Education Building. Webster.

95-96. SEMINAR IN SOCIOLOGY. *Both semesters. One credit each semester.* Education Building. The Staff.

EDUCATION

PROFESSOR HALL, HEAD OF DEPARTMENT

PROFESSOR TRANER

ASSISTANT PROFESSOR RUEBSAM

ASSISTANT PROFESSOR BROWN

MRS. SIMAS

MR. BILLINGHURST

MR. JEPSON

MR. RUSSELL

MISS AKIN

COOPERATING TEACHERS

Requirements for a minor in Education: Psychology 5 (prerequisite) and 6; Education 60, 63, 66 (elective), 71, 75, 76 and 82.
Requirements for a major in Education: Psychology 5 (prerequisite) and 6; Education 60, 63, 66 (elective), 71, 75, 76, 82 and ten to twelve additional credits, depending upon the aim in view.

Elementary Education

20. PRINCIPLES OF TEACHING. For teachers in elementary schools. A study of the various types of classroom teaching

to discover the principles of selection, organization and presentation of subject matter to children of the first six grades. *First year, second semester. Three credits.* Education Building. Hall.

21. TEACHING OF MUSIC. The aims and principles of music teaching in the kindergarten, elementary and upper grades, and high school. Rote songs, folk songs, part songs, care of child voice, song leading, music appreciation, and music problems confronting the teacher generally. *First semester. Two credits.* 204 Education Building. Post.

23. PROBLEMS IN RURAL EDUCATION. A study of opportunities, responsibilities for leadership, school problems and their solution in relation to teaching in Nevada rural communities. *Second year. First semester. Two credits.* Education Building. Brown.

24. SCHOOL LAW. A consideration of the fundamental facts of school law and the fundamental problems of school organization from the point of view of the teacher in the elementary school. *Second year, second semester. One credit.* 103 Education Building. Billinghurst.

25. OBSERVATION OF TEACHING. Observation and discussion of specific classroom work as a preparation for practice teaching. *First year, first semester. One credit.* Public Schools. Ruebsam.

28-29. SUPERVISED TEACHING AND GROUP CONFERENCES. The selection and organization of subject matter and the technique of teaching. *One hour a day, five days a week. Both semesters. Five credits each semester.* Public schools. Ruebsam, Hall, Brown and Cooperating Teachers.

31. THE TEACHING OF ARITHMETIC. A study of the modern aims in teaching arithmetic; of the effect of these aims on the selection and organization of arithmetic material for the different grades; and of the presentation of this material. *First semester, first year. Two credits.* 209 Education Building. Brown.

33. THE COMMUNITY AND THE SCHOOL. A study of rural, social institutions affecting the school, and the part the school may play in the efforts of the community to improve itself. A continuation of Education 23. *Two credits. First semester, second year.* 105 Education Building. Brown.

34. THE TEACHING OF ENGLISH. Principles underlying the selection, organization and presentation of subject matter

for the first four grades and the study of children's literature for these grades. *First semester, first year. Three credits.* 209 Education Building. Ruebsam.

35. THE TEACHING OF ENGLISH. Principles underlying the selection, organization and presentation of subject matter for grades 5 to 8 and the study of children's literature for these grades. *Second semester, second year. Three credits.* 209 Education Building. Ruebsam.

41. CONSTRUCTIVE ACTIVITIES FOR PRIMARY GRADES. This course is devoted to a consideration of the materials by means of which the child organizes and expresses his ideas and establishes desirable attitudes and habits. *Second semester, first year. One credit.* 209 Education Building. Fee, \$1. Ruebsam.

46. THE MANAGEMENT AND ORGANIZATION OF RURAL SCHOOLS. A study of the classroom problems of the rural school; organization, course of study, daily program, use of projects, classification, equipment, and discipline. A continuation of Education 20. *Second semester, second year. Two credits.* 104 Education Building. Hall.

48. EDUCATION TESTS AND MEASUREMENTS. This course will consider the most serviceable tests and scales for measuring the elementary subjects. It is designed to assist teachers in judging and improving their instruction. The course will involve giving the tests, scoring, and interpreting the results. *First semester, second year. One credit.* 104 Education Building. Brown. Fee, \$1.

56. SCOUTCRAFT. This course will deal with the theory and practice of Scoutcraft as presented by Boy Scouts of America, Girl Scouts, Camp Fire Girls, Girl Reserves, and similar organizations. Section 1, for women, Mrs. Simas. Section 2, for men, Russell. *One credit. Section 1 given first semester only. Section 2 given each semester.* Education Building.

57. HISTORY OF EDUCATION. General Course. The development of educational thought and practice viewed as a phase of social progress. Primarily for teachers in service. *First semester. Two credits.* Education Building. Brown.

58. HISTORY OF EDUCATION IN THE UNITED STATES. A study of forces and conditions which have been most influential in the shaping of educational ideals, theories, practices

and problems at the present time. Primarily for teachers in service. *Second semester. Two credits.* Education Building. Brown.

Secondary Education

NOTE—Since the candidates for high school positions greatly exceed the number of vacancies open to inexperienced teachers, it is highly desirable that students qualify to do effective service in elementary schools. This would necessitate taking ten to twelve Normal School units including one semester of practice teaching. This work may be taken as early as the Sophomore year.

60. PROBLEMS OF SECONDARY EDUCATION. This course involves the study of some of the major problems that confront the high school classroom teacher, as: the problem of evaluating student ability and achievement, adapting instruction to individual differences, the function and place of the high school in our educational system, and the educational values of high school subjects. Open to Juniors only. *First semester. Three credits.* 103 Education Building. Traner. *Second semester.* 105 Education Building. Brown.

63. SCHOOL MANAGEMENT AND SCHOOL LAW. A consideration of the fundamental facts of school law and the fundamental problems of school organization and school hygiene from the point of view of the teacher in the secondary school. *First semester. One credit.* Education Building. Billingshurst.

64. ADMINISTRATION AND ORGANIZATION OF HIGH SCHOOL ATHLETICS. A course covering high school competition in general, methods of organizing athletic associations and administration of same. *Second semester. Three periods per week. Two credits.* Martie.

65. HIGH SCHOOL MUSIC. Study of conducting choral and orchestral technique, appreciation classes, theoretical subjects and practical demonstrations. Active participation in orchestra, glee club or band required and applicant must be a Junior or Senior with a minor in music or its equivalent. *Second semester. Two credits.* Education Building. Post.

66. SUBJECT MATTER AND METHODS. A study of the most suitable subject matter for the different high school subjects and of the methods of teaching specific subjects. General class discussion and special study and reports and observation by individuals in their major and minor subjects. Section on foreign languages and English, first semester,

Traner. Sections on mathematics, science, and social subjects, second semester, Brown. *One or two credits.* Education Building.

71. PRINCIPLES OF TEACHING. For teachers in secondary schools. A study of the various types of classroom teaching to discover the principles of selection, organization and presentation of subject matter in secondary schools. To be taken in the Senior year. *First semester. Three credits.* Education Building. Hall.

75-76. SUPERVISED TEACHING. Required for candidates for the high school teacher's certificate. This work will be done in Grades 7 to 12 of the Reno Public Schools under the direction of the Professor of Secondary Education, the teachers of Vocational Education, with the immediate supervision of the cooperating teacher in charge. Students must take particular care that they reserve ample time either in the forenoon or afternoon for the course. *Failure to do so may make the assignment for supervised teaching impossible. Both semesters. Two credits each semester.* Traner, Hall, Brown and Cooperating Teachers.

82. NONINSTRUCTIONAL RESPONSIBILITIES OF THE HIGH SCHOOL TEACHER. A study of those responsibilities and requirements which the high school teacher must meet outside of class instruction. The course includes a consideration of the teacher's relations to the profession, to the school authorities and to the State and community. *Second semester. Two credits.* Education Building. Traner.

AGRICULTURE AND HOME ECONOMICS

86. PROBLEMS IN AGRICULTURAL EDUCATION. This course is a study of the most important problems that an agriculture teacher must meet: Selecting the subject matter for high school courses in agriculture and for farmer's short courses; preparing plans for teaching this subject matter; and making contact with the adult farmer. Open to Juniors and Seniors in the College of Agriculture to meet in part the requirements of the Smith-Hughes Act. *Second semester. Two credits.* Education Building. Jeppson.

88. PROBLEMS IN HOME-MAKING EDUCATION. A study of the curricula, methods of teaching, and making home contacts; use of texts, references and selection of equipment; and determination of aims and goals to be reached in public

school home-making courses. Discussion of courses of study to meet various needs. Open to Juniors and Seniors in the School of Home Economics to meet in part the requirements of the Smith-Hughes Act. *First semester. Two credits.* Education Building. Akin.

COURSES OFFERED PRIMARILY FOR TEACHERS IN SERVICE WORKING FOR A MASTERS DEGREE

Time and place according to the convenience of the teachers.
No fees for teachers in service.

101-102. RESEARCH COURSE IN THE PROBLEMS OF SECONDARY EDUCATION. A course for teachers and graduate students who wish to study intensively some problem in secondary education. Readings, class reports and a final term paper embodying some original research. *Two credits each semester. Given on sufficient demand.* Education Building. Traner.

105-106. RESEARCH COURSE IN EDUCATIONAL FINANCE. A course for teachers and graduate students who wish to make an individual study of general problems of school finances and a critical study of the financing of education in Nevada. Readings, class reports and a final term paper embodying some research. *Two credits each semester. Given on sufficient demand.* Education Building. Traner.

107. DIAGNOSTIC AND REMEDIAL TEACHING. A course primarily for teachers in service. Intelligence and achievement tests for diagnostic and remedial measures. The nonstandardized objective test, its uses and abuses, will constitute an important phase in the discussions. *First semester. Two credits.* Education Building. Brown.

111-112. JUNIOR HIGH SCHOOL PROCEDURE. This course is intended for teachers in service. No. 111 will consist of a study of the organization, administration, curriculum, growth and development, and the personnel, of the Junior High School. *First semester.* No. 112 will be devoted to teaching procedures such as the assignment, the question, grading and promotions, as well as the extra curricular activities. *Second semester. Two credits each semester.* Education Building. Brown.

121-122. SCHOOL SUPERVISION. Studies in Elementary School Problems. A course for teachers who wish to study the technique of the daily class meeting and problems of

classroom procedure. Considerable time will be devoted to the program of the activity school. This course will be especially valuable for prospective supervisors and principals. A seminar. (Given on sufficient demand.) *Two credits each semester.* Education Building. Hall and Ruebsam.

ELECTRICAL ENGINEERING

College of Engineering

PROFESSOR S. G. PALMER, HEAD OF DEPARTMENT

ASSISTANT PROFESSOR SANDORF

20. TECHNICAL REPORT. An introduction to the study of electrical engineering. The work will consist of lectures, discussions and reports, based upon engineering applications of current interest. *First semester. One credit.* Electrical Building. Palmer.

24. ELEMENTS OF ELECTRICAL ENGINEERING. A beginning course in electrical engineering which is offered to both engineering and nonengineering students. This course is a study of the laws and properties of electric and magnetic circuits, electrical measuring instruments and the more elementary forms of electrical machinery. *Second semester. Two credits.* Electrical Building. Palmer or Sandorf.

51. DIRECT CURRENT MACHINERY. The fundamental principles, theory, characteristics, construction and operation of direct current machines and circuits, supplemented by electrical problems. *Prerequisite:* Physics 4 and 6, Mathematics 11, 13 and 14. *First semester. Three credits.* Electrical Building. Palmer.

52. ALTERNATING CURRENT MACHINERY. Theory and application of alternating currents in electrical circuits and machinery; representation of alternating currents by vectors and complex quantities. *Prerequisite:* E. E. 51, Mathematics 25 and 26. *Second semester. Five credits.* Electrical Building. Palmer.

53. ALTERNATING CURRENT MACHINERY. ADVANCED COURSE. A continuation of the preceding course, taking up the more advanced problems in the theory and characteristics of electrical circuits and machinery. *Prerequisite:* E. E. 52. *First semester. Three credits.* Electrical Building. Sandorf.

54. ELECTRICAL DESIGN. A continuation of Electrical

Engineering 53, including a study of the fundamental principles underlying the design of electrical machinery. *Prerequisite:* Electrical Engineering 51, 52, 53. *Second semester. Three credits.* Electrical Building. Sandorf.

61-62. ELECTRICAL ENGINEERING LABORATORY. Instruction in the use and care of electrical instruments and apparatus. Elementary tests on direct and alternating current machinery. *Prerequisite:* Physics 3, 4, 5, and 6. Students who have not completed the Physics requirements may register in this course upon recommendation of the Physics Department. Must be preceded or accompanied by E. E. 51 and either 52 or 72. *Both semesters. Lecture, one period; laboratory, one period. Two credits each semester.* Electrical Building. Sandorf. Fee, \$2.50 per semester.

63-64. ELECTRICAL ENGINEERING LABORATORY. ADVANCED COURSE. The course is a continuation of the preceding one, and takes up the more advanced problems in electrical testing. *Prerequisite:* E. E. 51, 52, 61 and 62. *Both semesters. Four credits each semester.* Electrical Building. Palmer. Fee, \$2.50 per semester.

65. ELECTRICAL ILLUMINATION. A study of the principles of electric lighting and illumination and the practical application of modern lighting equipment. *First semester. Two lecture periods. Two credits.* Electrical Building. Palmer.

66. ENGINEERING APPLICATIONS. A study of switchboards, oil circuit breakers, relays and other auxiliaries of modern electric power stations. An elective for electrical or mechanical students. *Second semester. Two lecture periods. Two credits.* Electrical Building. Palmer.

67. COMMUNICATION ENGINEERING. A study of fundamental principles in the field of communication including the mathematical theory and application of telephone transmitters and receivers, coupled circuits, transmission lines, and vacuum tube circuits. *Prerequisites:* Electrical Engineering 52, Mathematics 25 and 26, Physics 3 and 4. *First semester. Three credits. Two lecture periods and one laboratory.* Electrical Building. Sandorf. Fee, \$2.50.

68. COMMUNICATION ENGINEERING. A continuation of Electrical Engineering 67, including a study of rectifying systems, filters, radio and carrier systems of modulation and detection, antennas, and wave propagation. *Second*

semester. Three credits. Electrical Building. Sandorf. Fee, \$2.50.

72. ALTERNATING CURRENTS. A course for mechanical and other students who are not required to take the advanced courses in electrical engineering. A study of the theory and application of alternating currents in electrical machinery. *Prerequisite:* E. E. 51, Mathematics 25 and 26.

73-74. THEORY OF ELECTRICAL TESTING. A course intended to accompany the electrical laboratory courses, consisting of study and class discussions of theory and practice of testing electrical machinery and circuits. *Two credits each semester.* Electrical Building. Palmer.

75. ELECTRICITY IN MINING. A study of the theory and application of electrical machinery commonly used in mining and associated fields. *Prerequisites:* Mathematics 11, 13, 14 and Physics 3 and 4 or Physics 1a and 2a. *Two lecture periods and one laboratory. Three credits. First semester.* Electrical Building. Sandorf.

76. ELECTRICAL ENGINEERING LABORATORY. Laboratory tests particularly intended to accompany course 65. *One credit. First semester.* Electrical Building. Palmer. Fee, \$2.50.

77-78-79. ELECTRICAL ENGINEERING LABORATORY. In this course projects may be assigned in any branch of electrical engineering. The course may be elected by any student who in the opinion of the instructor is qualified to undertake the work agreed upon. *One or two credits each semester.* Electrical Building. Palmer or Sandorf. Fee, \$2.50 per credit.

80. ELECTRICAL INVESTIGATION. Original investigation of some electrical engineering problem and writing of report. The report is intended to be the equivalent of a thesis. Elective for Seniors in electrical engineering, who, in the opinion of the instructor, are qualified to undertake the work chosen and are particularly interested in it. A laboratory fee up to \$10 may be required, depending on the work undertaken. *Second semester. One to three credits.* Electrical Building. Palmer or Sandorf.

81-82-83-84. ELECTRICAL ENGINEERING LITERATURE. A course arranged to help the student write and present summaries of published engineering papers and to present papers on his own work, done either during vacation periods or in

the engineering laboratory. The class meets once each week for presentation and discussion of papers. *One-half credit each semester for four semesters.* Electrical Building. Palmer and Sandorf.

85-86. COMMUNICATIONS LABORATORY. The course consists of assembling and testing circuits and apparatus used in electrical communication. Prerequisites required will depend upon the student's ability and practical experience. *One to two credits each semester.* Electrical Building. Sandorf. Fee, \$2.50 per credit.

ENGLISH LANGUAGE AND LITERATURE

PROFESSOR HILL, ACTING HEAD OF DEPARTMENT

PROFESSOR HIGGINBOTHAM

ASSOCIATE PROFESSOR RIEGELHUTH

ASSOCIATE PROFESSOR HARWOOD

MR. GRIFFIN

MR. MILLER

MRS. FERRIS

Requirements for a minor in the department: English 44-45, and twelve additional units in courses 50 to 100.

Requirements for a major in the department: English 44-45, and eighteen additional units in courses 50 to 100.

1-2. COMPOSITION AND RHETORIC. The study of English as a means of self-expression, with special attention to the writing of exposition, description, and narration. *Both semesters. Three credits each semester.* The Departmental Staff.

5-6. INTERPRETING THE DAY'S NEWS. Study of the news of the day in relation to the function of the newspaper in American life. *Both semesters. Two credits each semester.* 101 Hall of English. Higginbotham.

8. SPEECH FUNDAMENTALS. The study of voice effectiveness and diction correctness based upon a general study of the vocal apparatus, with exercises in English phonetics and drills in enunciation and pronunciation. The course aims, by individual instruction, to improve the speaking voice and to correct faulty habits of speech. *Second semester. One credit.* 107 Hall of English. Griffin. (Not offered in 1932-1933.)

11-12. PUBLIC SPEAKING. The principles of effective public speaking studied and practiced through organized student discussions of contemporary controversial problems. Speech form and speech content are equally emphasized.

Both semesters. Two credits each semester. 107 Hall of English. Griffin.

16-17. ARGUMENTATION AND DEBATE. The study of the principles of argumentation with the preparation of briefs, the participation in class debates, and the presentation of argumentative talks. The study of thinking, and the expression of thoughtful opinions on current topics are stressed. Both semesters. Two credits each semester. This course may be repeated for credit as 16A, 16B, etc. 107 Hall of English. Griffin.

21-22. EXPRESSION. The oral interpretation of the forms of literature with special attention directed to diction, gesture, the voice, and platform poise. The course is recommended to beginning students in public speaking, teaching, and dramatic work. Both semesters. Three credits each semester. 107 Hall of English. Miller.

25-26. NEWS GATHERING AND WRITING. What makes news, how news is obtained, and how news is written will be studied and the principles applied in reporting news for the U. of N. Sagebrush, the Reno newspapers, the Associated Press, and the United Press. Discussions and laboratory. Year course. With the consent of the instructor, students may repeat the second semester as 26a and 26b. Prerequisite: English 1-2. Both semesters. Three credits each semester. 105 Hall of English. Higginbotham.

41-42. APPRECIATION OF LITERATURE. A study of the more important types of English and American literature. Prerequisite: English 1-2. Both semesters. Two credits each semester. Riegelhuth and Harwood.

44-45. THE HISTORY OF ENGLISH LITERATURE. A survey of the development of English literature from its beginnings to the present day. Prerequisite: English 1-2. Both semesters. Three credits each semester. Riegelhuth and Harwood.

NOTE—English 44-45 is the prerequisite for all courses in Literature numbered 50 and above.

50-51. NEWS EDITING. Work in copy reading, rewriting, headline writing, news evaluation, and make-up is accompanied by study of the principles which govern these and similar duties of the newspaper copy editor and of the law

of the press. Prerequisite: English 25-26. Both semesters. Two credits each semester. 105 Hall of English. Higginbotham.

52. ADVANCED REPORTING. Study of the background and materials of the news of public affairs, together with the actual reporting of such news from representative sources in Reno and Carson City. Prerequisite: English 25-26. Second semester. Three credits. 105 Hall of English. Higginbotham.

53. THE COMMUNITY NEWSPAPER. Study of the problems of journalism peculiar to the country weekly and small city daily, especially as found in Nevada. Editorial, circulation and advertising management will be stressed. Prerequisite: English 25-26. First semester. Three credits. 105 Hall of English. Higginbotham. (Not offered in 1933-1934.)

54. PROBLEMS IN JOURNALISM. A special phase of journalism, not covered by other courses and adapted to the particular needs of the group of students eligible, will be studied. For 1932-1933 the project will be "Advertisement Copy Writing." Prerequisite: English 25-26, or consent of instructor. Second semester. Three credits. 105 Hall of English. Higginbotham. (Not offered in 1933-1934.)

55. THE HISTORY OF JOURNALISM IN AMERICA. The development of the newspaper in America, from Colonial times to the present, especially in relation to political, economic, and social movements, will be studied, as will the men and the newspapers which created the traditions governing modern journalism. Open to Juniors and Seniors. First semester. Three credits. 105 Hall of English. Higginbotham.

57. EDITORIAL WRITING. The study of the interpretation of contemporary events through the newspaper and magazine editorial, coupled with extensive practice in writing. Prerequisite: English 25-26, or consent of instructor. First semester. Two credits. 105 Hall of English. Higginbotham. (Not offered in 1933-1934.)

58. THE FEATURE ARTICLE. The study, writing, and marketing of the special feature article for magazines and newspapers. Prerequisite: English 25-26, or consent of instructor. Second semester. Two credits. 105 Hall of English. Higginbotham. (Not offered in 1933-1934.)

59-60. **ADVANCED COMPOSITION.** The intensive study and practice of exposition, description, and narration, with special attention to the capabilities of the individual student. *Both semesters. Three credits each semester.* Hill and Harwood. (Not offered in 1933-1934.)

61-62. **ADVANCED SPEECH COMPOSITION.** Study of effective speech composition, based upon application of rhetorical and psychological principles. First semester preparation of extended oration on current social or political problems. Second semester study and preparation of speeches for special occasions: Eulogy, introduction, after-dinner, commemoration, etc. Open to limited number of students with consent of instructor. *Two credits each semester.* 107 Hall of English. Griffin. (Not offered in 1933-1934.)

63-64. **ORATORY.** Individual research work based upon the examination of backgrounds, methods, and ideals of modern oratory. British eloquence is studied the first semester and American eloquence the second. *Prerequisite: English 11-12 or 16-17. Both semesters. Two credits each semester.* 107 Hall of English. Griffin.

66. **THE ENGLISH ESSAY.** A study of the development of the essay as a literary form from Bacon to the present day. *Second semester. Three credits.* 103 Hall of English. Riegelhuth.

68-69. **THE ENGLISH NOVEL.** A study of the development of the novel in England from 1800 to the present day. *Both semesters. Three credits each semester.* 101 Hall of English. Hill.

70-71. **AMERICAN LITERATURE.** The progress of America, as reflected in prose and poetry, from the end of the Colonial period to the present time. *Both semesters. Three credits each semester.* 101 Hall of English. Hill. (Not offered in 1933-1934.)

72-73. **MODERN DRAMA.** Representative English and American dramatists, since 1890, with an initial consideration of Ibsen. *Both semesters. Three credits each semester.* 101 Hall of English. Hill. (Not offered in 1933-1934.)

75-76. **SHAKESPEARE.** The reading of Shakespeare's principal plays and a close interpretation of four of his most characteristic dramas. *Both semesters. Three credits each semester.* 101 Hall of English. Hill.

77. **THE BIBLE AS LITERATURE.** The study of representative literary types found in the Old Testament. *Prerequisites: English 1-2 and 41-42 or 44-45. First semester. Three credits.* 101 Hall of English. Hill.

78. **MILTON.** Minor poems, dramas, and *Paradise Lost.* *Second semester. Three credits.* 101 Hall of English. Hill.

79. **THE POETRY OF THE ROMANTIC PERIOD.** A study of the movement with emphasis on Wordsworth and Coleridge. *First semester. Three credits.* 103 Hall of English. Riegelhuth.

80. **VICTORIAN POETS.** A study of the major poets against the background of the age. *First semester. Three credits.* 103 Hall of English. Riegelhuth. (Not offered in 1933-1934.)

81-82. **PLAY PRODUCTION.** The reading, study, and production of representative modern plays, one-act and longer, with lectures, readings, and reports. Practice work is offered in all the aspects of play production: management, lighting, scenery and costumes, directing, acting, etc. Special work is given for prospective high school teachers. *Prerequisite: Junior standing, or the permission of the instructor for Sophomores. Both semesters. Three credits each semester.* Education Auditorium. (Not offered in 1933-1934.)

85-86. **ENGLISH DRAMA.** A comprehensive survey of English drama from its beginnings to the end of the Nineteenth Century. *Both semesters. Three credits each semester.* 102 Hall of English. Harwood.

87-88. **THE EIGHTEENTH CENTURY.** Representative prose and poetry of the Age of Pope and the Age of Johnson. *Both semesters. Two credits each semester.* 102 Hall of English. Harwood.

89-90. **THE THEORY AND TECHNIQUE OF ACTING.** An introduction to the theory of acting and the application of its technique, with special emphasis on the problems of stage direction. *Both semesters. Three credits each semester.* 106 Hall of English. Miller.

94. **CHAUCER.** "The Canterbury Tales," with stress on the literary aspects of the work, rather than on the purely philological. *Second semester. Three credits.* 102 Hall of English. Harwood. (Not offered in 1933-1934.)

97-98, 99-100. HONORS FOR UNDERGRADUATES. Open only to Juniors and Seniors majoring in English who have attained an average grade of 2.0 in all their work. Hours to be arranged with individual students. *One credit a semester.* Hill.

101-102. SEMINAR. Open only to graduate students. *Both semesters.* Hours to be arranged with individual students. *One to three credits each semester.* Hill.

200. THESIS COURSE. Open only to candidates for a Master's Degree. *Six credits.* Hill.

GENERAL ENGINEERING

1. ENGINEERING ORIENTATION. See page 240 for description of this course.

2. FREEHAND DRAWING. Perspective drawings of machines and buildings. Perspective drawings from mechanical drawings. Memory drawings of machines. Isometric drawing. *First semester. One credit.* Education Building. Lewers.

3-4. ARCHITECTURAL DRAWING. Perspective drawing, building plans, historical basis of architectural design. The five orders of classical architecture; influence of Roman, Medieval and Renaissance architecture on modern design. *Both semesters. Two credits per semester.* Education Building. Lewers.

GEOLOGY

ASSOCIATE PROFESSOR GIANELLA, ACTING HEAD OF DEPARTMENT
PROFESSOR CARPENTER
MR. STODDARD

Requirements for a minor in Geology: Physics 1-2 (unless Physics is offered for admission), Chemistry 1 (unless Chemistry is offered for admission), Mineralogy 1 and 2, Geology 8-9, and six additional units in Junior-Senior courses.

Requirements for a major in Geology: Physics 1-2, or 3-4 and 5-6, Chemistry 5 and 6, Mineralogy 1-2, Geology 8-9, and twelve additional units in Junior-Senior courses.

Students expecting to follow Geology as their life work should consult with the head of the department as early as possible in their course and plan their work so as to lay an adequate foundation for further work in their specialty in a graduate school.

1. PHYSIOGRAPHY. (Not open to Arts and Science students for credit.) A study of the forces active on the surface of the earth, including a brief discussion of the factors governing the movements of the atmosphere. *First semester. Two credits.* Mackay School of Mines.

8. GENERAL GEOLOGY. A study of the forces on or within the earth, dealing chiefly with the dynamic and structural aspects of the subject. The interpretation of topographic maps. *Prerequisite:* At least Sophomore standing required of all but engineering students. *Either semester. Three credits.* Mackay School of Mines. Gianella and Stoddard.

9. HISTORICAL GEOLOGY. An outline of the origin and history of the earth, including the diastrophic changes, stratigraphic relationships, and the description of the physical geography and life of the successive geological periods, with especial reference to the North American Continent. *Prerequisite:* Geology 8 or 10. *Either semester. Three credits.* Mackay School of Mines. Stoddard.

51. PETROLOGY. The study of rock-forming minerals and rocks in the hand specimen. Lectures on the characters, origin, and classification of rocks. *Prerequisite:* Geology 8 and 9, Mineralogy 1 and 2. *First semester. Two credits.* Mackay School of Mines. Gianella.

52. PETROGRAPHY. Lectures on the genesis of rocks, a study of rock-forming minerals and rocks under the microscope. *Prerequisite:* Geology 51, Mineralogy 1 and 2, Physics 1A-2A or 3-4. *Second semester. Three credits.* Mackay School of Mines. Gianella. Fee, \$2.

60. ECONOMIC GEOLOGY OF THE NONMETALS. A study of the occurrence, distribution, origin, and distinctive features of fuels and other nonmetallic rocks and minerals utilized commercially. *Prerequisite:* Geology 8 and 9, Mineralogy 1-2 and 4. *Second semester. Three credits.* Mackay School of Mines. Carpenter.

61. ECONOMIC GEOLOGY OF THE METALS. The geology of ore deposits, treating of their origin, mode of occurrence, alteration, and distribution; with a study of the more important mining camps in North America. *Prerequisite:* Geology 51, Mineralogy 1, 2 and 4. *First semester. Three credits.* Mackay School of Mines. Gianella.

70. FIELD GEOLOGY. Instruction in field methods, with practice in the investigation of a selected area in the vicinity of the University. *Prerequisite:* Geology 8 and 51; Mineralogy 1, 2 and 4. *Second semester. One credit.* Gianella.

71. SUMMER FIELD GEOLOGY. Two or more weeks are spent during the summer vacation in the mapping and study

of one or more mining camps where both the surface and underground geology may be investigated. A concise report of the work, together with well-kept field notes and finished geological maps is required of each member of the class. *Prerequisite:* Geology 51 and 60 or 61. *Credits to be arranged.* Gianella.

79. GEOLOGICAL INVESTIGATION. Original investigation of some geological problem. *Prerequisite:* Geology 8, 9, 51, 52, and 60, or equivalent training. *First semester. Credits to be arranged.* Mackay School of Mines. Gianella.

80. GEOLOGICAL INVESTIGATION. Continuation of Geology 79. *Second semester. Credits to be arranged.* Mackay School of Mines. Gianella.

82. STRUCTURAL GEOLOGY. A brief course on the deformations of the earth's crust. *Prerequisite:* Geology 8, 9 and 51, Mineralogy 4. *Second semester. Two credits.* Gianella.

179-180. A GRADUATE COURSE. Credits to be arranged. Fee to be arranged according to work undertaken.

199-200. THESIS. Six to ten credits total. Fee to be arranged according to work undertaken.

HISTORY AND POLITICAL SCIENCE

PROFESSOR WIER, HEAD OF DEPARTMENT
PROFESSOR HICKS
ASSOCIATE PROFESSOR FEEMSTER
ASSISTANT PROFESSOR SMITH

Requirements for a minor in History: History 5-6 and ten additional units in courses 51-100.

Requirements for a major in History: History 5-6 and sixteen additional units in courses 51-100.

Requirements for a minor in Political Science: Either History 79-80 or History 91-92; Political Science 1-2, and eight additional units in Political Science 51-100, or in History 73-74, 87-90, or in both.

Requirements for a major in Political Science: History 5-6 and either History 79-80 or History 91-92; Political Science 1-2, and fourteen additional units from Political Science 51-100, or History 73-74, 87-90, or in both, but not more than six of these fourteen may be in History.

For both majors and minors in History and Political Science choice is to be made according to aim in view and is to be approved by the head of the department.

Requirement for the department's recommendation for the teaching of History in high schools: A major or minor, including History 51, History 55-56, and History 71-72.

History 1-2 and 5-6 are designed to lay a foundation for the

advanced courses in History and Political Science. History 1-2 is prerequisite to all other courses in History. Political Science 1-2 is prerequisite to all other courses in Political Science except 79-80.

History

1-2. HISTORY OF THE AMERICAS. Against a broad European background the spread of civilization in America will be traced. The development of each geographical section will be presented and the relation shown of each section to America as a whole. Culmination of the study will be found in a survey of the Great Basin and the place of Nevada in that basin. The course will deal in a comprehensive way with the large movements of a political, economic, and social nature in the New World. It is intended to give a new and large American perspective. The Constitutions of the United States and of Nevada will be studied in fulfillment of the state legal requirement. *Either semester. Three credits each semester.* Regular Freshman History Course. 101 Stewart Hall. Wier, Hicks and Smith.

5-6. EUROPEAN CIVILIZATION. The development of western civilization in Europe from the Roman Empire to the present time. Designed to furnish perspective for the understanding of the present-day world. *Both semesters. Three credits each semester.* 203 Stewart Hall. Smith.

51. THE TEACHING OF HISTORY. A study of the aims, methods, and materials for history teaching in secondary schools and colleges. Required for departmental recommendation for high school teaching of history. *First semester. Two credits.* 101 Stewart Hall. Wier.

53. INSTITUTIONAL RELATIONS OF WOMAN IN HISTORY. A study of woman's characteristics in relation to social and industrial life both in past centuries and at the present time. Especial emphasis on the vocations now open to women and the significance of college education in preparation for the same. Lectures on various vocations will be given by representatives of these professions and industries. Open to Freshmen women, as well as to all other women students. *First semester. Two credits.* 101 Stewart Hall. Wier. (Not given in 1933-1934.)

54. HISTORICAL GEOGRAPHY. The movements of population as influenced by geographical factors. Traces political development, particularly of Eurasia, and familiarizes the student

with the map. Adapted to the needs of Normal students. *Second semester. Two credits.* (Alternates with 62.) 101 Stewart Hall. Wier. (Not given in 1933-1934.)

55-56. WESTWARD EXPANSION OF THE UNITED STATES. A study of the westward movement from the Atlantic to the Pacific and of the continuous influence of the West upon national and international affairs. Particular attention will be given to the political, economic, and social aspects of the occupation of the various sections. Required for departmental recommendation for high school teaching of history. *Both semesters. Two credits each semester.* (Alternates with 79-80.) 101 Stewart Hall. Wier.

57-58. HISTORY OF WESTERN AMERICA. The study of the development of the Pacific Slope during the Spanish, Mexican, and early American periods. Comparison made with Atlantic Coast development. Study of legal and other institutions. Important as introduction to history of Nevada. *Both semesters. Two credits each semester.* 101 Stewart Hall. Wier. (Given on sufficient demand.)

59-60. LATIN AMERICA. This course will comprise an examination of representative States of South and Central America; their struggle for stability, their relations to each other and to the United States. Library readings will be assigned in the industrial development of Latin America and in the social and cultural character of Spanish-American civilization. Recommended for students of Spanish. To alternate with 63-64. *Both semesters. Two credits each semester.* Hicks. (Not given in 1933-1934.)

62. PRE-HISTORY. A study of human civilization before the time of written records. (To alternate with History 54.) *Second semester. Two credits.* 101 Stewart Hall. Wier.

63-64. ENGLAND AND THE BRITISH EMPIRE. A study of the political and social development of England and a consideration of the interrelationship of the various units in the British Empire. (Given in 1933-1934 and in alternate years thereafter.) *Two credits each semester.* Hicks.

65-66. RESEARCH COURSE IN NEVADA HISTORY. A course designed to train students in research methods and at the same time give knowledge of Nevada history. *Both semesters. Credits to be arranged.* 101 Stewart Hall. Wier.

(Indefinitely postponed until library materials are again available.)

71-72. ANCIENT CIVILIZATION. A study of the rise of the institutions of civilization, of nationality, and of empire, culminating in Imperial Rome. This course is designed for those preparing to teach History or Latin, for classical students, and for all who desire a collegiate course in ancient civilization. *Both semesters. Two credits each semester.* 105 Stewart Hall. Feemster.

73-74. ANCIENT INSTITUTIONS AND ROMAN LAW. An introduction to historical jurisprudence in the survey of the chief legal codes in force in early history as the background of the modern world, Hebrew, Greek, Roman to the codification of Justinian, with major emphasis on Roman Law. Library references to Maine, Lee, Kocourek and Wigmore, and Vinogradoff will be available. The course coordinates with English Constitutional History. *Both semesters. One or two credits per semester.* 105 Stewart Hall. Feemster.

76. MEDIEVAL CIVILIZATION AND INSTITUTIONS. A study of the feudal system, the system of universal monarchy as embodied in the Holy Roman Empire, of the Church as the controlling force, etc. *Second semester. Three credits.* 101 Stewart Hall. Wier. (Given on sufficient demand.)

79-80. THE FRENCH REVOLUTION. Its causes and constitutional experiments. Studied from the European and American standpoint rather than as a French local crisis. *Both semesters. Two credits each semester.* (Alternates with 55-56.) 101 Stewart Hall. Wier. (Not given in 1933-1934.)

81-82. THE FAR EAST. The aim of this course is to give students a better understanding of the peoples of the Orient. The history of China and Japan is dealt with, stress being laid upon the relations of the western nations and the peoples of the two leading oriental countries especially since the middle of the Nineteenth Century. *Both semesters. Two credits each semester.* Hicks.

85-86. THE MIDDLE PERIOD. United States History from the Second War with Britain to the Rebellion of the Cotton States. A more intensive study from the standard historians and sources of the formative period of American political character as distinct from inherited Anglo-Saxon institutions. The rise of the protective tariff system, and fall of

the national banking system and currency. Jacksonian democracy and the rise of the National Party system, United States hegemony in the rising group of western republics, expansion and territorial imperialism, the losing struggle of the Slave States to control Congress, political constitutional philosophy on the nature of the Union, nullification, the rise of the New Republican Party, the breakdown of Constitutional Federal Government and the appeal to the sword. *Both semesters. Two credits each semester.* 105 Stewart Hall. Feemster. (Not given in 1933-1934.)

87-88. ENGLISH CONSTITUTIONAL HISTORY. A study of the rise of the English constitution out of the institutions of the medieval world. Comparison will be made with the contemporary institutions of the church, the Holy Roman Empire and the early French Monarchy. *Both semesters. Two credits each semester.* 105 Stewart Hall. Feemster.

89-90. MODERN CONSTITUTIONAL HISTORY. A detailed examination of the founding of the United States of America. The movement will be compared with the contemporary constitutional efforts in Poland and the first French Republic. *Both semesters. Two credits each semester.* 105 Stewart Hall. Feemster. (Not given in 1933-1934.)

91. THE TWENTIETH CENTURY: THE RIVALRY OF THE NATIONS. An intensive prewar study. Not given for less than five students. Open to History majors and minors and those specially qualified. The course will trace world movements from the Spanish-American War to the outbreak of the War of 1914. *First semester. Two credits.* 105 Stewart Hall. Feemster.

92. THE TWENTIETH CENTURY: THE STRUGGLE OF THE NATIONS. A continuation of course 91. A critical study of war history and war historians, with source studies on selected topics. *Second semester. Two credits.* Feemster.

99-100. HISTORY THESIS WORK. *Both semesters. Credits to be arranged.* 101 Stewart Hall. Wier.

199-200. GRADUATE THESIS. *Both semesters. Credits to be arranged.*

Political Science

1-2. COMPARATIVE GOVERNMENT. This course is to be regarded as introductory to the other courses in the department. A survey is made of the structure and chief features

of the practical operation of the governmental systems of the United States, England, the leading countries of Europe, and certain typical countries of South America. *Both semesters. Two credits each semester.* 105 Stewart Hall. Feemster and Hicks.

51. STATE INSTITUTIONS. A survey of the structure and workings of the state governments in the United States of America. The Governor, the Legislature, the Courts; constitutional changes as shown by the experience of other States. Attention will be given to the organization and function of state parties; also to the new movements in county organization. *First semester. Two credits.* 105 Stewart Hall. Feemster.

53. MUNICIPAL GOVERNMENT. An introduction to the problems, both of government and administration, which confront the municipalities of the United States. Reference is also made throughout to European experience. *First semester. Three credits.* 105 Stewart Hall. Feemster. (Not given in 1933-1934.)

64. INTERNATIONAL LAW. An elementary study of the principal topics, accompanied by examination of leading cases. *Second semester. Three credits.* 105 Stewart Hall. Feemster. (Not given in 1933-1934.)

66. INTERNATIONAL GOVERNMENT AND INSTITUTIONS. The course correlates with the course in International Law and will examine in the order of their rise, the Monroe Doctrine and the Pan-American System, the Hague Conferences and Court, The League of Nations and its organs and activities. *Second semester. Two credits.* Feemster.

73-74. ROMAN LAW. An introduction to the Institutes of Justinian and the Roman System of Jurisprudence. Fundamental to the study and understanding of modern law. *Both semesters. One credit each semester.* 105 Stewart Hall. Feemster. Given in 1933-1934 and each alternate year thereafter.

79-80. THE CONSTITUTIONS OF THE UNITED STATES AND NEVADA. For Seniors of all colleges. *Both semesters. One credit.* Feemster.

85-86. COLONIAL EXPANSION. The history of the colonial acquisitions of the great nations and a comparative study of institutions developed therein, with special emphasis upon

the United States. *Both semesters. Two credits each semester.* 101 Stewart Hall. Wier. (Given on sufficient demand.)

87-88. ENGLISH CONSTITUTIONAL LAW. An introduction to such legal classics as Blackstone and Dicey, together with leading sample cases on the law and constitution of England. Fundamental to American Constitutional Law and History. *Both semesters. One credit each semester.* Feemster. Given in 1933-1934 and every alternate year thereafter.

93-94. POLITICAL PROBLEMS. Open to accredited students in the department and by permission to intercollegiate debaters. Current controversial issues will be selected each semester for analysis and investigation in the best current departmental periodicals. *One-half to two credits per semester according to work done.* 105 Stewart Hall. Feemster.

99-100. THESIS.

199-200. GRADUATE THESIS. Library facilities are available in two subjects. The Constitutional Convention of 1787, and the diplomacy of the outbreak of the war of 1914. *Both semesters. Credits to be arranged.* Library. Feemster.

HOME ECONOMICS

College of Agriculture

PROFESSOR LEWIS, HEAD OF DEPARTMENT

ASSOCIATE PROFESSOR POPE

MISS WOOD

3. INTRODUCTORY COURSE. This course is designed to give students a knowledge of the aims, ideals and accomplishments of Home Economics and to assist them in forming correct habits of right living. *First semester. Lecture, one period. One credit.* 204 Agricultural Building. Lewis.

9. GENERAL HOME ECONOMICS. This course, offered for Normal School students, deals with the following units: Selection and care of clothing; community and family relationships; hot school lunch; and school hygiene. *First semester. Lecture, two hours; laboratory, one period. Three credits.* 203 Agricultural Building. Lewis, Pope. Fee, \$2.

15-18. CLOTHING. A course dealing with the adaptation and modifications of commercial patterns. Study and working out of individual clothing budgets; selection and construction of underwear and dresses suitable for the University girl. *Both semesters. Lecture, one hour. Laboratory, two periods. Three credits each semester.* 204 Agricultural Building. Pope. Fee, \$2.

16. TEXTILES. A study of the chief textile fibers and analysis of fabrics. The aim of the work with fibers is to form a basis for an understanding of fabrics. It includes the study of methods of production of raw materials and of manufacturing processes as related to quality of fabrics. The study of fabrics is based upon the analysis of different materials to find the relation between quality and the fiber, weave, adulteration, finish and cost. *Second semester. Lecture, one hour; laboratory, one period. Two credits.* 108 Agricultural Building. Pope. Fee, \$2.

31-32. FOODS AND COOKERY. A study of foods from the standpoint of their composition, economy, selection, preparation and use. *Both semesters. Laboratory, two periods; lecture, one hour. Three credits each semester.* 203 Agricultural Building. Wood. Fee, \$5.

33. FOODS AND NUTRITION. This course is planned for any student who desires to be informed on the problem of human nutrition. The source, composition and preparation of foods; the energy, protein, mineral and vitamin requirements of the individual are considered. Dietary corrections of under and overweight and the general application of diet to health is emphasized. Not open to Freshmen. *Second semester. Lecture, two periods. Laboratory, one period. Three credits.* 204 Agricultural Building. Lewis. Fee, \$3.

42. FOOD ECONOMICS. Household marketing; a study of grades, brands and qualities of food products as found on the market. *Laboratory, one period. One credit. First semester.* 203 Agricultural Building. Wood. Fee, \$1.

45. RELATED ART. This course includes a study of color and design with applications. Problems include block-printing, tie-dyeing, batik, woven problems on the looms and construction of these into finished articles. *Either semester. Laboratory, two periods. Two credits.* 108 Agricultural Building. Pope. Fee, \$2.50.

52. PRINCIPLES OF EXTENSION WORK. This course is designed to give a survey of rural conditions as they exist in the country today, with particular emphasis on Nevada. The importance of farmer movements and their relation to national development will be touched upon. A history of the development of the land-grant colleges and agricultural extension work will be given, and particular emphasis placed

on the organization of this work in Nevada. The farm, the farm home and rural community will be the basis for discussion, and short field trips will be made to observe the work of agricultural extension agents in near-by counties. The purpose of this course is to assist students to qualify for positions as county extension agents, boys and girls club leaders, local community leaders, etc. *To be given on sufficient demand. Second semester. Lecture, two periods. Two credits.*

54. HOME NURSING. This course aims to give the students a knowledge of the general home care of the sick; the sick room, its equipment and care; various types of diseases, their symptoms and treatment; and the immediate care in accidents and emergencies. *Second semester. Lectures; two periods. Two credits.* 208 Artemisia Hall. Lewis.

55. FOODS AND COOKERY. This course includes a consideration of food from the standpoint of cost, preparation, planning and serving meals and cafeteria lunch, and field trips. The project work consists of an intensive study of types of food in which the individual is particularly interested. The lectures include a study of kinds, selection and care of linen, china and silver. *Prerequisite: Home Economics 31-32, and Home Problems. Lectures, one period; laboratory, three periods. Four credits. First semester.* 203 Agricultural Building. Pope. Fee, \$5.

66. ADVANCED CLOTHING. Costume design and tailoring. A study of line and proportion of the average human figure, together with a study of the principles of design, color and materials, forms the basis for designing garments for various types. The selection of a complete outfit including accessories, and the construction of the outer garments constitute the major part of the laboratory work. The history of costume and the stages in its development is presented. *Prerequisite: Home Economics, 15, 18, and Home Problems. Lecture, one period. Laboratory, two periods. Three credits. Second semester.* 204 Agricultural Building. Pope. Fee, \$2.

67. CLOTHING. Planning and selection of children's garments emphasizing speed, labor saving methods and relative costs in their construction. May register with the consent of the instructor. *First semester. Laboratory, two periods. Two credits.* 204 Agricultural Building. Pope. Fee, \$2.

68. COSTUMES. This course includes a study of color, effects of color on different types of individuals and the effect of light on colors. It deals with design and becoming and unbecoming lines as illustrated in costumes. Laboratory work takes up the making of costumes. *Second semester. Laboratory, two periods. Two credits.* 204 Agricultural Building. Pope. Fee, \$2.

76. CHILD CARE. A study of the development of the child from the beginning of life through adolescence. Habit formation; proper feeding, nursing of simple ailments. Open to Juniors and Seniors only. *Second semester. Lectures, two periods. Two credits.* 109 Agricultural Building. Wood.

81. DIETETICS. Lectures on the function and nutritive value of foods; feeding of families, typical dietaries; comparative cost and nutritive value of foods; requirements according to age, health, and activity. *Prerequisite: Home Economics 31-32, 55; Chemistry 26; Zoology 7-8. First semester. Two credits.* 206 Agricultural Building. Lewis.

83. DIETETICS LABORATORY. Practice in the computing and measuring of 100 calorie portions of common foods, and preparation of meals according to definite dietetic requirements. *Prerequisite: Home Economics 31-32, 55; Home Problems; Chemistry 26; Zoology 7-8. Parallel: Home Economics 81-83. First semester. Laboratory, three periods. Three credits.* 203 Agricultural Building. Lewis. Fee, \$5.

85. SPECIAL PROBLEMS IN FOODS. A course intended for advanced students capable of experimental and research work. *Prerequisite: Home Economics 31-32, 55. (Given on request.) Laboratory, two periods. Two or more credits, according to work done.* 203 Agricultural Building. Lewis. Fee, \$5.

86. HOUSEHOLD ADMINISTRATION. The following units are discussed: The social relationship of the family and community; the modern home, its equipment and scientific management; household budgets. Open to Juniors and Seniors only. *Second semester. Lectures, two periods. Two credits.* 204 Agricultural Building. Lewis.

87. HOUSE DECORATION. Planning, decorating, and furnishing of homes, considering art, convenience, sanitation, and economy. *Prerequisite: Art 5, Home Economics 16,*

45. *Second semester. Lecture, one period; laboratory, two periods. Three credits.* 108 Agricultural Building. Lewis. Fee, \$1.50.

88. CARE OF THE HOUSE. A study of care of the house and its furnishings, making practical application of facts learned in Chemistry and Physics. *Prerequisite:* Physics 19; Chemistry 5. *Second semester. Lecture, one period; laboratory, one period. Two credits.* 109 Agricultural Building. Pope. Fee, \$1.

92. DIET IN DISEASE. This course considers the adaptation of diet to different pathological conditions, such as diabetes, nephritis, gastric disturbances, etc. (For students who expect to qualify as professional dietitians.) *Prerequisite:* Home Economics 81-83. *Second semester. Lecture, one period. Laboratory, one period. Two credits.* 203 Agricultural Building. Lewis. Fee, \$2.50.

95. SPECIAL PROBLEMS IN CLOTHING. A course designed for advanced students who wish to carry further the study of some problems suggested or touched upon previously in Home Economics work. This course is elective at discretion of the Instructors. *Given on request. Lecture, one period; laboratory, one period. Two to four credits.* 108 Agricultural Building. Fee, \$2.

Ed. 88. TEACHER-TRAINING COURSES IN HOME ECONOMICS. *See Education.*

MATHEMATICS AND MECHANICS

PROFESSOR WOOD, HEAD OF DEPARTMENT
ASSISTANT PROFESSOR SEARCY

Requirements for a minor in Mathematics: Mathematics 11, 13, 14, 25, 26, or their equivalent, and two additional units selected from courses numbered above 30 and approved by the department.

Requirements for a major in Mathematics: Mathematics 11, 13, 14, 25, 26, 85, or their equivalent, and nine additional units selected from courses numbered above 30 and approved by the department.

Mathematics 15 and 16 may be substituted for 11, 13 and 14 in the major and minor requirements.

5. ELEMENTARY ALGEBRA. A thorough study of elementary algebra including quadratic equations. The course is designed to suit a variety of students, those having had practically no algebra and those having had as much as one year in the high school. This course will be required of students whose

credentials permit them to take Mathematics 11 or Mathematics 15, but who are unable to carry these courses. Students entering the University with more than one year of high school algebra will receive no credit for this course. *First semester. Two credits.* Mackay Science Hall.

7. SOLID GEOMETRY. The geometry of the plane, the cone, the prism, the pyramid, and the sphere. *Second semester. Two credits.* Mackay Science Hall. Searcy.

11. COLLEGE ALGEBRA. The usual topics of college algebra, with special emphasis upon the topics that will be most helpful in the higher courses in mathematics. *First semester. Two credits.* Mackay Science Hall. Searcy.

13. PLANE TRIGONOMETRY. A study of the trigonometric functions and identities. Considerable time is devoted to the solution of triangles. *First semester. Three credits.* Mackay Science Hall. Searcy.

14. ANALYTIC GEOMETRY. An analytical treatment of the properties of the straight line, circle, parabola, ellipse, and hyperbola. Polar coordinates, the transformation of coordinates, and the general second-degree equation in two variables will also be studied. *Second semester. Three credits.* Mackay Science Hall. Searcy.

15-16. ELEMENTARY MATHEMATICAL ANALYSIS. A unified treatment of the elements of college algebra, trigonometry, and analytic geometry, with special emphasis upon the applications. This course is required of all engineering students and recommended for all others who intend to specialize in mathematics or who desire mathematical preparation for scientific work. *Both semesters. Five credits each semester.* Mackay Science Hall. Wood and Searcy.

18. MATHEMATICAL THEORY OF INVESTMENTS. College algebra is a prerequisite for this course. *Either semester. Three credits.* Mackay Science Hall. Searcy.

25-26. CALCULUS. A unified course in differential and integral calculus, with special emphasis upon the applications. This course is required of all engineering students. *Both semesters. Three credits each semester.* Mackay Science Hall. Wood and Searcy.

35. SPHERICAL TRIGONOMETRY AND PRACTICAL ASTRONOMY. The solution of spherical triangles and the application of

trigonometry to certain problems of practical astronomy. The theory and the use of the transit instrument. The determination of time, latitude and longitude. *Second semester. Two credits.* Mackay Science Hall. Searcy.

40. DETERMINATES AND THE THEORY OF EQUATIONS. The study of determinants and their applications. The theory of the quadratic, cubic, biquadratic, and the general algebraic equation. Approximation methods of solving equations of higher degree than the second. *Second semester. Three credits.* Mackay Science Hall. Wood.

45. HISTORY OF MATHEMATICS. Lectures and assigned readings on the history of the mathematical science. *First semester. Two credits.* Mackay Science Hall. Wood.

55-56. ANALYTIC MECHANICS FOR ENGINEERS. Work in the resolution of forces, moments of inertia, laws of motion, friction, dynamics of machinery, work and energy, and impulse. Special emphasis is given to practical problems. *First semester, three credits. Second semester, two credits.* Mackay Science Hall. Wood.

70. SOLID ANALYTICAL GEOMETRY. A study of the plane, ellipsoid, paraboloid, hyperboloid, and the general equation of the second degree in three dimensional space. *First semester. Two credits.* Mackay Science Hall. Searcy.

73-74. PROJECTIVE GEOMETRY. A synthetic development of the more fundamental projective properties of conic sections, including also an elementary treatment of involutions, anharmonic ratios, and the principle of duality. *Both semesters. Two credits each semester.* Mackay Science Hall. Searcy.

85. DIFFERENTIAL EQUATIONS. Study of the ordinary and partial differential equations of the first and second orders with special attention to geometrical and physical applications. *First semester. Three credits.* Mackay Science Hall. Wood.

105. THEORY OF FUNCTIONS OF THE COMPLEX VARIABLE. The fundamental operations applied to the complex number, the series, Riemann surfaces, etc. *Both semesters. Five credits for the year.* Mackay Science Hall. Wood.

115. VECTOR ANALYSIS. A study of the Vector notation applied to problems of physics. *Second semester. Three credits.* Mackay Science Hall. Wood.

125. ADVANCED CALCULUS. A more rigorous study of the differential and integral calculus, with extensive applications to geometrical and physical problems. *First semester. Three credits.* Mackay Science Hall. Wood.

129-130. MODERN GEOMETRY. A comprehensive treatment of homogeneous coordinates and abridged notation with their applications in investigating analytically metrical and projective properties of lines and conics. *Both semesters. Two credits each semester.* Mackay Science Hall. Searcy.

135. FOURIER'S SERIES AND FOURIER'S INTEGRALS. A study of a few of the more important partial differential equations of physics. Development of the functions into cosine and sine series. *First semester. Three credits.* Mackay Science Hall. Wood.

150. SEMINAR. Library work and reports on various topics of mathematical interest. *Both semesters. Two credits each semester.* Mackay Science Hall. Wood.

For the benefit of students desiring to make mathematics their major, or to take more advanced courses in mathematics, the following subjects will be offered at any time: Elliptic Integrals and Elliptic Functions, Differential Geometry, Partial Differential Equations, Calculus of Variations, Theory of Probabilities, Theory of Functions of a Real Variable, and Theory of Numbers.

MECHANIC ARTS

College of Engineering

PROFESSOR SIBLEY, HEAD OF DEPARTMENT

INSTRUCTOR RYAN

MR. CARROLL, ASSISTANT

2. FORGING. The work in forging includes exercises in heating, bending, drawing, upsetting, plain welding, butt welding, lap welding, ring welding, tee welding, etc. In steel forging the exercises include the making and tempering of punches, drills, chisels, annealing and casehardening. *Sophomore year. One or two credits either semester, according to the requirements of the respective departments.* 101 Mechanical Building. Carroll. Fee, \$5 per credit.

3. MACHINE SHOP. A basic course in machine work following a definite plan throughout the semester, includes instruction in bench work, lathe, shaper, drill and milling machine. *Junior year. First semester. Two credits.* Mechanical Building. Fee, \$5 per credit. Ryan.

5. MACHINE SHOP. Continuation of Mechanic Arts 3, further developing the use of machine tools and permitting the student to substitute projects that are in line with those used in the course. *Second semester. Two credits. Prerequisite:* Mechanic Arts 3. Mechanical Building. Fee, \$5 per credit. Ryan.

6. PATTERN AND MOULD MAKING. Instruction is given in making of wood patterns, solid and built up, also dry and green sand cores, segment boxing two and three part flask, and moulding. *Senior year, second semester. One credit. Fee, \$5.*

7. MACHINE SHOP. An advanced course in general machine work for students wishing to develop projects in connection with thesis or special work. *Prerequisite:* Mechanic Arts 3 and 5. Also for students desiring to fill in a program in which case the work will consist of problems arising in the repair and maintenance of laboratory and shop equipment. *One or two credits, either semester. Fee, \$5 per credit. Mechanical Building. Ryan.*

10. FARM MECHANICS. A course designed for Agricultural students embracing general forge work, including heating, bending, drawing, upsetting, etc., also making and tempering punches, drills and chisels, and annealing and case-hardening. One period will be given to bench work and machine work. *First semester. Two credits. Mechanical Building. Ryan. Fee, \$5.*

MECHANICAL ENGINEERING

College of Engineering

PROFESSOR SIBLEY, HEAD OF DEPARTMENT
MR. AMENS

2. ELEMENTARY MECHANICAL DRAWING. Training in the use of drawing instruments, lettering, geometrical construction, dimensioning, pictorial projection, working drawings of machine parts from copy and from models, tracing and blue printing. Required of all Freshmen. *First semester. Laboratory. Two credits. Electrical Building. Amens.*

6. DESCRIPTIVE GEOMETRY. Standard problems on the point, line, plane, curved surface and solid are taken up in lectures and in the drawing room. Special attention is paid to the application of these principles to the problems of the draftsman, and a large number of practical problems

are given. *Prerequisite:* Mechanical Engineering 2 or 4. Mathematics 15. *Second semester. Laboratory, two periods. Two credits. Electrical Building. Amens.*

21. TECHNICAL REPORT. A systematic write-up of three to four thousand words on some selected or assigned engineering topic. *One credit. Sibley.*

51. KINEMATICS. The kinematics of machinery, showing the laws which govern the velocity of moving parts, the correct forms of gear teeth and the manner of designing trains of mechanism. *Prerequisite:* Physics 1A and 2A, or 3 and 4, and Mathematics 25 and 26. *Second semester. Three credits. Electrical Building. Amens.*

53. MACHINE DESIGN. The study of the application of the laws of velocity, force, and strength of materials to the design of machinery; tooth and belt gearing, shafts, journals, hangars, cylinders, springs, bolts, keys, etc. *Prerequisite:* Mathematics, M. E. 6, and C. E. 72 and 74. *Second semester. Three credits. Electrical Building. Sibley.*

54. HEAT ENGINES. Steam and internal combustion engines, boilers and power plant auxiliaries, fuels and combustion. This course is arranged to acquaint the student with the design, construction and operation of the mechanical equipment that he will be called upon to use in the laboratory. *Prerequisite:* Physics 3 and 4. *First semester. Three credits. Electrical Building. Sibley.*

55-56. THERMODYNAMICS. A study of the thermodynamics of perfect gases, vapors and mixed gases and vapors, their application to gas engines, air compressors, refrigerating machinery, steam engines and turbines. *Prerequisites:* Physics, Chemistry, Mathematics and M. E. 54. *Both semesters. Three credits each semester. Electrical Building. Sibley.*

58. ADVANCED MACHINE DESIGN. Balancing inertia forces in moving parts of reciprocating engines. Design of governors, fly-wheels and valve mechanism. Practical problems in machine design may be substituted for the above with the approval of the instructor. *Prerequisite:* Senior standing in Mechanical Engineering. *Second semester. Three credits. Electrical Building. Sibley.*

64. MECHANICAL LABORATORY. Operation and testing of steam and internal combustion engines, steam turbines,

steam boilers and auxiliaries, water turbines and pumps, flue gas analysis, valve setting, making indicator cards, steam calorimetry. *Prerequisite:* Mechanical Engineering 54. *First semester. Lecture, one hour. Laboratory, two periods. Three credits.* Electrical Building. Amens. Fee, \$5.

65. MECHANICAL LABORATORY. Calibration of laboratory equipment. Testing fuels and lubricants, the flow, resistance and buoyancy of air. Oil distribution and fuel analysis. *Prerequisite:* Mechanical Engineering 54. *Second semester. Lecture, one hour. Laboratory, two periods. Three credits.* Mechanical Building. Sibley. Fee, \$5.

66. MECHANICAL LABORATORY. Advanced problems in laboratory practice, such as the design and construction of apparatus. Elective for graduates. *Either or both semesters. Three to six credits, as arranged.* Sibley or Amens. Fee to be arranged.

*74. INDUSTRIAL PLANT DESIGN. A problem and design course for the study of industrial plant layout and organization for production. Elective for Seniors. *Second semester. Two laboratory and one recitation period. Three credits.* Electrical Building. Sibley.

*75. POWER-PLANT ENGINEERING. A study of the principles involved in the design, construction, and operation of steam- and gas-power plants for mills, factories, and electric generating stations. A layout of a plant to meet specified conditions is made in the drawing room. *Prerequisite:* E. E. 51 and 72, M. E. 54 and 64. *First semester. Two recitations and one laboratory period. Three credits.* Sibley.

76. AUTOMOTIVE AND AIRPLANE ENGINES. A brief course in the principles of the design and operation of gas engines as applied to motor vehicles. Carburetors, governing, ignition, lubricating systems. *Prerequisite:* M. E. 54. Elective for Juniors and Seniors. *Second semester. Two recitations and one laboratory period. Three credits.* Amens.

78. AERODYNAMICS. An elementary course in the theoretical aspect of aeronautics. Study of aerodynamics, theory of flight, history and development of the art. Laboratory work so far as available equipment permits. *Prerequisite:* Mathematics, Physics, and Mechanics. *First semester. Three credits.* Amens.

*This course will be combined with C. E. 96 until further notice.

80. THESIS. An original design or an investigation intended to give the student a knowledge of research methods in engineering. This course is elective for Seniors and Graduates at the discretion of the instructors in the department. *Second semester. Three credits.* Sibley or Assistants. Laboratory fee of \$5 may be required.

METALLURGY

College of Engineering

PROFESSOR PALMER, HEAD OF DEPARTMENT

PROFESSOR CARPENTER

ASSISTANT PROFESSOR SMYTH

51. FIRE ASSAYING. Lectures, recitations, and laboratory work in assaying. Methods of assaying, systems of weights used, calculations and problems, equipment of assay laboratories, sampling, chemistry of assaying. The assay of gold and silver ores of the simpler types followed by the assay of difficult ores and metallurgical products. *Prerequisite:* Mineralogy 2, Chemistry 9 and 10. *First semester. Laboratory, three periods. Three credits.* Mackay School of Mines. Smyth. Fee, \$15. Students who do not complete their laboratory work during the regular periods are required to pay an additional fee to cover the extra cost of such work. This fee will be \$1 per laboratory period for each period the furnaces are used plus the cost of any chemicals, etc., used.

53. GENERAL METALLURGY. Lectures and recitations on the history of metals, chemical and physical properties of metals, the adaption of metals to industry, fuels, refractories, and pyrometry. *Prerequisite:* Chemistry 1 or 5. *First semester. One credit.* Mackay School of Mines. Smyth.

54. ENGINEERING METALLURGY. Lectures and recitations for students registered in engineering schools other than the School of Mines. The course will cover the properties and uses of industrial metals and alloys, an outline of metallurgical processes, and the metallurgy of iron and steel. *Prerequisite:* Chemistry 6 and Physics 1a or 3. *Second semester. Two credits.* Mackay School of Mines. Smyth.

56. METALLOGRAPHY. This course is designed to cover the methods of preparation and microscopic examination of specimens of some of the common metals and alloys, illustrating the microstructure of pure metals and alloys, the effect of heat treatment in tempering and annealing, cooling curves, the detection of the presence of flaws and defects in

metals, a study of welds, and the effects of strain and mechanical treatment. *Prerequisite:* Metallurgy 53 and 58 or 54. Junior standing. *Second semester. Lecture, one hour; laboratory, two periods. Three credits.* Mackay School of Mines. Palmer. Fee, \$2.50.

58. FERROUS METALLURGY. Lectures and recitations on the methods of producing iron and steel, the properties and uses of iron and steel, mechanical and heat treatment of steel, alloy steels, and the corrosion of metals. *Prerequisite:* Metallurgy 53. *Second semester. Two credits.* Mackay School of Mines. Smyth.

61. PYRO-METALLURGY NONFERROUS METALS. Lectures and recitations on the smelting or fire methods of extracting the common metals from their ores and refining processes for these metals by fire methods. The principal metals covered will be copper, lead, zinc, mercury and nickel. *Prerequisite:* Mineralogy 1 and Metallurgy 53 and 58. *First semester. Three credits.* Mackay School of Mines. Palmer.

62. METALLURGY OF THE MINOR AND RARE METALS. Lectures and recitations on the metallurgy of minor and rare metals including the following: Antimony, arsenic, aluminum, bismuth, molybdenum, platinum, tin, and tungsten. *Prerequisite:* Junior standing. *Second semester. One credit.* Mackay School of Mines. Palmer.

66. ORE DRESSING. Lectures and recitations in ore dressing. Laws of crushing, sizing, and concentration of ores, including flotation. *Prerequisite:* Metallurgy 51 and 58. *Second semester. Lectures, two hours. Two credits.* Mackay School of Mines. Palmer.

68. ORE DRESSING LABORATORY. A laboratory course to accompany Metallurgy 66. This course covers general practice in the use of the various machines used in ore dressing. *Prerequisite:* Chemistry 9 and 10. *Second semester. Laboratory, two periods. Two credits.* Mackay School of Mines. Palmer and Smyth. Fee, \$5.

71. HYDRO-METALLURGY. Lectures, recitations, and laboratory exercises on the various hydro-metallurgical methods used in the recovery and refining of the metals gold, silver, copper, lead and zinc. *Prerequisite:* Metallurgy 51 and 66; Chemistry 10. *First semester. Lectures, two hours; laboratory, one period. Three credits.* Mackay School of Mines. Palmer. Fee, \$5.

72. ELECTROMETALLURGY. Lectures and recitations on electric smelting and the electrolytic processes involved in the metallurgy of the common and precious metals. *Prerequisite:* Metallurgy 61 and 71. *Second semester. Two credits.* Mackay School of Mines. Palmer.

75. NONMETALLICS. A lecture course on the preparation for market and the marketing of their products of such non-metals as cement materials, gypsum, limestone, magnesite, diatomaceous earth, borates, and others that are of importance in Nevada and the Pacific Coast States. *First semester. Two credits.* Mackay School of Mines. Carpenter.

76. PROBLEMS AND SEMINARS. This course covers common technical and economic problems related to the design, operation, and management of metallurgical plants, and a discussion of articles upon metallurgical subjects. Open only to students after they have completed metallurgical subjects to the second semester of the senior year. *Second semester. Two credits.* Mackay School of Mines. Palmer.

79-80. PROJECT. This course will cover special work of a research nature in connection with some problem in ore treatment or metallurgical plant design. *Prerequisite:* Metallurgy 68 and taken with Metallurgy 71. *Both semesters. Two credits.* Mackay School of Mines. Palmer. Deposit to be arranged according to work undertaken.

179-180. A GRADUATE COURSE. *Credits to be arranged.* Mackay School of Mines. Palmer. Fee to be arranged according to work undertaken.

199-200. THESIS. *Six to ten credits total.* Fee to be arranged according to work undertaken.

MILITARY SCIENCE AND TACTICS

COLONEL ROBERT M. BRAMBILA, U. S. ARMY, COMMANDANT
FIRST LIEUTENANT HERBERT B. WILCOX, U. S. ARMY, ADJUTANT
SERGEANT GRANT H. HUSTIS, U. S. ARMY

The following courses of instruction are prescribed by the War Department for Infantry Units of the Reserve Officers Training Corps:

MILITARY 1-2. Basic Course, First Year—Practical and Theoretical. The National Defense Act and the R. O. T. C.; military courtesy and discipline; military hygiene and first aid; drill and command; rifle marksmanship; scouting and patrolling. Required of all first-year men students. *Three hours per week. Both semesters. One credit each semester.*

MILITARY 3-4. Basic Course, Second Year—Practical and Theoretical. Drill and command; musketry; automatic rifle; scouting and patrolling; combat principles (rifle squad). Required of all second-year students. *Three hours per week. Both semesters. One credit each semester.*

MILITARY 51-52. First Year Advanced Course (elective)—Practical and Theoretical. Map reading and military sketching; drill and command; machine gun; 37mm and 3" mortar; combat principles (rifle section and platoon). *Five hours per week. Both semesters. First semester, two credits; second semester, three credits.*

MILITARY 53A. Advanced Camp Course. *Two credits.*

NOTE—Students taking advanced military and receiving a daily money allowance from the Government are required to attend a camp of instruction for a period of six weeks at the end of the third year. Under exceptional circumstances attendance at the camp may be deferred until the end of the fourth year. Students attending the advanced camp course receive pay at the rate of \$21 per month from the United States Government.

MILITARY 53-54. Second Year Advanced Course (elective)—Practical and Theoretical. Military law and officers' reserve corps regulations; military history of United States and policy; administration (company); military field engineering; drill and command; combat principles (rifle and machine-gun company and howitzer-company platoon). *Five hours per week. Both semesters. Two credits, first semester; three credits, second semester.*

MILITARY BAND. Students enrolled in Military and assigned to the band will receive credit for required Military at the rate of one credit for each semester. Such students will be required to attend at least two periods of band practice and one military formation per week, and will attend military formations when the band is required for parades and other military ceremonies.

MINERALOGY

ASSOCIATE PROFESSOR GIANELLA, ACTING HEAD OF DEPARTMENT

1. DETERMINATIVE MINERALOGY. The first few weeks are devoted to an elementary course in crystallography, followed by the determination of the more common minerals, chiefly by means of their physical properties, using such simple tests as are of easy application in the field. *Prerequisite: Chemistry 5 and 6, or the equivalent. First semester. Two credits.* Mackay school of Mines. Gianella. Fee, \$2.

2. BLOWPIPE ANALYSIS. The determination of minerals by blowpipe analysis. *Prerequisite: Chemistry 5 and 6, or the equivalent. Second semester. Two credits.* Mackay School of Mines. Gianella. Fee, \$3.

4. DESCRIPTIVE MINERALOGY. Lectures and recitations on the classification, salient properties, occurrence, genesis, and uses of the more important minerals, illustrated by typical specimens. *Prerequisite: Mineralogy 1. Second semester. Two credits.* Mackay School of Mines. Gianella.

51. ADVANCED MINERALOGY. Advanced work in either blowpipe analysis, crystallography, or the determination of minerals under the microscope. *Prerequisite: Mineralogy 1, 2 and 4. Either semester. One or two credits.* Mackay School of Mines. Gianella. Fee, \$2.

MINING

College of Engineering

DIRECTOR FULTON, HEAD OF DEPARTMENT
PROFESSOR CARPENTER
MR. COUCH

1. INTRODUCTORY MINING. An introductory course for Freshmen engineers who have expressed a preference for the School of Mines course. The subject matter will consist of a general presentation of mining, metallurgic and geologic fundamentals and history, using the museum, library, and laboratories for demonstration purposes, and requiring written work of the students. Freshmen. *First semester. One credit.* Staff.

5. PRACTICAL MINING. Practical work in mining or metallurgy during the summer vacation. Such work must extend over a period of at least one month, and a satisfactory report must be prepared upon it. *Freshman, Sophomore, or Junior vacation. Required for graduation. No credit.*

51. EXCAVATION. Lectures and recitations on the principles and practice of excavation, including earth excavation, rock drills and drilling practice, explosives and blasting practice, quarrying, tunneling, shaft sinking and boring. Stress is placed upon the underlying principles of physics and chemistry. *Prerequisite: Physics 3 and 4; Chemistry 5 and 6. Junior year. First semester. Three credits.* Carpenter.

52. MINE PLANT. Lectures on the principles and practice

of underground and surface haulage, hoisting, air compression, mine drainage, ventilation and illumination. Stress is placed upon the underlying principles of physics and mechanics. *Prerequisite:* Physics 3 and 4; Mathematics 55A. *Junior year. Second semester. Three credits.* 101 Mackay School of Mines. Carpenter.

61. MINING METHODS. Lectures and recitations on the prospecting, development, and exploitation of mineral deposits, including underground metal mining methods in detail, with quarrying, coal mining, and placer mining methods in brief. *Prerequisite:* Mining 51 and 52. *Senior year. First semester. Three credits.* Carpenter.

72. MINE ADMINISTRATION. Lectures and recitations on the business, sociology, and laws of mining, including mine examination, organization of staff, problems concerning power, labor and supplies, compensation and accident insurance, welfare work, accidents and their prevention, Federal and State mining laws with mine maps and models. *Prerequisite:* Mining 61. *Senior year. Second semester. Three credits.* Carpenter.

74. MINERAL INDUSTRY ECONOMICS. Lectures and recitations on economic problems of mining and metallurgy and mine accounting, including incorporations and securities, depreciation, depletion, amortization, taxes, assessments and dividends, and laws governing the same, the costs of mining, milling, and marketing, and cost accounting methods. *Prerequisite:* Mining 61. *Senior year. Second semester. Three credits.* Carpenter and Couch.

79-80. MINING PROJECT. Two laboratory periods weekly devoted to individual problems in mining, progressing from those of small properties to specific problems concerning shaft sinking, tunneling, or the like on a large scale, and finally to working of mines based upon those in actual operation in important mining camps. Stress is placed upon amplifying the subject matter of previous mining courses and in the methods of searching for, correlating, and presenting the data gathered and worked out. *Prerequisite:* Mining 51-52. *Both semesters. Two credits each semester.* Carpenter.

101. MINE EXAMINATION. Lectures on the examination of metal mines and prospects. Sampling, estimation of ore, valuation of properties, forms of reports. A graduate course

open as an elective to undergraduates who are suitably prepared. *Either semester. Two credits.* 102 Mackay School of Mines. Fulton and Carpenter.

179-180. A GRADUATE COURSE. *Credits to be arranged.* Fee to be arranged according to work undertaken.

199-200. THESIS. *Six to ten credits total.* Fee to be arranged according to work undertaken.

MODERN LANGUAGES

PROFESSOR CHAPPELLE, HEAD OF DEPARTMENT
PROFESSOR MURGOTTEN
ASSOCIATE PROFESSOR GOTTARDI
MR. KLINE

Requirements for a minor in a modern language: With no admission credit, 6 units. With two admission credits, 10 units. With four admission credits, 12 units.

Requirements for a major in modern language: With no admission credit, 12 units. With two admission credits, 16 units. With four admission credits, 18 units.

Requirements for a combined minor in Modern Languages (units in any two modern languages may be counted towards a combined minor): With no admission credit, 8 units. With two admission credits, 12 units. With four admission credits, 14 units.

Requirements for a combined major in Modern Languages (units in any two modern languages may be counted towards a combined major): With no admission credit, 14 units. With two admission credits, 18 units. With four admission credits, 20 units.

(The term "units," as used above, applies only to units in courses numbered above 50.)

Students planning to present for graduation a combined major or minor in Modern Languages may be allowed to register for an extra hour of academic work in the Freshman year.

Students intending later to teach Modern Languages are urged not to restrict their courses to the minimum requirements for a major or a minor in the particular subjects. All such candidates are to confer with the head of the department.

Courses numbered above 50 and announced as offered in any year may not be given in that year unless there are at least seven candidates for the class. Some courses numbered above 50 are given only in alternate years. Consult the printed schedule of classes for the definite offerings any given semester.

In certain instances and by special permission of the head of the department, a given course numbered above 50 may be repeated for credit, provided that the entire content of the course differs from the one given previously under the same number. In such cases the course will be recorded with the catalogue number plus A (e. g. French 59-A).

Arabic

61-62. INTRODUCTION TO ARABIC. A study of the grammar of the written language. Lectures, assigned reading

and reports on Mohammedan literature, history, and institutions. Open to advanced students of languages. *Both semesters. Two credits each semester.* 206 Stewart Hall. Murgotten.

101-102. SECOND-YEAR ARABIC. Grammar continued. Translation of selections from the Quran and Arab historians. *Prerequisite: Arabic 61-62. Both semesters. Two credits each semester.*

French

1. FIRST YEAR FRENCH. Drill in the essentials of grammar. Elementary composition and conversation. *Either semester. Three credits.* Gottardi and Murgotten.

2. FIRST YEAR FRENCH (Continued). Grammar, composition and conversation. Translation of simple prose texts. *Prerequisite: French 1 or one year of high school French. Either semester. Three credits.* Gottardi and Murgotten.

3-4. SECOND YEAR FRENCH. Readings from modern French prose writers. A review of grammar. Conversation and composition. *Prerequisite: French 1-2 or two years of high school French. Both semesters. Three credits each semester.* Chappelle and Murgotten.

3A-4A. The same as French 3-4 with the exception that this class meets only once a week. Intended primarily for teachers in active service in the public schools. *Both semesters. One credit each semester.* Chappelle and Murgotten.

51-52. THE FRENCH NOVEL. Rapid reading of masterpieces of French fiction: Balzac, Sand, Mérimée, Zola, Daudet, etc. *Prerequisite: French 3-4. Both semesters. Two credits each semester.* 203 Stewart Hall. Chappelle.

53-54. FRENCH POETRY. A study of the French lyric poets from Villon to contemporary writers. *Prerequisite: French 3-4. Both semesters. Two credits each semester.* 204 Stewart Hall. Murgotten.

55-56. INTERMEDIATE FRENCH COMPOSITION AND CONVERSATION. This course should be taken simultaneously with the first year of Junior-Senior reading courses in French. *Prerequisite: French 3-4. Both semesters. One credit each semester.* 203 Stewart Hall. Chappelle.

57-58. GENERAL SURVEY OF FRENCH LITERATURE. The history of French literature with detailed study of special periods. Assigned outside readings and reports on works

read. *Prerequisite: Four credits of Junior-Senior work. Both semesters. Two credits each semester.* 204 Stewart Hall. Chappelle.

59-60. SCIENTIFIC FRENCH. Readings from standard French works on science and from recent numbers of French scientific magazines. This course is particularly recommended to premedical students and to those who intend to specialize in any one of the scientific fields. *Prerequisite: French 3-4. Both semesters. Two credits each semester.* 204 Stewart Hall. Chappelle.

69. FRENCH CLASSIC DRAMA. A special study of the works of Corneille, Racine and Molière. *Prerequisite: French 3-4. First semester. Two credits.* 206 Stewart Hall. Murgotten.

70. FRENCH ROMANTIC DRAMA. A study of the drama of the romantic school with special reference to the works of Victor Hugo. *Prerequisite: French 3-4. (It is advised that students take French 69 before electing French 70.) Second semester. Two credits.* 206 Stewart Hall. Murgotten.

73-74. ADVANCED FRENCH COMPOSITION AND CONVERSATION. Includes a study of French epistolary style and commercial correspondence. This course should be taken simultaneously with the second year of Junior-Senior reading courses in French. *Prerequisite: French 3-4. Both semesters. One credit each semester.* 203 Stewart Hall.

81-82. THE EIGHTEENTH CENTURY IN FRENCH LITERATURE. A study of the works of Montesquieu, Voltaire, Rousseau, etc. *Prerequisite: Four credits of Junior-Senior work. Both semesters. Two credits each semester.* 204 Stewart Hall. Chappelle.

89-90. FRENCH PHONETICS. A study of pronunciation on the basis of practical phonetics. This course is especially arranged for prospective teachers of French. *Prerequisite: Two units of Junior-Senior work. Both semesters. Two credits each semester.* 206 Stewart Hall. Gottardi.

German

1. FIRST YEAR GERMAN. A systematic study of grammar. *First semester. Three credits,* 206 Stewart Hall. Chappelle and Murgotten.

2. FIRST YEAR GERMAN (Continued). Grammar and composition. Reading of easy prose and poetry. *Prerequisite:*

German 1, or one year of high school German. *Second semester. Three credits.* 206 Stewart Hall. Chappelle and Murgotten.

3-4. INTERMEDIATE GERMAN. Grammar review. Reading of German short stories, with exercises in conversation and composition. Introductory Scientific German. *Prerequisite:* German 1-2, or two years of high school German. *Both semesters. Three credits each semester.* 206 Stewart Hall. Chappelle and Murgotten.

3A-4A. The same as German 3-4, except that this class meets only once a week. Intended primarily for teachers in active service in the public schools and for students from other departments who need this course to help fulfill their language requirements. *Both semesters. One credit each semester.* 204 Stewart Hall. Chappelle and Murgotten.

51-52. THE GERMAN NOVEL. Rapid reading of masterpieces of German fiction: Scheffel, Baumbach, Sudermann, Thomas Mann. *Prerequisite:* German 3-4. *Both semesters. Two credits each semester.* 206 Stewart Hall. Chappelle.

57-58. GENERAL SURVEY OF GERMAN LITERATURE. The history of German literature with detailed study of special periods. Assigned readings and reports on the works read. *Prerequisite:* Four credits of Junior-Senior work. *Both semesters. Two credits each semester.* 204 Stewart Hall. Chappelle.

59-60. SCIENTIFIC GERMAN. Readings from German scientific works, with special emphasis on Chemistry and Physics. This course is particularly recommended to premedical students and to those who intend to specialize in any one of the scientific fields. *Prerequisite:* German 3. *Both semesters. Two credits each semester.* 204 Stewart Hall. Chappelle.

69-70. GERMAN CLASSICS. Reading and technical study of representative works of Lessing, Schiller, and Goethe. *Prerequisite:* German 3-4. *Both semesters. Two credits each semester.* 206 Stewart Hall. Chappelle.

79-80. ADVANCED COMPOSITION. A study of German epistolary style, business correspondence, free composition. This course should be taken simultaneously with the Junior-Senior reading courses. *Both semesters. One credit each semester.* 206 Stewart Hall. Chappelle.

Italian

1-2. FIRST YEAR ITALIAN. Grammar, composition, and conversation. Reading of modern Italian prose. *Both semesters. Three credits each semester.* 204 Stewart Hall. Gottardi.

51-52. THE ITALIAN NOVEL. Rapid reading of masterpieces of modern Italian fiction: Manzoni, Fogazzaro, Verga, etc. *Prerequisite:* Italian 1-2. *Both semesters. Two credits each semester.* 206 Stewart Hall. Gottardi.

53-54. ITALIAN LITERATURE OF THE EIGHTEENTH AND NINETEENTH CENTURIES. Reading of important works of prose and poetry of the period, with a study of literary movements. *Prerequisite:* Italian 1-2. *Both semesters. Two credits each semester.* 203 Stewart Hall.

55-56. INTERMEDIATE COMPOSITION. *Prerequisite:* Italian 1-2. *Both semesters. One credit each semester.* 203 Stewart Hall.

Portuguese

61-62. INTRODUCTION TO PORTUGUESE. A study of grammar. Reading of texts on Brazilian subjects. Conversation based on the Brazilian norm. *Prerequisite:* Four units of Junior-Senior work in any one other Romanic language. *Both semesters. Two credits each semester.* 204 Stewart Hall.

Spanish

1. FIRST YEAR SPANISH. Drill in the essentials of grammar. Elementary composition and conversation. *Either semester. Three credits.* Kline.

2. FIRST YEAR SPANISH (*Continued*). Grammar, composition and conversation. Translation of simple prose and poetry. *Prerequisite:* Spanish 1 or one year of high school Spanish. *Either semester. Three credits.* Kline.

3-4. SECOND YEAR SPANISH. Readings from modern Spanish writers. A review of grammar. Conversation and composition. *Prerequisite:* Spanish 1-2 or two years of high school Spanish. *Both semesters. Three credits each semester.* Gottardi and Kline.

3A-4A. The same as Spanish 3-4 with the exception that this class meets only once a week. Intended primarily for teachers in active service in the public schools. *Both semesters. One credit each semester.* Gottardi and Kline.

Spanish 11-12. Intermediate Spanish. *Prerequisite:* Spanish 3-4. Intended for students who wish to complete their language requirement in this subject, but who are not planning to offer Spanish as a major or a minor. *Both semesters. Three credits each semester.*

51-52. THE MODERN SPANISH NOVEL. Rapid reading of masterpieces of Spanish fiction: Galdós; Valdés; Ibáñez; etc. *Prerequisite:* Spanish 3-4. *Both semesters. Two credits each semester.* 201 Stewart Hall.

53. COMMERCIAL AND JOURNALISTIC SPANISH. Readings dealing primarily with Spanish-American social and economic conditions. *Prerequisite:* Spanish 3-4. *First semester. Two credits.* 201 Stewart Hall. Kline.

55. COMMERCIAL CORRESPONDENCE. A composition course to accompany Spanish 53. *Prerequisite:* Spanish 3-4. *First semester. One credit.* 201 Stewart Hall. Kline.

56. INTERMEDIATE SPANISH COMPOSITION AND CONVERSATION. This course should be taken with the first year of Junior-Senior reading courses in Spanish. *Prerequisite:* Spanish 3-4. *Second semester. One credit.* 201 Stewart Hall. Kline.

57-58. GENERAL SURVEY OF SPANISH LITERATURE. The history of Spanish literature with detailed study of special periods. Assigned outside readings and reports on works read. *Prerequisite:* Four credits of Junior-Senior work. *Both semesters. Two credits each semester.* 201 Stewart Hall.

67-68. EARLY SPANISH NOVEL. Reading of Spanish prose of the Sixteenth, Seventeenth and Eighteenth Centuries. A study of novelistic movements. Montalvo, Montemayor, Cervantes, Inevado. Collateral reading. *Both semesters. Two credits each semester.* 201 Stewart Hall.

70. MODERN SPANISH DRAMA. A study of Spanish dramatic literature from the Golden Age to the Twentieth Century. *Prerequisite:* Spanish 3-4. *Second semester. Two credits.* 201 Stewart Hall.

79-80. ADVANCED SPANISH PROSE COMPOSITION AND CONVERSATION. This course should be taken simultaneously with the second year of Junior-Senior reading courses in Spanish. *Prerequisite:* Spanish 3-4. *Both semesters. One credit each semester.* Murgotten.

81-82. SPANISH CLASSICS. Literature of the Sixteenth and Seventeenth Centuries—Cervantes; Lope de Vega; Tirso de Molina; etc. *Prerequisite:* Four credits Junior-Senior work. *Both semesters. Two credits each semester.* 201 Stewart Hall.

MUSIC

PROFESSOR POST, HEAD OF DEPARTMENT

Requirements for a minor in Music: 1-2, 5, 10, 11-12, 50-51, 54-55, 57.

1-2. MUSIC READING AND EAR TRAINING (for elementary teachers and students preparing for Harmony). Learning to read by "sol-fa" system of simple unison and two-part folk songs in all keys and common rhythms. Notation, terminology, intervals, scales. *Both semesters. One credit each semester.* 204 Education Building. Post.

5. See Education 21.

10. APPRECIATION OF MUSIC (open to all University students. No previous training necessary). Content of music as found in some representative masterpieces from the point of view of the listener. Limited lectures, recitals in the classroom and the phonograph provide material for study. *First semester. Two credits.* 204 Education Building. Post.

11-12A. WOMEN'S GLEE CLUB. Open to all women students. Membership limited to those who have been examined and approved by the Director. Representative selections from the best musical literature for women's voices will be studied and produced in one or more public concerts. *Two semesters. One credit each semester.* 204 Education Building. Post.

11-12A. MEN'S GLEE CLUB. Open to all men students. Membership limited to those who have been examined and approved by the Director. Representative selections from the best musical literature for men's voices will be studied and produced in one or more public concerts. *Two semesters. One credit each semester.* 204 Education Building. Post.

15-16A. UNIVERSITY AND COMMUNITY LITTLE SYMPHONY ORCHESTRA. Open to all men and women students who play orchestral instruments, subject to examination and approval of the Director. Regular rehearsal is held each week and several public concerts are given during the year. Programs

are made up of representative classical works of great composers of all periods. *Two semesters. One-half credit each.* 204 Education Building. Post.

17-18. BAND. See under Military for a description of the requirements and credits for this work. Civilian members of the Band may receive corresponding credit in the Music Department if they meet those requirements. Post.

50-51. HARMONY (open to all students who have had Music 1 and 2 or the equivalent). Study of scales, intervals, fundamental triads, seventh chords, in the major and minor modes. Ear training, keyboard drill, simple analysis, harmonization of melodies. Some original work. *Two semesters. Three credits each.* 204 Education Building. Post.

52-53. ADVANCED HARMONY. Study of secondary sevenths, ninth chords, altered chords, modulation, suspensions and passing tones, analysis, original work. Continued ear training. Open to all students who have had Music 50-51, or the equivalent. *Two semesters. Three credits each.* 204 Education Building. Post.

54-55 (A and B). GLEE CLUBS. For description, see Music 11 and 12, A and B. *Prerequisite:* Music 11-12. *Two semesters. One credit each semester.* 204 Education Building. Post.

57. HISTORY OF MUSIC (open to all students; no technical knowledge required). The general history of music, considered from the standpoint of its evolution as a part of the development of civilization. Lecture course with collateral reading. Limited illustrations from representative works. *Second semester. Two credits.* 204 Education Building. Post.

59-60A. UNIVERSITY AND COMMUNITY LITTLE SYMPHONY ORCHESTRA. For description see Music 15-16A. *Prerequisite:* Music 15-16A. *Two semesters. One-half credit each.* 204 Education Building. Post.

63-64. BAND. For general description, see Music 17-18. *Prerequisite:* Music 17-18. Post.

65. See Education 65.

ORIENTATION

1. ENGINEERING ORIENTATION. The course is designed to lay before the Freshmen engineering students upon entering

the University the difficulties and rewards of college life and of engineering as a life profession.

One period a week deals with the University requirements for entrance, for residence, for graduation and for advanced degrees, stressing the need of and best methods of acquiring a good scholarship record, bringing out the benefits thereof, and kindred subjects.

One period a week is given to lectures by the engineering faculty on the course of study of each engineering school, the nature of work its graduates enter, and the drawbacks and possibilities of that branch of engineering, with the purpose of the lectures being to aid or confirm the student in his choice of engineering school. *First semester. Two lectures a week. One credit. Required of all Engineering Freshmen.* Carpenter and Engineering Faculty.

2. GENERAL ORIENTATION. A course designed to acquaint the students entering the University with the rules and customs of the college community and the opportunities for study offered by the different schools and departments of the University. During the first part of the semester, student body rules and University requirements will be explained; methods for study, use of library, and various University facilities will be discussed. Later in the semester, some elementary outlines of the content of the several fields of knowledge will be offered, and finally, aid will be given in the methods of vocational self-guidance.

PHILOSOPHY

PROFESSOR THOMPSON, HEAD OF DEPARTMENT

Requirements for a major in Philosophy: Psychology 5, Philosophy 7 or 8 and 21, and 12 units in courses 51 to 100.

Requirements for a minor in Philosophy: Psychology 5, Philosophy 7 or 8 and 21, and 6 units in courses 51 to 100.

1. INTRODUCTION TO PHILOSOPHY. A brief study of the problems of philosophy with the solutions suggested by the various schools. Designed both for the student who wishes a perspective for further work in philosophy, and for the student who desires a general knowledge of the scope and methods of philosophy. *No prerequisite. Either semester. Two credits.* 202 Morrill Hall. Thompson.

7. DEDUCTIVE LOGIC. Terms, definition, division, syllogism and fallacies. Text, lectures and exercises. *No prerequisite. First semester. Three credits.* 202 Morrill Hall. Thompson.

8. **INDUCTIVE LOGIC.** The assumptions of induction methods of scientific investigation, fallacies, the tests of truth. Text, lectures and exercises. *No prerequisite. Second semester. Three credits.* 202 Morrill Hall. Thompson.

21. **ETHICAL THEORIES.** A study of the leading theories of moral principles and ideals. Among the topics discussed will be the concept of the good, duty, egoism, altruism, freedom, responsibility, and the doctrine of virtues. Open to Sophomores. *First semester. Three credits.* 202 Morrill Hall. Thompson.

22. **APPLIED ETHICS.** The application of ethical theory to typical problems of institutional life, property, and the family. Open to Sophomores. *Second semester. Three credits.* 202 Morrill Hall. Thompson.

28. **SOCIAL ETHICS.** A brief study of the fundamental ethical principles based upon concrete social problems. Required of Sophomores in the two-year Normal course. *Second semester. Two credits.* 202 Morrill Hall. Thompson.

51. **HISTORY OF ANCIENT PHILOSOPHY.** A study of Greek and Roman Philosophy, and of Medieval Philosophy to the decline of scholasticism. *Prerequisite:* One course in Philosophy. *First semester. Two or three credits according to the work done.* 202 Morrill Hall. Thompson.

52. **HISTORY OF MODERN PHILOSOPHY.** A study of the problems and concepts of philosophy from Descartes to the present time. *Prerequisite:* One course in Philosophy. *Second semester. Two or three credits according to the work done.* 202 Morrill Hall. Thompson.

53-54. **PHILOSOPHICAL TENDENCIES OF THE PRESENT.** A review and criticism of the main tendencies in present philosophical thought with reference to concrete social problems. Special attention will be given to absolutism, pragmatism, pluralism, and the philosophy of James. *Prerequisite:* One course in philosophy. *Both semesters. Two credits each semester.* Alternates with Philosophy 51 and 52. 202 Morrill Hall. Thompson. (Not given in 1932-1933.)

61. **INTRODUCTION TO RELIGION.** A study of the forms and psychological aspects of religious experience with special reference to typical historic religions. *Prerequisite:* One course in Philosophy or Education 5. *First semester. Two*

to three credits according to work done. 202 Morrill Hall. Thompson.

62. **PHILOSOPHY OF RELIGION.** The meaning and validity of religious experience. Among the topics discussed will be the religious conception of God, the world, revelation, faith, prayer, evil, immortality. *Prerequisite:* One course in Philosophy and Psychology 5. *Second semester. Two or three credits according to the work done.* 202 Morrill Hall. Thompson.

83-84. **METAPHYSICS.** A constructive study of the problems of being, unity, order, and individuality, with practical applications of the theory developed. *Prerequisite:* Two courses in Philosophy and Psychology 5. *Both semesters. Two credits each semester.* 202 Morrill Hall. Thompson. (Not given in 1932-1933.)

100. **RESEARCH COURSE.** The thesis may be selected in any field of Philosophy. For Seniors only. *Prerequisite:* The equivalent of a minor in Philosophy. *Either semester. Two credits.* 202 Morrill Hall. Thompson.

PHYSICAL EDUCATION

Men

PROFESSOR MARTIE, HEAD OF DEPARTMENT
ASSISTANT PROFESSOR SCRANTON

Requirements for a minor in Physical Education: Courses 1, 2, 3, 4, or equivalent, 9, 10, and ten units in courses above 50. Participation in at least one major sport. In meeting the College requirement in Science and Mathematics, Zoology 7 and 8 is strongly recommended.

1. **DEVELOPMENTAL EXERCISES.** Physical examinations are required at the beginning of the semester. Strength tests are given at beginning and again at end of semester. Practical work consists in Mass Athletics; games selected with a view of developing alertness, coordination, muscular control, vigor and rhythm. When the weather permits, the work is done out of doors. *Freshman year. (Required.) First semester. Two hours per week. One-half credit.*

2. **DEVELOPMENTAL EXERCISES.** Continuation of course 1 with addition of calisthenics and light apparatus. *Second semester. One-half credit.*

3. **ADVANCED EXERCISES.** Strength tests will be continued as in Freshman year. Practical work consists in mat work, tumbling, heavy apparatus using long and short horse and

buck. *Sophomore year. (Required.) First semester. Two hours per week. One-half credit.*

4. **ADVANCED EXERCISES.** Continuation of course 3. Heavy apparatus consisting of work with parallel bar, low and high horizontal bars, ladder and stall bar. *Second semester. One-half credit.*

By obtaining consent of the Director of the Department a student may elect any of the following sports as a substitute for the practical work in courses 1, 2, 3, and 4: Football, basket ball, track, tennis, volley ball, cross country and hand ball. *First semester. Two hours per week. One-half credit.*

5-8. **SPECIAL CORRECTIVE EXERCISES.** This course is designed for all Freshmen and Sophomores whose physical examinations show they are unfitted to take courses 1, 2, 3, and 4. *One-half credit for each semester's work up to and including four semesters. Martie.*

9. **ADVANCED WORK** (paralleling courses 3 and 4.) *Aim:* To develop squad leaders and to assist men to qualify for a state certificate to teach physical education in high schools. *First semester. Three hours per week. One hour credit. Martie.*

10. **CONTINUATION OF COURSE 9.** *Second semester. Three hours per week. One hour credit. Martie.*

51. **FOOTBALL IN THEORY AND PRACTICE.** A course of lectures and practical demonstrations for those who may wish to coach, or for players who are out for the varsity or for those who are interested in and wish a more intimate knowledge of America's greatest game. Open only to Juniors or Seniors who have had two or more years' college experience in this sport. *First semester. One lecture per week and one hour laboratory. Two credits. Not given unless eight or more are enrolled. Scranton.*

52. **BASKET BALL IN THEORY AND PRACTICE.** A course of lectures and practical demonstrations in America's leading winter indoor sport. *Second semester. One lecture and one hour laboratory per week. Two credits. The same conditions for enrollment must be met as in course 51. Martie.*

53. **TREATMENT OF ATHLETIC INJURIES.** This is a course in first aid with special emphasis on common athletic injuries. It will include the various uses of tape, bandages, splints, etc. Time will be given to the study of the prevention of injuries such as sprains, charley horse, tackle

shoulder, blood poison, blisters, etc., as well as treatment for same. *Three periods per week. Two credits. First semester.*

54. **TRACK AND FIELD ATHLETICS.** Lectures and demonstrations on each track and field event. *Second semester. One lecture and one hour laboratory per week. Two credits. The same conditions for enrollment must be met as in course 51. Martie.*

55. **PLAYGROUND.** *Prerequisite:* Physical Education 53. A study of playground methods, apparatus, and organization. Special attention is given to group games for all ages. Also to the "Gang" problem as related to playground. *Three periods per week. Two credits. First semester. Martie.*

56. **ANTHROPOMETRY.** This is a course in physical measurements and methods of detecting physical defects. It will include practical use of charts in connection with physical development. *Three periods per week. Two credits. Second semester. Martie.*

57. **OFFICIATING MAJOR SPORTS.** A careful study of the rules of football, basket ball, and track, with interpretations, methods of officiating, and characteristics of officials. *Three periods per week. Two credits. First semester. Scranton.*

58. See Education 64.

59. **CORRECTIVE GYMNASTICS.** The work will consist of lectures covering the biological, sociological, and physiological aspect of the causes of functional and structural defects. Practical work will include the use of apparatus and the adaptation of various forms of exercises to the needs of the individual.

- (a) Improving functional organic capacity.
- (b) Correction of physical defects.
- (c) Measurements of motor ability.

Three periods per week. Two credits. First semester. Martie.

PHYSICAL EDUCATION

Women

PROFESSOR SAMETH, HEAD OF DEPARTMENT
MRS. SIMAS, INSTRUCTOR

Requirements for a minor in Physical Education: It is recommended that students desiring a minor in Physical Education fulfill their science requirement in Biology or Chemistry. It is also recommended that students interested in taking advanced dancing take Music 10 or its equivalent. Courses—Physical Education 1, 2, 3, 4, 10, 23, 24, 31, 32, 55, 56, 59, 60, and two years of participation in Athletics.

1, 2, 3, 4. COURSES REQUIRED FOR GRADUATION. Numbered in the order in which they are taken. One and two have each one unit of credit (3 periods); three and four each have one-half unit of credit (2 periods). One semester of A and one of C are required of all students taking Physical Education. Further work in Dancing or Organized Games may be had but is not required.

A—DANCING (including clogging, interpretation, etc.).

B—GYMNASTICS (including marching, general posture training, etc.).

C—ORGANIZED GAMES (relays and simple games leading up to field ball, soccer, indoor baseball, etc.).

D—STUNTS AND TUMBLING.

E—GENERAL WORK (required of students in Education, consisting of a combination of the precedings).

5-6. INDIVIDUAL OR ADAPTED GROUP GYMNASTICS. Individual or adapted group gymnastics, planned to meet specific needs such as correction for feet, abdomen, spine, etc. Recommended for all first and second semester students who, upon examination, show a need of it. *Four 20-minute periods a week. One credit each semester.*

7-8. Continuation of P. E. 5-6; also additional work in gymnastics, stunts and tumbling for those who have completed 1, 2, 3 and 4.

10. MATERIAL COURSE. Required of students in Education and of Physical Education minors. The object of this course is to give those who intend to teach, singing games and folk dances suitable for use in the grades. Most of the semester will be used for practical work. *Prerequisite: Physical Education 1-2 or the equivalent. Two periods. One semester. One credit. Gymnasium.*

23. HEALTH. Definitions of health in their general application to every-day living, stressing posture and the prevention of remediable defects; emergencies and first aid. *First semester. One period. One credit.*

24. PRINCIPLES OF PHYSICAL EDUCATION. Their development in relation to general education, health education, recreation. Organization and leadership of recreational activities as applied to after-school programs, playdays, camping, clubs, etc. *Second semester. Two periods. Two credits.*

31-32. DANCING. Dancing, including clog, folk and interpretation. Open to all who have had the equivalent of Physical Education 1-2. *Three periods. Both semesters. One credit each semester.*

53-54. ADVANCED DANCING. A continuation of Physical Education 31-32. This course will include the construction of at least two dances. *Three periods. Both semesters. One credit each semester.*

55. KINESIOLOGY. *Prerequisite: Physical Education 1-2 and 3.* The chief object of this course is to familiarize the student with the mechanism of the human body, dealing particularly with the shoulder, girdle, spine, pelvis, and feet, so that the student will be prepared to study intelligently cases of round shoulders, spinal curvature, and flat feet. *Three periods. First semester. Three credits. Gymnasium. (Not offered in 1932-1933 unless there is a registration of twelve students.)*

56. REMEDIAL GYMNASTICS. *Prerequisite: Physical Education 55.* The course is intended to be a practical application of Physical Education 55. Students will be given the opportunity to prescribe exercises for students taking Physical Education 5-6, 7-8. *Three periods. Second semester. Two credits. Gymnasium. (Not offered in 1933-1934 unless there is a registration of ten students.)*

59-60. THEORY AND PRACTICE OF DIRECTING TEAM AND INDIVIDUAL SPORTS. This course includes a study of the essentials of the technic and game forms leading up to soccer, hockey, volley ball, basket ball, baseball, swimming, archery and tennis. Opportunity will be given for actual practice in teaching and officiating. *Prerequisite: At least two years' participation in college athletics. Two lecture periods per week; two laboratory periods per week. Both semesters. Two credits each semester.*

101-102. PROBLEMS IN HEALTH AND PHYSICAL EDUCATION. Experimental study open only to seniors or graduate students. Where the study is made in the field of Health Education the student must also have had the equivalent of a minor in Hygiene or Zoology. *Two to five credits.*

RECREATION. All women who are registered for Physical Education courses, or who have completed the Freshman-Sophomore requirement in Physical Education, may receive

instruction and participate in all activities sponsored by the Women's Athletic Association. (See page 74.) In addition to these activities *all* classes in floor work or dancing are open to any who wish to attend *without* University credit. The only requirements for these activities are physical fitness and regular attendance.

PHYSICS

PROFESSOR HARTMAN, HEAD OF DEPARTMENT
ASSOCIATE PROFESSOR BLAIR
ASSOCIATE PROFESSOR LEIFSON

Requirements for a minor in Physics: Physics 53-54 and 55-56. Requirements for a major in Physics: 53-54, 55-56, and four additional units approved by the department.

Requirement for a teacher's recommendation in Physics: a major or a minor in the department.

1A-2A. GENERAL PHYSICS. A course in general physics primarily for students in arts and science, medicine and agriculture. Lectures and recitations with experimental demonstrations and problem work. No credit for either semester of this course will be given unless accompanied by the corresponding course in Physics 1b-2b. *Prerequisite:* Plane Geometry. A knowledge of trigonometry is desirable. *Both semesters. Three credits each semester.* Mackay Science Hall. Blair and Leifson.

1B-2B. GENERAL PHYSICS LABORATORY. A laboratory course to make the student an intelligent observer of medicine and agriculture. To accompany Physics 1a-2a. Experimental work, largely quantitative in character and designed to illustrate fundamental physical principles and to develop skill and accuracy in the methods of physical measurement. No credit for either semester will be given unless accompanied by the corresponding course in Physics 1a-2a. *Prerequisite:* Plane Geometry. A knowledge of trigonometry is desirable. *Both semesters. One credit each semester.* Mackay Science Hall. Blair and Leifson. Fee, \$3.

3-4. GENERAL PHYSICS FOR ENGINEERS. Mechanics and heat, sound and light, and electricity and magnetism. Lectures and recitations are fully illustrated by experimental demonstrations at the lecture table and by problems. *Prerequisite:* Mathematics 7, 15 and 16. *Both semesters. Five credits each semester.* Mackay Science Hall. Hartman.

5-6. PHYSICAL MEASUREMENTS. Experimental work of distinctly quantitative character is done in mechanics and

heat, sound and light, and electricity and magnetism. The methods selected involve fundamental physical principles, and illustrate their most important applications. *Prerequisite:* Mathematics 7, 15 and 16. *Both semesters. Credits to be arranged, with a maximum of six credits for the course.* Mackay Science Hall. Blair and Leifson. Fee, \$3.

7. DESCRIPTIVE ASTRONOMY. A brief course in astronomy designed to acquaint the student with the most important facts relating to the heavenly bodies. The objects of the course is to make the student an intelligent observer of the more common astronomical phenomena. Descriptive rather than mathematical in character. Not open to Freshmen and not accepted as part of Freshmen science requirement. *Second semester. Three credits. Two scheduled periods and one evening hour per week to be arranged.* Mackay Science Hall. Blair.

19-20. HOUSEHOLD PHYSICS. A course in general physics for students in home economics. The practical applications of physics in the home will be emphasized. *Prerequisite:* A thorough knowledge of elementary algebra and plane geometry. *Both semesters. Lecture, recitation and quiz, two hours; laboratory, one period. Three credits each semester.* Mackay Science Hall. Blair. Fee, \$3.

24. PRACTICAL CALCULATION. Graphical methods of determining the relationship between physical quantities. The adjustment of graphs to increase the accuracy of computed results. Practice in the arrangement of logarithmic calculation so that the minimum amount of labor is involved in the solution of complicated equations. Differential correction of results. Interpolation and the use of interpolation formula. Computation of probable error and estimation of accuracy of data and results. *Prerequisite:* Differential Calculus. *Second semester. One credit. One three-hour computing period per week.* Mackay Science Hall. Blair.

53-54. GENERAL PHYSICS FOR ARTS AND SCIENCE STUDENTS OF THE SENIOR COLLEGE. Mechanics and heat, sound and light, and electricity and magnetism. Lectures and recitations are fully illustrated by experimental demonstrations at the lecture table and by problems. *Prerequisite:* Mathematics, 7, 13, and 14. *Both semesters. Five credits each semester.* Mackay Science Hall. Hartman.

55-56. PHYSICAL MEASUREMENTS. Experimental work of distinctly quantitative character is done in mechanics and heat, sound and light, and electricity and magnetism. The methods selected involve fundamental physical principles, and illustrate their most important application. *Prerequisite*: Mathematics 7, 13, and 14. *Both semesters. Credits to be arranged, with six credits as maximum for the course.* Mackay Science Hall. Blair and Leifson. Fee, \$3.

57-58. ELECTRICAL MEASUREMENTS. Precise measurements of current electromotive force and power, with both alternating and direct current. Calibration of instruments, determination of resistance, capacity, mutual inductance, and self-inductance. Hysteresis. Photometry. Illumination. One hour each week will be devoted to discussion and reports. *Prerequisite*: Physics 53-54 and 55-56. *Either semester. One or two credits per semester.* Mackay Science Hall. Hartman and Leifson. Fee, \$3.

59-60. HEAT AND THERMODYNAMICS. Lectures and recitations accompanied by experimental work of a quantitative character. This course, together with Physics 61-62, is introductory to Mathematical Physics. Many of the more difficult subjects merely touched upon in Physics 1a-2a, 1b-2b, or 3-4, will be fully treated. (Alternates with Physics 61-62.) *Prerequisite*: Physics 1a-2a, 1b-2b, or 53-54 and 55-56, and Mathematics 14, 25, and 26. *Both semesters. Two credits each semester.* Mackay Science Hall. Hartman.

61-62. LIGHT AND PHYSICAL OPTICS. Lectures; experimental illustration on selected topics in light, including discussion of wave theory, diffraction, interference, resolving power of optical instruments, dispersion and absorption, spectrum analysis, double refraction, and polarization. (Alternates with Physics 59-60.) *Prerequisite*: Physics 53-54 and 55-56; Mathematics 14, 25, and 26. *Both semesters. Two credits each semester.* Mackay Science Hall. Hartman, Blair and Leifson.

63. PHYSICAL OPTICS. Laboratory exercises in connection with course 61-62. *First semester. Two credits.* Mackay Science Hall. Hartman, Blair and Leifson. Fee, \$3.

65-66. HISTORY OF PHYSICS. Lectures and recitations. Preparation of reports and discussion of assigned topics by

members of the class. *Prerequisite*: Physics 1a-2a, 1b-2b, or 53-54, and 55-56. *Both semesters. One credit.* Mackay Science Hall. Hartman.

68. ELECTRIC LIGHTING. The application of physical principles to the various problems of electric lighting, photometry, and miscellaneous applications of electricity. *Prerequisite*: Physics 53-54 and 55-56, and Mathematics 14, 25, and 26. *Second semester. Two credits.* Mackay Science Hall. Hartman.

71-72. ELECTRICAL THEORY OF MATTER. Lectures and experimental illustrations. Discussion of important topics in the fields of radiation and the structure of atoms and molecules. Introduction to quantum mechanics. *Prerequisite*: General Physics, Integral and Differential Calculus. *Two credits each semester.* Mackay Science Hall. Leifson.

73-74. ELECTROMAGNETIC THEORY. Introduction to the mathematical theory of electricity and magnetism. Solution of problems by exact reasoning from fundamental principles. *Prerequisite*: General Physics, Differential and Integral Calculus. *Either semester. Two credits per semester.* Mackay Science Hall. Leifson.

75-76. GLASSBLOWING. A laboratory course of instruction in methods of making simple glass apparatus. *Either semester. One credit.* Mackay Science Hall. Leifson. Fee, \$5.

77-78. THERMIONIC VACUUM TUBES. A laboratory course of selected problems involving the determination of constants of vacuum tubes and vacuum tube circuits. One hour each week will be devoted to discussion and reports. *Prerequisite*: Physics 3-4-5-6 (or the equivalent), Differential and Integral Calculus. *Either semester. Two credits per semester.* Mackay Science Hall. Leifson. Fee, \$3.

101-102. MATHEMATICAL PHYSICS. An introduction to the more advanced mathematical analysis as applied to general physical problems. *Prerequisite*: Physics 53-54, 55-56, 57-58, and 59-60, and Mathematics 14, 25, 26, and 85. *Both semesters. One credit each semester.* Mackay Science Hall. Hartman.

103-104. THESIS WORK, and all special laboratory work not in the courses announced above. *Both semesters. Credits to be arranged.* Mackay Science Hall. Hartman.

POULTRY HUSBANDRY

MR. THORNTON

2. FARM POULTRY MANAGEMENT. Raising poultry under farm conditions. This course deals with the housing, raising of poultry, handling of stock for the market, and egg production, killing, dressing, diseases, hatching, and rearing of young chicks. Trips to local poultry farms. It is taught with special reference to farm conditions. *Second semester. Two lectures, one laboratory. Three credits.* Thornton, Fee, \$2.

8. TURKEY PRODUCTION AND MANAGEMENT. This course deals with the practical management of turkeys, primarily for meat production. No laboratory period is arranged for, but about two trips are planned each year, one at marketing time and one at hatching and breeding time. *Second semester. Two credits.* Thornton. Fee, \$2.

PSYCHOLOGY

PROFESSOR YOUNG, HEAD OF DEPARTMENT
ASSISTANT PROFESSOR IRWIN

Requirements for a major: Philosophy 1 or 2, Zoology 55, Sociology 71, Psychology 5, 51, 60, 62, 63, and six additional hours in the department.

Requirements for a minor: Psychology 5, 6 or 10, 62, and ten additional hours in the department.

2. HUMAN NATURE. A birdseye view of man's instincts, capacities and mental traits. The laws of learning and habit formation are emphasized. The principal aims of the course are: (1) To furnish a basis for the development of an effective method of study; (2) to present the principles that should be recognized in the conscious building of character; and (3) to develop greater social sympathy and understanding. This course is open to Freshmen. *Second semester. Two credits.* Education Building.

5. GENERAL PSYCHOLOGY. An introductory course dealing with forms and laws of consciousness. Lectures, prescribed readings, term paper. Not open to Freshmen. Required for two-year normal and high school teacher's diplomas. *Prerequisite to all other courses in the department except Psychology 2. Either semester. Three credits.* Education Building.

6. ELEMENTARY EDUCATIONAL PSYCHOLOGY. A consideration of the applications of psychology to educational problems. Required of normal students and four-year students

seeking the high school teacher's diploma. *Second semester. Three credits.* Education Building.

10. PSYCHOLOGY OF ADOLESCENCE. An intensive study of the characteristics dominant in the adolescent, with special emphasis upon applications to the work of the high school teacher. *Second semester. Two credits.* Education Building.

12. PSYCHOLOGY OF OCCUPATIONS. A brief review of the fundamental principles of psychology, and a study of their applications in the chief industries and occupations of mankind. *Second semester. Two credits.* Education Building.

40. MENTAL HYGIENE. A consideration of the principles of psychology in their relationship to mental health and efficiency. *Second semester. Three credits.*

51. SOCIAL PSYCHOLOGY. A study of the applications of psychology to the group-life of society: Communities, parties, nations, mobs, amusements, etc. *First semester. Three credits.* Education Building.

55. ABNORMAL PSYCHOLOGY. A study of the abnormal mind in its relation to behavior. The theory of the unconscious mind, sleep, dreams, hypnotism, and obsessions are major topics in the course. *First semester. Three credits.* Education Building.

57. PSYCHOLOGY OF ADVERTISING. An intensive study of the psychological laws which are basic in all effective advertising. *First semester. Two credits.*

59. MENTAL MEASUREMENTS. Lectures, practice, readings. Description of the more important tests of general intelligence and special ability, with some practice in testing, grading and interpreting results. Special attention will be given to the testing of school children, tests as a means of classifying employees, army personnel, etc. *First semester. Two credits.* Education Building. (Offered in alternate years).

60. COMPARATIVE PSYCHOLOGY. The genetic history of consciousness in animals, savages and civilized human beings. *Second semester. Two credits.* Education Building.

61. BUSINESS PSYCHOLOGY. A discussion and illustration of the mental laws upon which efficient buying, selling, advertising and management of men are based. *First semester. Two credits.* Education Building.

62. EXPERIMENTAL PSYCHOLOGY. A laboratory course in the application of scientific methods to the study of mental processes. Lectures, assigned readings, and laboratory. *Second semester. Three credits.* Education Building.

63. ADVANCED PSYCHOLOGY. An intensive study of selected problems. Lectures, readings and a term paper. *First semester. Two credits.* Education Building.

65. CRIMINAL AND LEGAL PSYCHOLOGY. The individual and social factors of crime and legal relationships, with special emphasis upon juvenile delinquency. Problems of the lawyer, educator and social worker are considered. A study is made of criminal personality and the nature, development, prevention, detection of crime and the criminal. Field trips will be taken. Offered alternate years, starting 1933-1934. *First semester. Two credits.*

102. RESEARCH IN PSYCHOLOGY. The thesis subject may be chosen from the field of child study, social or experimental psychology. For graduate students and Seniors. *Either semester. Two credits.* Education Building.

PROSPECTORS' SHORT COURSE

PROSPECTORS' SHORT COURSE

INTRODUCTORY

The Prospectors' Short Course was first given at the University in the spring of 1915; it was repeated yearly up to and including 1923. The last year or two it was given the enrollment dropped to such a low point that there was no purpose in continuing it.

The hard times of the last few years have revived the interest in prospecting and the University authorities believed there was a sufficient demand for the course to justify them in offering it again.

The first session of the revived course ran from January 16 to February 10, inclusive, 1933.

The 1934 session will run from January 15 to February 9, inclusive, 1934.

OBJECT

The object of the Prospectors' Short Course is to increase the efficiency of Nevada prospectors by giving them practical instruction which will be helpful to them in prospecting. The course is not intended to teach men unacquainted with prospecting how to become prospectors; and, although it may to some degree serve such an end (especially in the case of students who have received some training along chemical, geological and metallurgical lines), it is recommended that men without prospecting experience who wish to become prospectors enroll in certain of the regular courses at the Mackay School of Mines.

METHOD

The general method of instruction pursued is to cover the ground as outlined in the various courses at the conclusion of this bulletin, stopping at the request of any member of the class to go into details on any particular point which is not clear to that member. In this way a large amount of ground is covered in a short time; and yet subjects which are of special interest, or especially puzzling to members of the class are given rather full discussion.

REGISTRATION

The Prospectors' Short Course begins annually on the third Monday in January, lasting for a period of four weeks.

Students wishing to take the course should register on the opening day at the Registrar's office in Morrill Hall between 8 a. m. and 12 m.

EXPENSES

Room and board may be obtained at Lincoln Hall so long as accommodations are available, at the rate of about \$35 for the month. Room and board in town will cost more than this. No charges are made for instruction in this course, but a fee of \$5 is charged to cover the cost of supplies used, extra expenses incurred, etc. No textbooks are required, although certain books are recommended. The students will be expected to provide themselves with notebooks.

CERTIFICATE

Upon the satisfactory completion of the Prospectors' Short Course a certificate will be issued. While no formal examinations will be held, certificates will be issued only to those who attend with regularity, perform all experiments, and show good progress in their studies.

SUBJECTS TAUGHT IN PROSPECTORS' SHORT COURSE

1. PROSPECTING. Dealing with importance of prospecting and types of prospectors; equipment and transportation; the influence of topography, formations, geological disturbances, rock and mineral associations and weathering, on the selection of favorable locality; how to prospect by observation of surface and excavation; characteristics of placer deposits; of vein, contact, replacement, and bedded deposits. How to develop by trenching, tunneling and sinking, judging conditions at depth; consideration of technical studies of outcrops and geophysical methods of prospecting. *Eight lectures.* Mackay School of Mines. Professor Carpenter and Mr. Smith.

2. METALLURGY. Sampling, valuation, buying and selling ores; assaying gold, silver, copper, lead, zinc and minor metal ores; metallurgical treatment of ores by mechanical methods; wet and dry methods for recovering gold by plating and amalgamation; the cyanide process; smelting of ores. *Eight lectures.* Mackay School of Mines. Walter S. Palmer and Smyth.

3. MINERALOGY. Characters of minerals; methods of classification and determination; discussion of the important

minerals. *Eight lectures.* Mackay School of Mines. Gianella.

4. GEOLOGY. Geologic processes in and on the earth; origin and classification of rocks; action of running water in forming placer deposits; origin and circulation of underground waters; active forces in the earth's interior; types of ore deposits; weathering of ore deposits; nonmetalliferous deposits; mineral resources of Nevada; relation of geology to mining. *Twelve lectures.* Mackay School of Mines. Professors Gianella and Carpenter and Mr. Stoddard.

5. ELECTRICAL MACHINERY. Lectures and laboratory demonstration on the principles involved in the selection, installation and operation of mining electrical machinery. Stanley Palmer. Electrical Building.

6. CHEMISTRY. Outlines general field of chemistry and its application to modern life; general properties of precious metals, their usual compounds and associated elements; outline of simple method of separation and detection of copper, silver, lead and mercury; the occurrence, properties, methods of identification of the rare metals; experimental demonstrations accompany these lectures. *Four lectures.* Mackay Science Hall. Dean Adams, Professors Sears and Deming.

7. HYGIENE AND SANITATION. Deals with fundamental principles of human health, with particular reference to keeping fit and avoiding infectious diseases under prospecting and mining camp conditions. *Four lectures.* Agricultural Building. Frandsen.

8. MINING LAW. Main leading essentials to validity of a mining location. After "discovery" how to locate a mining claim; recordation of claim; relocation of abandoned claims or claims subject to forfeiture. *Four lectures.* Mackay School of Mines. Mr. Cooke.

AFFILIATED ORGANIZATIONS

1. AGRICULTURAL EXPERIMENT STATION
2. AGRICULTURAL EXTENSION DEPARTMENT
3. THE STATE ANALYTICAL LABORATORY
4. THE STATE BUREAU OF MINES
5. THE STATE HYGIENIC LABORATORY
6. LABORATORY FOR PURE FOOD AND DRUGS AND WEIGHTS AND MEASURES
7. THE STATE VETERINARY CONTROL SERVICE
8. UNITED STATES BUREAU OF MINES EXPERIMENT STATION

AFFILIATED ORGANIZATIONS

THE NEVADA AGRICULTURAL EXPERIMENT STATION

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
 SAMUEL B. DOTEN, M.A., Director, Entomology.
 GRACE COSTELLO, Librarian and Secretary to Director.
 CHARLES E. FLEMING, B.S.A., Range Management.
 CHESTER A. BRENNEN, B.A., Economist in Range Management.
 GRANT H. SMITH, JR., B.S., Assistant Range Economist.
 MARTHA R. BRUCE, Statistician in Range Management.
 ANDREW YOUNG, Assistant in Range Management.
 EDWARD RECORDS, V.M.D., Veterinary Science.
 LYMAN R. VAWTER, D.V.M., M.S., Associate in Veterinary Science.
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 CECIL KING HARRIS, B.S., Fellow in Chemistry.
 ROBERT STEWART, Ph.D., Soils Research.
 V. E. SPENCER, M.S., Associate in Soils Research.
 GEORGE HARDMAN, M.S., Irrigation.
 F. B. HEADLEY, Farm Development.
 CRUZ VENSTROM, B.S., Assistant in Farm Development.
 MILTON HOWARD, Route Statistician in Farm Development.
 LEAH REGAN, Clerk in Farm Cost Studies.
 MAXINE DUNCAN, Clerk in Farm Development.
 JAMES EDWARD CHURCH, JR., Ph.D., Meteorology.

Under provisions of the Hatch Act, approved March 2, 1887, the Agricultural Experiment Station was organized in December of that year. From the Hatch Fund the Experiment Station receives \$15,000 annually, from the Adams Fund, created by the Adams Act of 1906, it receives a like amount and from the Purnell Fund, created by the Purnell Act, approved February 25, 1925, it received \$20,000 during the fiscal year 1925-1926, and received \$10,000 additional for each fiscal year thereafter until the total reached \$60,000 in 1929. None of these funds can be applied to teaching or to the work of Agricultural Extension, because the object of all three funds is the investigation by scientific methods of problems in the agricultural industry.

The Nevada Experiment Station has chosen problems for study in five fields:

I. The problems of the most effective use of a limited water supply in crop production.

II. The problems of animal disease in the livestock industry of the State.

III. The problems arising from the depleted condition of Nevada ranges for sheep and cattle.

IV. The problems of small farm development in Nevada.

V. Economic problems in the Nevada cattle industry.

For 1932-1933 the active project list of the Station is as follows:

HATCH FUND

ENTOMOLOGY—

5. *Insects Injurious to Alfalfa*. 1916-Continuous. Project Leader, S. B. Doten.

RANGE MANAGEMENT—

24. *Methods of Producing More and Better Lambs in Nevada Range Flocks*. 1919-Continuous. Project Leader, C. E. Fleming.
 26. *Feeding and Finishing Range Ewes and Lambs*. 1920-Continuous. Project Leader, C. E. Fleming.
 27. *Pasturage and Silage Production for Sheep*. 1920-Continuous. Project Leader, C. E. Fleming. Assisted by M. R. Miller and Andrew Young.
 41. *Hog Feeding*. 1930-Continuous. Project Leader, F. B. Headley. Assisted by Cruz Venstrom.

ADAMS FUND

METEOROLOGY—

15. *Timber and Snow Studies and Snow Surveying*. Project Leader, Dr. J. E. Church.

VETERINARY SCIENCE—

16. *Hemorrhagic Disease in Cattle*. 1914-Continuous. Project Leader, Dr. Edward Records. Assisted by Dr. L. R. Vawter.
 36. *Lymphangitis in Cattle*. 1928-Continuous. Project Leader, Dr. Edward Records. Assisted by Dr. L. R. Vawter.

RANGE MANAGEMENT—

22. *Poisonous Range Plants*. 1916-Continuous. Project Leader, C. E. Fleming. Assisted by M. R. Miller, Dr. L. R. Vawter and Andrew Young.

PURNELL FUND

IRRIGATION—

29. *Studies in the Reclamation of Certain Desert Soils Under Irrigation from Artesian Wells in the Las Vegas Valley of Southern Nevada*. 1922-Continuous. Project Leader, George Hardman. Assisted by Dean Robert Stewart.

FARM DEVELOPMENT—

30. *Land Utilization and Farm Development Studies*. 1925-Continuous. Project Leader, F. B. Headley. Assisted by Cruz Venstrom.

32. *A Test of the Economic Efficiency of Alfalfa Hay as a Sole Ration for Dairy Cattle and Its Relation to Sterility.* 1925-Continuous. Project Leader, F. B. Headley.

RANGE MANAGEMENT—

31. *Studies of the Economics of Cattle Production Under Nevada Ranch and Range Conditions.* 1927-Continuous. Project Leader, C. A. Brennen.

SOIL FERTILITY—

34. *An Attempt to Determine the Value of Nitrogen in the Unhumified Soil Organic Matter of Gypsum and Allied Desert Soils of the Las Vegas Valley of Southern Nevada.* 1926-Continuous. Project Leader, Dean Robert Stewart. Assisted by V. E. Spencer and George Hardman.
35. *A Study of the Chemical and Physical Phenomena of the So-Called "Slick Spots," Impermeable Areas in the Gypsum Soils and Allied Soils of the Moapa and Las Vegas Valleys of Southern Nevada.* 1926-Continuous. Project Leader, Dean Robert Stewart. Assisted by V. E. Spencer and George Hardman.

VETERINARY SCIENCE—

39. *A Study of Types of Malnutrition Diminished Reproductive Activity and Lowered Resistance to Disease in Cattle Which Appear to be Due to Deficiencies in the Content of Certain Forms of Mineral Matter in Soil, Water and Forage.* 1929-Continuous. Project Leader, Dr. Edward Records. Assisted by Dr. L. R. Vawter, V. E. Spencer and M. R. Miller.
40. *Meningo-Encephalitis of Equines.* 1930-Continuous. Project Leader, Dr. Edward Records. Assisted by Dr. L. R. Vawter.

NEVADA AGRICULTURAL EXTENSION DEPARTMENT

Cooperating Parties

THE PRESIDENT AND THE BOARD OF REGENTS OF THE UNIVERSITY OF NEVADA.

THE EXTENSION SERVICE OF THE UNITED STATES DEPARTMENT OF AGRICULTURE.

THE STATE AND COUNTY FARM BUREAUS.

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University of Nevada.

CECIL W. CREEL, B.S., Director.

THOMAS E. BUCKMAN, B.S., Assistant Director for Agriculture.

MARY STILWELL BUOL, B.S., Assistant Director for Home Economics.

VERNER E. SCOTT, B.S., Extension Agricultural Economist.

LEWIS E. CLINE, B.S., Extension Agricultural Economist.

ALFRED L. HIGGINBOTHAM, M.A., Extension Editor.

MARGARET BRENNER, M.S., Extension Agent, Elko County.

H. ELWOOD BOERLIN, B.S., Assistant Extension Agent, Washoe County.

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HELEN M. GILLETTE, B.A., Extension Agent, Eureka, Lincoln and White Pine Counties.

LENA HAUKE, B.S., Extension Agent, Churchill and Lyon Counties.

M. GERTRUDE HAYES, B.A., Extension Agent, Washoe County.

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EDWARD C. REED, B.S., Extension Agent, Washoe County.

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JOHN H. WITTWER, B.A., Extension Agent, Clark and Lincoln Counties.

CHARLES W. STARK, B.S., Administrative Assistant.

FRANCES W. CONDON, Stenographer.

CARAVENE CROOK, Clerk.

M. JUANITA LOVELOCK, Financial Clerk.

MRS. FRANCES W. CONDON, Stenographer.

MAURINE STROMER, Stenographer.

MABEL WILSON, Stenographer.

Cooperative Extension Work in Agriculture and Home Economics is organized and conducted in Nevada under the provisions of the Smith-Lever Act of Congress, approved March 8, 1914, and the Capper-Ketcham Act of Congress, approved May 22, 1928. The Agricultural Extension Division as established under the Memorandum of Understanding with the U. S. Department of Agriculture dated September 8, 1914, as a "definite and distinct administrative division" of the University of Nevada, coordinate in rank and affiliating with the College of Agriculture and the Agricultural Experiment Station. All the extension activities of the College of Agriculture and the United States Department of Agriculture in Nevada are conducted through this department.

The nature of the work is defined in general terms by law as "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications and otherwise."

The work is annually outlined in written projects and budgets entered into by the cooperating parties. The major projects are Range Livestock, Dairying, Poultry, Crops, Home Improvement, Human Nutrition and Clothing. The organization for Extension Work in Nevada comprises an administrative and specialist staff resident at the University, and sixteen County and District Agents. Twelve Nevada counties have organized Farm Bureaus pursuant to Acts of the Legislature, approved April 1, 1919, and March 4, 1921. All extension work in these counties is conducted in cooperation with the Farm Bureaus.

THE STATE ANALYTICAL LABORATORY

Staff

WALTER E. CLARK, Ph.D. LL.D., President of the University.
 WALTER S. PALMER, E.M., Director.
 WILLIAM I. SMYTH, E.M., Chemist.
 VINCENT P. GIANELLA, M.S., Mineralogist and Geologist.

The State Analytical Laboratory was organized at the University of Nevada in 1895 under the provisions of an Act approved on March 16 of that year. Its object is to assist the mining industry of Nevada by making free analyses of minerals and ores taken from within the boundaries of Nevada by its citizens, and by reporting to the senders the results of such analyses, together with the uses and market values of the substances submitted.

The routine work of the laboratory is done by the director and chemist, with the geologist and mineralogist assisting with the unusual rocks and minerals.

Samples and specimens are listed and distributed in the order in which they are received at the laboratory, and are analyzed essentially in this order, but reports do not go out in the same order since some assays take much longer than others. The results obtained by analysis are given upon the reports for all substances.

The records of the laboratory are open to inspection, but visitors will not be permitted to see copies of reports until sufficient time has elapsed for the original reports to reach the hands of the senders.

THE STATE BUREAU OF MINES

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
 JOHN A. FULTON, E.M., Director.
 WALTER S. PALMER, E.M., Metallurgist.
 JAY A. CARPENTER, E.M., Mining Engineer.
 VINCENT P. GIANELLA, M.S., Mineralogist and Geologist.
 WILLIAM I. SMYTH, E.M., Analyst.
 B. F. COUCH, Secretary.
 CARL STODDARD, Field Engineer.

The Bureau of Mines of the State of Nevada was established by the 34th Legislature. The Act lodges the supervision of the Bureau with the Board of Regents of the University of Nevada. Under this Act it is the duty of the Board of Regents to select a Director and, upon the Director's nomination, such assistants and employees as necessary and to fix the compensation of these employees. The purposes of this Bureau are to conduct a mineralogical survey of the State, to catalogue both metallic and nonmetallic deposits, with addresses of the discoverer, owner or agent; to serve as a bureau of information and exchange in Nevada mining; to collect and publish statistics relative to Nevada mining; to prepare a bibliography of literature pertaining to Nevada mining and geology; to experiment in problems of Nevada concentration, dry placer, flotation methods, etc., and to publish the results; to collect geological and mineralogical specimens; to educate miners and prospectors through lectures and publications; to collect models, drawings and descriptions of appliances used in mining and metallurgical work; and to give consideration to such other kindred scientific and economic questions as in the judgment of the board shall be deemed of value to the people of the State.

The Legislature of 1933 granted only a nominal sum to the State Bureau of Mines for the biennium 1933-1934, making it necessary for the Bureau to suspend its activities during this biennium.

THE STATE HYGIENIC LABORATORY
(Sierra and Fifth Streets)*Staff*

WALTER E. CLARK, Ph.D., LL.D., President of the University.
 VERA LAUTENSCHLAGER, M.A., Acting Director.
 WARREN CHESTER EVELAND, A.B., Bacteriologist.
 ANNA HARGROVE, Part-Time Assistant.

The State Hygienic Laboratory was organized in 1909, under the provisions of an Act of the Legislature approved March 25 of that year. The object of the laboratory is to provide facilities for the laboratory diagnosis of infectious diseases and for research into the nature, cause, diagnosis, and methods for the control of such diseases. The services of the laboratory staff are rendered chiefly through the physicians, health officers, and health boards of the State.

The routine work of the laboratory consists chiefly of the examination of specimens for the diagnosis of tuberculosis, typhoid fever, diphtheria, malaria, gonorrhoea, and syphilis. Outfits for the collection of specimens for the diagnosis of these diseases may be obtained by any physician without charge.

Examinations are also made for meningitis, sore throat, and other infectious diseases.

Bacteriological examinations of water are made for cities, schools, mining camps, railway companies, and other organizations. The laboratory has available a small number of containers for sending water samples. Officials desiring water examinations to determine whether or not the water is polluted with sewage material or is the source of disease should write to the Director of the laboratory for instructions. Samples of water to be examined for industrial purposes should be sent to the Laboratory for Pure Food and Drugs.

Advice and assistance will, on request, be rendered health officials in the control of outbreaks of infectious diseases and in securing a sanitary water supply.

LABORATORY FOR PURE FOOD AND DRUGS AND WEIGHTS
AND MEASURES
(Sierra and Fifth Streets)

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
SANFORD C. DINSMORE, B.S., Commissioner.
WAYNE B. ADAMS, B.S., Chemist.
VICTOR COKEFAIR, Inspector.
RUTH SHIPAUGH, Clerk.

An Act providing for the inspection and analysis of foods, drugs, and liquors, manufactured or offered for sale within the State, was passed by the 1909 session of the Legislature, and became effective on January 1, 1910. The State law is modeled after the National Food and Drugs Act of June 30, 1906, and provides that all rules, regulations, definitions, and decisions proclaimed by the Secretary of Agriculture for the enforcement of the national law shall be adopted by this department in the enforcement of the State law.

With such provisions Nevada receives valuable aid through the federal regulations, and avoids conflict with neighboring States having laws also modeled closely after the national Act. Uniformity in State and National laws, and cooperation among officials is much to be desired, and more can be accomplished under such conditions than by working under laws that are dissimilar or antagonistic to established regulations that have been in vogue in States maintaining food laws for a number of years.

The laws of this State, being similar to the national law, obviate the necessity of manufacturers providing special labels to meet any special requirements that otherwise might exist in this State. Often labels are submitted to this department for approval or correction so that they will comply with the Nevada food law.

An Act concerning and fixing standard weights and measures, and to regulate the sale of commodities or articles of merchandise according to such standards, was passed by the 1911 session of the Nevada Legislature and became effective January 1, 1912.

The standard weights and measures adopted by the Government of the United States have been adopted as the legal

standard of weights and measures throughout the State of Nevada. With this adoption Nevada receives aid through the federal regulations and promotes uniformity in state and national standards.

The 1931 session of the State Legislature passed what is known as the Petroleum Products Inspection Act and the enforcement of this statute was delegated to the State Department of Weights and Measures.

THE STATE VETERINARY CONTROL SERVICE

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
 EDWARD RECORDS, V.M.D., Director.
 VERDIE FANT, B.S., Technician.
 JEAN HUGHES, B.A., Stenographer.

The State Veterinary Control Service was organized during 1915, under the provisions of an Act of the Legislature approved March 11, 1915. The object of this Department is to provide facilities for the routine diagnosis of communicable diseases of domesticated animals in the laboratory and the field, and to conduct research into the nature, cause, and means of control of such diseases, including the manufacture and distribution of special sera and vaccines for their control when these cannot be procured in the open market. This is intended to supplement the more elaborate research projects of the Department of Veterinary Science of the Agricultural Experiment Station and aid in the field work carried on by the State Board of Stock Commissioners and the State Board of Sheep Commissioners. From time to time bulletins and circulars dealing with the communicable diseases of domesticated animals and the most modern means of controlling the same are prepared and distributed.

The services of the staff are available to the veterinarians, livestock owners and ranchers of the State in connection with any problem coming within the scope of the work of this department.

DEPARTMENT OF COMMERCE

UNITED STATES BUREAU OF MINES RARE AND PRECIOUS
METALS EXPERIMENT STATION*Staff*

EDMUND S. LEAVER, Met.E. Supervising Engineer and Metallurgist.
 HENRY A. DOERNER, B.S., Associate Chemist.
 MILES B. ROYER, M.S., Assistant Metallurgist.
 JESSE A. WOLF, M.S., Assistant Metallurgist.
 WILLIAM O. VANDERBURG, E.M., Mining Engineer.
 PEIRCE R. PERRY, B.A., Junior Analytical Chemist.
 HARRY F. MCCRAY, Chief Clerk.

The Legislature of Nevada passed an Act in March, 1919, providing funds to house an experiment station of the United States Bureau of Mines at the University of Nevada. In June, 1920, the Bureau of Mines accepted the offer and agreed to establish one of its twelve field stations in the quarters provided by a building adjoining the Mackay School of Mines. This building provides office and laboratory facilities for the present staff of the Station, and allows for some future expansion of the work. The building was ready for occupancy in July, 1921, and was equipped during the succeeding three months.

The Nevada Station is known as the Rare and Precious Metals Experiment Station. The scope of the work embraces investigations on gold, silver, platinum, and the rare metals for the entire United States, and of other problems having especial importance for the mining and metallurgical industries of Nevada.

The laboratories and library of the Station will be found described elsewhere in this bulletin.

THE SUMMER SCHOOL

Carried on without support from University funds for the year 1931; not held in Summers of 1932 and 1933 because of retrenchment program.

WINNERS OF SCHOLARSHIPS AND HONORS, 1932

ROLL OF DEGREES GRANTED, 1932

ENROLLMENT SUMMARY FOR 1932-1933

ROSTER OF STUDENTS—August, 1932—May, 1933

Seniors elected to the National Honor Fraternity of the PHI KAPPA PHI, election being based upon scholarship:

Norman T. Annett	Margaret Fuller
Natalie Lindberg Arigoni	Alex Lohse
Frances J. Armbruster	Helen V. Montrose
Norman F. Blundell	Bruce R. Thompson
John Henry Fant	Frederick J. Weeks
Edwin T. Force	Bernard York

HONOR ROLL OF THE SENIOR CLASS, whose average for the four years is 1.5 or higher:

Margaret Fuller	Bruce Thompson
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Students whose names appeared on the HONOR SCHOLARSHIP ROLL both semesters of the year 1931-1932:

SENIORS	
John Fant	Bernon Janes
Natalie L. Arigoni	Edwin Murray
Margaret Fuller	Bruce Thompson
Dwight Nelson	

JUNIORS	
John B. White	Marjorie Myles
Velva Trulove	Rose Sala
Margaret Rawson	Harry Dunseath
Elsie Seaborn	Mason Myers
Helen K. Peterson	LeRoy Russell

SOPHOMORES	
Nevada Solari	Clara Galvin
Ina Johnson	Mary Williams
Ned Morehouse	Harold Westfall
David G. Clark	Russell Elliott
Virginia L. Cross	William Squires

FRESHMEN	
Sarah Graves	Grace Semenza
Ruby Bliss	Frank Leonard
Josephine Powers	Jack Belz
Florine Frank	Frandsen Loomis

GRADUATES

Diplomas and Degrees were awarded on Commencement Day, May 9, 1932, as follows:

ADVANCED DEGREES

ENGINEER OF MINES

Fred M. Linscott

MASTER OF SCIENCE IN CHEMISTRY

Gregory R. Adams

MASTER OF SCIENCE IN BIOLOGY

Mae Bernasconi Simas

MASTER OF ARTS IN HISTORY

Forrest R. Holdcamper

MASTER OF ARTS IN FRENCH

Leota Maestretti

MASTER OF ARTS IN ENGLISH

Walter Van Tilburg Clark
(December 19, 1931)

BACHELOR OF ARTS

Natalie Lindberg Arigoni	Leroy H. Chanslor
Frances J. Armbruster	Fred J. Collins
Alice May Atkinson (December 19, 1931)	Newton Hunt Crumley
Neil H. Austin	Philip M. De Longchamps
Irvin E. Ayer	Mildred Lucille De Witt
Mary I. Baird	George L. Dilworth
Nicholas Eberle Basta	Mary Harris Donaldson
Josephine Bernard	Charles C. Drake (December 19, 1931)
August L. Bernes (December 19, 1931)	Myra Durocher
Pauline W. Berrum	Margaret Edé
Malcolm S. Blakely	Dorothy Ernst
Elias Fijer Bumatay (December 19, 1931)	Frank Estes
Frances Case (December 19, 1931)	Eldridge Farnsworth
Emery F. Chace (September 11, 1931)	Edwin T. Force (December 19, 1931)
	Melva Irene Fowler
	Margaret Fuller
	Louise Gastanaga

BACHELOR OF ARTS—Continued

Emily Grace Gracey	Berry McAnally
Lydia M. Grandi	Edith Paulette McLaughlin
Anne Judkins Gregory	Robert Hale Merriman
John M. Griffin	Helen V. Montrose
Ethel Josephine Hanson	Dwight Alden Nelson
Jane Harcourt	Marchand Elise Newman
John Marshall Harlan (December 19, 1931)	Marion Claire Nichols
Ernestine Timm Harris	John Roderick Perkins
William A. Howard	Elmer C. Perry
Joseph Roland Jackson	Constance L. Philips
Bernon H. Janes	Albert Hayes Randolph
Anna N. Jensen	Gordon L. Robertson
Juanita Mae Johnson	Neil P. Scott
Wilma Martha Kennedy	Mary Ruth Seamon
Leland J. Laity	Elizabeth C. Seeds
Edgar K. Leonard	Charles Adelbert States
Marjorie F. Ligon (December 19, 1931)	Francis Marion Stone
Marie W. Lloyd	William Harland Stuart
Arthur Lucas	Harold Taber
George M. Maclean	Rose Taverna
Evelyn Mathilde Madsen (December 19, 1931)	Anthony O'Neil Tesone
Mary Evelyn Malloy (December 19, 1931)	Bruce R. Thompson
	Mae Vuich
	Inez Kathrine Walker
	Margaret Walts
	Frederick Weston Wilson, Jr.

Jean Zuick

BACHELOR OF SCIENCE

Edwin Lowell Cantlon	Francis R. Smith
Lawrence W. Carter	Ruth Racine Stewart
Ethel Middleton Manson	Fred B. Trevitt
Walter D. Mitchell, Jr.	M. Fern Wittwer

BACHELOR OF SCIENCE IN CHEMISTRY

Cecil King Harris

BACHELOR OF SCIENCE IN MINING ENGINEERING

Norman T. Annett	Gilbert John Matthews
Joseph A. De Reemer (February 1, 1931)	Bernard York

BACHELOR OF SCIENCE IN GEOLOGICAL ENGINEERING

Minter Ellis Harris

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Philip D. Daver	Richard Ellis Fry (December 19, 1931)
Calvin James Dodson	Donald Albert Knapp (December 19, 1931)
William J. Dumble	Alex Lohse
Chester H. Elliott	Donald Greive Reed
Fred Raymond Fader	Orvis E. Reil
John Henry Fant	

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING	
Richard Newton Browne	Edwin B. Michal
Amar Chand Lakhampal	Edwin Douglas Murray
Albert N. Tibbits	

BACHELOR OF SCIENCE IN CIVIL ENGINEERING	
John B. Albin	Carleton L. King (December 19, 1931)
Norman F. Blundell	Fred William Morrison
Gerry Brumund	Harold Miller Pearson
William Albert Davis	Claude T. Snooks
Willard T. Douglas	Maxwell Thompson
Carl Henry Elges, Jr.	Cy Hayden Wainwright

BACHELOR OF SCIENCE IN AGRICULTURE	
Robert J. Bankofier	Earle J. Holmes
Arvin E. Boerlin	Vernon L. Mills (December 19, 1931)
Robert E. Dutton	Benjamin Solari
Louie A. Gardella	Frederic J. Weeks
Attilio R. Genasci (December 19, 1931)	John D. Nevers Winters

BACHELOR OF SCIENCE IN HOME ECONOMICS	
Elizabeth Allen	Dorothy E. Kallenbach
Matilda Belmonte	Beatrice S. Patterson
Grace Thurston Foster	Verna Annette Selmer

TEACHER'S DIPLOMA OF HIGH SCHOOL GRADE	
Elizabeth Allen	Myra Durocher
Natalie Lindberg Arigoni	Dorothy Ernst
Mary I. Baird	Eldridge Farnsworth
Matilda Belmonte	Edwin T. Force (December 19, 1931)
Pauline W. Berrum	Melva Irene Fowler
Elias Fijer Bumatay (December 19, 1931)	Margaret Fuller
Mildred Lucille De Witt	Emily Grace Gracey
George L. Dilworth	Lydia M. Grandi

TEACHER'S DIPLOMA OF HIGH SCHOOL GRADE—Continued

Earle J. Holmes	Dwight Alden Nelson
William A. Howard	Beatrice S. Patterson
Anna N. Jensen	Elmer C. Perry
(December 19, 1931)	Constance L. Phillips
Juanita Mae Johnson	Orvis E. Reil
Marjorie F. Ligon	Mary Ruth Seamon
(December 19, 1931)	Elizabeth C. Seeds
Marie W. Lloyd	Verna A. Selmer
Arthur Lucas	Harold Taber
Evelyn Mathilde Madsen	Anthony O'Neil Tesone
(December 19, 1931)	Mae Vuich
Ethel Middleton Manson	Inez Kathrine Walker
Berry McAnally	M. Fern Wittwer
Helen V. Montrose	Jean Zuick

TEACHER'S DIPLOMA OF GRAMMAR GRADE

Esther G. Barrett	Esther A. Pirtle
Marguerite J. Bridges	Dorothy C. Ray
Fern Elges Bushing	(December 19, 1931)
Margaret E. Hunt	Rees Rechel
(December 19, 1931)	Carol R. Scott
Viola Huyck	Edith Smith
Grace C. Little	Ren Earlin Tobler
Theresa Modarelli	Hannah Webster
Lillian Evans Osburn	Margaret Livingston Wells

ENROLLMENT SUMMARY
COLLEGE OF ARTS AND SCIENCE

Seniors.....	109
Juniors.....	139
Sophomores.....	157
Freshmen.....	180
Graduate.....	86
Unclassified.....	28
Specials.....	17
	716
NORMAL	
Juniors.....	1
Sophomores.....	15
Freshmen.....	25
Specials.....	1
	42
COLLEGE OF ENGINEERING	
<i>Mackay School of Mines—</i>	
Seniors.....	6
Juniors.....	10
Sophomores.....	16
Freshmen.....	11
Graduate.....	4
Unclassified.....	1
Specials.....	3
	51
<i>School of Mechanical Engineering—</i>	
Seniors.....	2
Juniors.....	7
Sophomores.....	13
Freshmen.....	6
Graduate.....	1
Unclassified.....	3
	32
<i>School of Civil Engineering—</i>	
Seniors.....	12
Juniors.....	4
Sophomores.....	12
Freshmen.....	15
Graduate.....	1
	44
<i>School of Electrical Engineering—</i>	
Seniors.....	8
Juniors.....	26
Sophomores.....	18
Freshmen.....	23
Graduate.....	2
Unclassified.....	1
Specials.....	1
	79
COLLEGE OF AGRICULTURE	
<i>School of Agriculture—</i>	
Seniors.....	5
Juniors.....	7
Sophomores.....	3
Freshmen.....	7
Graduate.....	5
Unclassified.....	1
Specials.....	5
	33
<i>School of Home Economics—</i>	
Seniors.....	8
Juniors.....	8
Sophomores.....	13
Freshmen.....	15
Graduate.....	1
	45
Total University.....	1042
Enrollment of Men.....	594
Enrollment of Women.....	448
Total Enrollment.....	1042
Total Short Course for Prospectors.....	21
Grand Total Enrollment.....	1063

ROSTER OF STUDENTS

GRADUATE

Gregory R. Adams.....	Arts and Science.....	Reno
Albert W. Alegre.....	Arts and Science.....	Winnemucca
Clark Amens.....	Arts and Science.....	Reno
Gretchen Appel.....	Arts and Science.....	Sparks
Frances Armbruster.....	Arts and Science.....	Reno
Irvin E. Ayer.....	Arts and Science.....	Reno
James C. Bailey.....	Arts and Science.....	Fallon
Kenneth L. Ball.....	Arts and Science.....	Sparks
Malcolm S. Blakely.....	Arts and Science.....	Reno
La Verne Blundell.....	Arts and Science.....	Sparks
Catherine Brower.....	Arts and Science.....	Reno
Thomas E. Buckman.....	Agriculture.....	Reno
Wayne Buerer.....	Arts and Science.....	Reno
Elias F. Bumatay.....	Arts and Science.....	Philippine Islands
Mrs. Mary S. Buol.....	Arts and Science.....	Reno
Euphemia Clark.....	Arts and Science.....	Reno
Lewis E. Cline.....	Agriculture.....	Reno
Fred J. Collins.....	Arts and Science.....	Reno
Mrs. Gladys J. Crosby.....	Arts and Science.....	Reno
Dwight F. Dilts.....	Arts and Science.....	Sparks
Helen Dunn.....	Arts and Science.....	Reno
Edward A. Dyer.....	Arts and Science.....	Reno
Carl H. Elges.....	Civil Engineering.....	Reno
Edna V. Ericson.....	Arts and Science.....	Reno
Norman J. Ericson.....	Mines.....	Reno
John H. Fant.....	Arts and Science.....	Lovelock
Verdie L. Fant.....	Arts and Science.....	Reno
S. C. Feemster.....	Mechanical Engineering.....	Reno
Laurence E. Fish.....	Mines.....	Benicia, Calif.
Ruth V. Foster.....	Arts and Science.....	Reno
Melva I. Fowler.....	Arts and Science.....	Reno
Anna Frey.....	Arts and Science.....	Reno
Mrs. Ethel L. Frost.....	Arts and Science.....	Reno
George F. Gadda.....	Arts and Science.....	Reno
Evelyn H. Gault.....	Arts and Science.....	Reno
Robert Geyer.....	Electrical Engineering.....	Reno
Muriel Goodwin.....	Arts and Science.....	Sparks

Helen Gould.....	Arts and Science.....	Reno
Rev. Fred D. Graves.....	Arts and Science.....	Reno
Mrs. Hazel Harrington.....	Arts and Science.....	Reno
Cecil K. Harris.....	Arts and Science.....	Reno
Everett W. Harris.....	Electrical Engineering.....	Reno
Bernard Hartung.....	Arts and Science.....	Reno
James R. Henrichs.....	Arts and Science.....	Reno
William B. Hilbish.....	Arts and Science.....	Sparks
Martha N. Huber.....	Arts and Science.....	Reno
Grace Hulse.....	Arts and Science.....	Reno
Frances M. Humphrey.....	Arts and Science.....	Reno
Alvin H. Jacobs.....	Arts and Science.....	Reno
Bernon H. Janes.....	Arts and Science.....	Reno
Mrs. Inez L. Johnson.....	Arts and Science.....	Reno
Marian Jones.....	Arts and Science.....	Reno
Ruth M. Jones.....	Arts and Science.....	Reno
Lewis E. Kehoe.....	Arts and Science.....	Sparks
Wilma Kennedy.....	Arts and Science.....	Reno
Rochelle Kincaid.....	Arts and Science.....	Reno
Vera E. Lautenschlager.....	Arts and Science.....	Reno
Mrs. Kathryn C. Lincoln.....	Arts and Science.....	Reno
Marie Lloyd.....	Arts and Science.....	Reno
Alex Lohse.....	Arts and Science.....	Fallon
Fred Lohse.....	Arts and Science.....	Fallon
Alice R. Lunsford.....	Arts and Science.....	Reno
Evelyn Mantle.....	Arts and Science.....	Sparks
Norma Mason.....	Arts and Science.....	Reno
Gilbert Matthews.....	Mines.....	Reno
Alfred C. McConaughy.....	Arts and Science.....	Sparks
Nelson M. Mekeel.....	Arts and Science.....	Reno
Blaine H. Menke.....	Arts and Science.....	Reno
Loretta Miller.....	Arts and Science.....	Reno
Francis S. Oakberg.....	Arts and Science.....	Reno
Clare O'Sullivan.....	Arts and Science.....	Reno
Mrs. Irma M. Parmeter.....	Home Economics.....	Reno
Anthony Paroni.....	Mines.....	Reno
Brainerd Plehn.....	Arts and Science.....	Berkeley, Calif.
Katherine Priest.....	Arts and Science.....	Sparks
Natalie Proskey.....	Arts and Science.....	Reno
Jean J. F. Rauzy.....	Arts and Science.....	Reno
Violet E. Rebaleati.....	Arts and Science.....	Eureka
Edward C. Reed.....	Agriculture.....	Reno
Orvis E. Reil.....	Arts and Science.....	Winnemucca

Delbert F. Rey.....	Arts and Science.....	Reno
Gordon L. Robertson.....	Arts and Science.....	Reno
Ellinor Robinson.....	Arts and Science.....	Fallon
Lionel R. Scott.....	Arts and Science.....	Reno
Verner E. Scott.....	Agriculture.....	Reno
Chester M. Scranton.....	Arts and Science.....	Reno
Alwine Sielaff.....	Arts and Science.....	Reno
Joyce Snyder.....	Arts and Science.....	Reno
Mary N. Sourwine.....	Arts and Science.....	Reno
Ruth R. Stewart.....	Arts and Science.....	Reno
Harland W. Stuart.....	Arts and Science.....	Fallon
Harold O. Taber.....	Arts and Science.....	Reno
C. B. Tapscott.....	Arts and Science.....	Fernley
Winifred Thomas.....	Arts and Science.....	Reno
Daniel H. Trevitt.....	Arts and Science.....	Reno
Cruz Venstrom.....	Agriculture.....	Reno
Ralph Warren.....	Arts and Science.....	Reno
Willard Weaver.....	Arts and Science.....	Reno
Alberta Weule.....	Arts and Science.....	Truckee, Calif.
Fern Wittwer.....	Arts and Science.....	Reno

SENIORS

Fernando Ambrose.....	Arts and Science.....	Yerington
Donna M. Anderson.....	Arts and Science.....	San Francisco
Bonnie Jean Austin.....	Arts and Science.....	Reno
Calvin Banigan.....	Arts and Science.....	Reno
Roy G. Bankofier.....	Agriculture.....	McDermitt
Lois V. Barber.....	Home Economics.....	Reno
Walter S. Baring.....	Arts and Science.....	Reno
Marcelle H. Barkley.....	Arts and Science.....	Fallon
Frances R. Barnes.....	Home Economics.....	Reno
Cleto Bengoa.....	Civil Engineering.....	McDermitt
Hugh Bernecker.....	Arts and Science.....	Reno
Ruth E. Bixby.....	Arts and Science.....	Reno
Blythe C. Bulmer.....	Arts and Science.....	Reno
Beale E. Cann.....	Arts and Science.....	Fallon
Gordon A. Carman.....	Arts and Science.....	Hawthorne
Donald F. Carmody.....	Arts and Science.....	Reno
John E. Chism.....	Electrical Engineering.....	Reno
Arthur D. Chloupek, Jr.....	Arts and Science.....	Truckee, Calif.
Gladys M. Clark.....	Arts and Science.....	Reno
Beatrice H. Cobb.....	Arts and Science.....	Reno
Virginia L. Cole.....	Arts and Science.....	Reno

Mrs. Laila Conard.....	Arts and Science.....	Marina, Calif.
Dorothy M. Cooper.....	Arts and Science.....	Reno
Blanche B. Cosby.....	Arts and Science.....	Winnemucca
George W. Davis.....	Arts and Science.....	Reno
Angela De Nevi.....	Arts and Science.....	Dayton
Denise Denson.....	Arts and Science.....	Reno
Charles R. Douglass, Jr.....	Electrical Engineering.....	Tonopah
Harry Dunseath.....	Electrical Engineering.....	Reno
Eva Edwards.....	Home Economics.....	Panaca
Fred L. Eikelberger.....	Arts and Science.....	Reno
Margot Evans.....	Arts and Science.....	Reno
Wyman W. Evans.....	Arts and Science.....	Reno
Renard W. Farrar.....	Mines.....	Napa, Calif.
Beatrice D. Figow.....	Arts and Science.....	Reno
Mrs. Ruth C. Finley.....	Arts and Science.....	Reno
M. Nadine Fischer.....	Arts and Science.....	Sacramento, Calif.
Joe R. Fisher.....	Arts and Science.....	Virginia City
Fred L. Fletcher.....	Electrical Engineering.....	Reno
Armena M. Fritz.....	Arts and Science.....	Reno
Frances Fuller.....	Arts and Science.....	Reno
Howard M. Galloway.....	Mechanical Engineering.....	Reno
Leonora T. Gardella.....	Arts and Science.....	Reno
Virginia F. Garside.....	Arts and Science.....	Las Vegas
George D. Gilbert.....	Civil Engineering.....	Sacramento, Calif.
Mildred Goble.....	Home Economics.....	Sparks
Cornelius H. Grabbe.....	Civil Engineering.....	Alton, Ill.
Eileen Haffey.....	Arts and Science.....	Reno
Mrs. Edmonia Hammitt.....	Arts and Science.....	Reno
Earl H. Handley.....	Arts and Science.....	Reno
Katherine S. Hansen.....	Arts and Science.....	Yerington
Geraldine E. Harbert.....	Arts and Science.....	Jarbidge
Lorna Enid Harris.....	Arts and Science.....	Reno
Robert D. Harrison.....	Arts and Science.....	Berkeley, Calif.
Ellen Prince Hawkins.....	Arts and Science.....	Reno
Cora K. Henriksen.....	Arts and Science.....	Fallon
Dorothy L. Hersey.....	Arts and Science.....	Carson City
Mildred M. Huber.....	Home Economics.....	Reno
Carolyn L. Hunt.....	Arts and Science.....	Boise, Idaho
Mrs. Ruth E. Jeffries.....	Arts and Science.....	Reno
Arvid H. Johnson.....	Arts and Science.....	Reno
Millicent E. Johnson.....	Arts and Science.....	Reno
William W. Kellison.....	Arts and Science.....	Sparks

Telfer Kitchen.....	Civil Engineering	Reno
Robert B. Knight.....	Arts and Science	Gardnerville
James Dwight Leavitt.....	Arts and Science	Elko
Keith L. Lee.....	Agriculture	Panaca
Kathryn Ligon.....	Arts and Science	Reno
J. Walter Linehan.....	Arts and Science	Reno
Fredrica Lippman.....	Arts and Science	Sparks
Maryalice Loomis.....	Arts and Science	Reno
Vernon E. Loveridge.....	Arts and Science	Sparks
Mildred N. Madsen.....	Arts and Science	Reno
Philip J. Mann.....	Arts and Science	San Francisco
John I. Mariani.....	Arts and Science	Sparks
Eileen M. Martin.....	Arts and Science	Reno
Isabelle Matley.....	Arts and Science	Reno
Walter H. Mattson.....	Civil Engineering	San Bruno, Calif.
Kathryn McCormack.....	Arts and Science	Reno
Joseph T. McDonnell.....	Arts and Science	Reno
John C. McNamara.....	Arts and Science	Reno
Elmer B. Mellor.....	Civil Engineering	Sacramento, Calif.
Robert W. Millard.....	Civil Engineering	Ely
Marguerite M. Miller.....	Arts and Science	Fernley
Matthew C. Mohorovich.....	Arts and Science	Jackson, Calif.
Theodore C. Moore.....	Arts and Science	Winnemucca
Edith Mortensen.....	Arts and Science	Reno
Milton S. Murphy.....	Electrical Engineering	Reno
Mason K. Myers.....	Civil Engineering	Visalia, Calif.
Jack T. Myles.....	Arts and Science	Reno
Marjorie P. Myles.....	Arts and Science	Reno
Sara E. Nash.....	Arts and Science	Reno
Donald B. O'Connell.....	Arts and Science	Reno
Helen Olmsted.....	Arts and Science	Wells
Margaret Park.....	Arts and Science	Gardnerville
Mildred Park.....	Arts and Science	Gardnerville
Maryann B. Peck.....	Arts and Science	Boulder City
Elmer G. Pedrolli.....	Arts and Science	Reno
Lucas Penido.....	Arts and Science	Philippine Islands
Lena B. Perri.....	Arts and Science	Yerington
Helen K. Peterson.....	Arts and Science	Elko
Blanche F. Radcliffe.....	Home Economics	Reno
Henry T. Rampoldi.....	Arts and Science	Elko
Marvel F. Ranson.....	Arts and Science	Reno
Margaret Rawson.....	Arts and Science	Reno

Edmond B. Recanzone.....	Agriculture	Paradise Valley
Walter G. Reid.....	Civil Engineering	Reno
Louise Reil.....	Arts and Science	Winnemucca
Della Renfro.....	Arts and Science	Fallon
Raymond J. Robinson.....	Electrical Engineering	Fallon
Le Roy B. Russell.....	Civil Engineering	Stockton, Calif.
Rose Sala.....	Arts and Science	Reno
Le Roy Salisbury.....	Arts and Science	Reno
Harold D. Sanford.....	Mechanical Engineering	Carson City
Ruth E. Sauer.....	Arts and Science	Carson City
Elizabeth B. Saxton.....	Arts and Science	Sparks
Earle B. Seaborn.....	Mines	Reno
Elsie D. Seaborn.....	Arts and Science	Reno
Albert G. Seeliger.....	Arts and Science	Winnemucca
Oliver G. Seymour.....	Mines	Sparks
Doris E. Shaver.....	Arts and Science	Sparks
Neva Shaw.....	Arts and Science	Reno
Edgar L. Shepley.....	Arts and Science	Sparks
Fred F. Small, Jr.....	Civil Engineering	Sparks
Chester B. Smith.....	Arts and Science	Glendale, Calif.
Howard E. Smith.....	Arts and Science	Sparks
Winston L. Somerville.....	Civil Engineering	Westwood, Calif.
Pearce R. Spicknall.....	Arts and Science	Visalia, Calif.
Fred Spitz.....	Arts and Science	San Francisco
William H. Squires.....	Electrical Engineering	Virginia City
Helen Steinmiller.....	Arts and Science	Reno
C. Kerby Stoddard.....	Arts and Science	Reno
Marjorie K. Stout.....	Arts and Science	Sparks
Olivin M. Sturla.....	Agriculture	Wadsworth
Walter R. Sutherland.....	Arts and Science	Reno
Charles E. Thompson.....	Mines	Pioche
John H. Thurston.....	Arts and Science	Oakland, Calif.
Virginia L. Trevitt.....	Arts and Science	Van Nuys, Calif.
Mary Trudelle.....	Arts and Science	Carson City
Velva C. Trulove.....	Arts and Science	Sparks
Benton Turner, Jr.....	Mines	Los Angeles, Calif.
Walter D. Vance.....	Electrical Engineering	Oakland, Calif.
Margaret Waymire.....	Arts and Science	Overton
Teddie Webb.....	Home Economics	Reno
Jackson H. Woodward.....	Mines	Reno
R. Marshall Woodward.....	Agriculture	Reno
Jack T. Wright.....	Arts and Science	Reno

Katherine N. Wright.....Home Economics.....Reno
 James Allen Young.....Arts and Science.....Reno
 Vera Zadow.....Arts and Science.....Reno

JUNIORS

Sam M. Ackerman.....Civil Engineering.....Reno
 Paul Adams.....Arts and Science.....Hawthorne
 Orville W. Anderson.....Electrical Engineering.....Reno
 Robert N. Anderson.....Electrical Engineering.....San Francisco
 Samuel S. Arentz.....Mines.....Simpson
 Donald W. Atcheson.....Arts and Science.....Reno
 Merle H. Atcheson.....Electrical Engineering.....Gardnerville
 Kenneth E. Austin.....Arts and Science.....McGill
 Kenneth L. D. Austin.....Arts and Science.....Reno
 Irvin L. Ayres.....Arts and Science.....Reno
 Sherman F. Bacon.....Mechanical Engineering.....Reno
 Isabel O. Baker.....Arts and Science.....Reno
 Alice M. Batchelder.....Home Economics.....Elko
 Charles E. Bath.....Arts and Science.....Reno
 Bud L. Beasley.....Arts and Science.....Battle Mountain
 William R. Beemer.....Electrical Engineering.....Sparks
 Walter Bell.....Agriculture.....Reno
 Adeline C. Belmonte.....Arts and Science.....Stewart
 William E. Best.....Electrical Engineering.....Fallon
 Geraldine E. Bingaman.....Arts and Science.....Oakland, Calif.
 Daniel P. Bledsoe.....Arts and Science.....Reno
 Monty Boland.....Arts and Science.....Reno
 Beatrice Bollschweiler.....Home Economics.....Wells
 Roland F. Boyden.....Mech. Engineering.....Alhambra, Calif.
 Charles D. Brown.....Arts and Science.....Reno
 Harold B. Brown.....Arts and Science.....Virginia City
 Ruth E. Brown.....Arts and Science.....Oakland, Calif.
 John Chase Bryan.....Mech. Engineering.....Placencia, Calif.
 Cora E. Bryant.....Home Economics.....Bridgeport, Calif.
 Mary E. Burt.....Arts and Science.....Goldfield
 Donald E. Butler.....Arts and Science.....Sparks
 Garry J. Callahan.....Arts and Science.....Fallon
 Elizabeth Carpenter.....Arts and Science.....Reno
 James Cazier.....Electrical Engineering.....Wells
 Camille L. Cerrita.....Arts and Science.....Reno
 Ervin H. Christensen.....Electrical Engineering.....Sparks
 David G. Clark.....Arts and Science.....Reno
 Norman W. Clay.....Arts and Science.....Reno

Richard M. Clewett.....Arts and Science.....Yerington
 Gladys Compston.....Arts and Science.....Wellington
 John F. Conlon.....Arts and Science.....Yerington
 Richard Cooke.....Arts and Science.....Reno
 Alice E. Couch.....Arts and Science.....Reno
 Virginia L. Cross.....Arts and Science.....Sparks
 Maxwell Crowell.....Mines.....Greenfield, Ind.
 William J. Crowell.....Arts and Science.....Tonopah
 Bernadine I. Cupit.....Arts and Science.....Reno
 Harold J. Curran.....Arts and Science.....Reno
 Albert D'Alessandro.....Electrical Engineering.....Lovelock
 Allene Daniels.....Arts and Science.....Reno
 Hazel E. Davis.....Arts and Science.....Yerington
 John De Kinder.....Electrical Engineering.....Lovelock
 Lino Del Grande.....Electrical Engineering.....Verdi
 Louis Dellamonica.....Electrical Engineering.....Yerington
 Clifford Devine.....Arts and Science.....Sparks
 Florence Diskin.....Arts and Science.....Reno
 John T. Dolan.....Arts and Science.....Reno
 Beverly F. Douglas.....Arts and Science.....Reno
 Wendell H. Duplantis.....Arts and Science.....Reno
 Ellen M. Eckman.....Arts and Science.....Battle Mountain
 Kenneth L. Elges.....Arts and Science.....Reno
 Russell R. Elliott.....Arts and Science.....McGill
 Martin G. Evansen.....Arts and Science.....Hawthorne
 Claire Fitzgerald.....Arts and Science.....Sacramento, Calif.
 Granville A. Fletcher.....Arts and Science.....Las Vegas
 John D. Flournoy.....Agriculture.....Alturas, Calif.
 Kerwin L. Foley.....Arts and Science.....Sparks
 Paul Fontana.....Electrical Engineering.....Reno
 Frederic J. Foster.....Arts and Science.....Ruth
 Frederic T. Fuetsch.....Mechanical Engineering.....Reno
 Roctor B. Fuhrman.....Arts and Science.....Reno
 Clara E. Galvin.....Arts and Science.....Sparks
 Mary V. Gates.....Arts and Science.....Reno
 Nolan W. Gault.....Agriculture.....Reno
 Alta Belle Germain.....Arts and Science.....Reno
 William Gilmartin.....Arts and Science.....Sparks
 Emyne Goodin.....Arts and Science.....Reno
 Angelo E. Granata.....Electrical Engineering.....Reno
 Mary M. Griffin.....Arts and Science.....Sparks
 Lionel Grindell.....Mines.....Reno

Jessie A. Gulling.....	Arts and Science.....	Reno
Abigail M. Hackett.....	Arts and Science.....	Reno
Raymond Hackett.....	Arts and Science.....	Reno
Howard J. Hart, Jr.....	Elec. Engineering.....	Piedmont, Calif.
William Chesley Hart.....	Electrical Engineering.....	Reno
Paul L. Hartman.....	Electrical Engineering.....	Reno
Dan M. Harvey.....	Electrical Engineering.....	Reno
John J. Hill.....	Arts and Science.....	Reno
Floyd L. Holt.....	Arts and Science.....	Dallas, Ore.
Robert L. Horschman.....	Mechanical Engineering.....	Reno
Joseph E. Horton.....	Arts and Science.....	Battle Mountain
Lois Hutchinson.....	Arts and Science.....	Reno
Theresa Jauregui.....	Arts and Science.....	Elko
Edna Jensen.....	Arts and Science.....	Reno
Elna Jensen.....	Arts and Science.....	Reno
Ina G. Johnson.....	Arts and Science.....	Reno
Kenneth F. Johnson.....	Arts and Science.....	Reno
Lawrence J. Kearney.....	Mechanical Engineering.....	Reno
Elsie Kibbee.....	Arts and Science.....	Winnemucca
Fred C. Kingsley.....	Agriculture.....	Yerington
Graham T. Kislisbury.....	Arts and Science.....	San Francisco
Charles D. Koerner.....	Arts and Science.....	Westwood, Calif.
Margaret Kornmayer.....	Home Economics.....	Reno
Fred La Marsna.....	Electrical Engineering.....	Taft, Calif.
Anna Belle Langberg.....	Arts and Science.....	Reno
Ardis Laub.....	Arts and Science.....	Goldfield
Florence A. Lehmkuhl.....	Home Economics.....	Pinole, Calif.
Robert S. Leighton.....	Civil Engineering.....	Wells
Robert C. Litts.....	Arts and Science.....	Lodi, Calif.
Nell J. Lozano.....	Arts and Science.....	Reno
Blanche L. Lucas.....	Arts and Science.....	Fallon
Pearl A. Lunsford.....	Arts and Science.....	Reno
Margaret Lyon.....	Arts and Science.....	Reno
Robert P. Marean.....	Arts and Science.....	Fallon
Kathryn Martin.....	Arts and Science.....	Reno
Margaret Martin.....	Arts and Science.....	Reno
Mary E. McCulloch.....	Arts and Science.....	Lovelock
Patricia McCulloch.....	Arts and Science.....	Fernley
Philip C. McGuire.....	Mines.....	Wells
Hugh McIntyre.....	Electrical Engineering.....	Reno
Jean McIntyre.....	Arts and Science.....	Reno
James Norman McKenzie.....	Electrical Engineering.....	Verdi
Bruce K. Moore.....	Arts and Science.....	Reno

Ned R. Morehouse.....	Electrical Engineering.....	Fallon
Echo Morgan.....	Normal.....	Fallon
Wanda L. Morrill.....	Arts and Science.....	Reno
Gladys C. Morris.....	Arts and Science.....	Reno
Margery E. Mullen.....	Arts and Science.....	Tonopah
Ralph G. Myers.....	Arts and Science.....	Goldfield
Fred Nagel.....	Electrical Engineering.....	Reno
Leo D. Nannini.....	Arts and Science.....	Reno
W. Mary Nay.....	Arts and Science.....	Reno
Charles S. Nichols, Jr.....	Arts and Science.....	Reno
Paul L. Nichols.....	Electrical Engineering.....	Reno
Dudley W. Nix.....	Arts and Science.....	Reno
Albert J. O'Connell.....	Arts and Science.....	Ely
Anne M. O'Neill.....	Arts and Science.....	Tonopah
Theodore D. Overton.....	Mines.....	Reno
Robert S. Palmer.....	Electrical Engineering.....	Reno
Gaile C. Parsons.....	Arts and Science.....	Reno
Kathryn C. Pelizzari.....	Arts and Science.....	Reno
Margaret Place.....	Arts and Science.....	Berkeley, Calif.
Neil W. Plath.....	Electrical Engineering.....	Reno
Raymond J. Poncia.....	Arts and Science.....	Sparks
Charlotte E. Pope.....	Arts and Science.....	Virginia City
Dorothy E. Pope.....	Arts and Science.....	Virginia City
Alonzo Priest.....	Arts and Science.....	Sparks
Antoine Primeaux.....	Arts and Science.....	Carlin
Marjorie Record.....	Arts and Science.....	Reno
Edward T. Redman.....	Arts and Science.....	Reno
Jack R. Reed.....	Mechanical Engineering.....	Napa, Calif.
Emily Richards.....	Arts and Science.....	Reno
F. Kistler Rivers.....	Arts and Science.....	Reno
Dortha Robertson.....	Arts and Science.....	Reno
Ida L. Rogers.....	Arts and Science.....	Reno
Dorothy A. Rose.....	Arts and Science.....	Reno
Adelyn M. Rotholtz.....	Arts and Science.....	Reno
Helen Jean Rowe.....	Arts and Science.....	Reno
Eugene A. Salet.....	Arts and Science.....	Fernley
Frank Sam.....	Mines.....	Reno
Jean Sauer.....	Home Economics.....	Carson City
Myra Sauer.....	Arts and Science.....	Carson City
Magnus Scherupp.....	Agriculture.....	Battle Mountain
George E. Schilling.....	Civil Engineering.....	Fallon
Carol R. Scott.....	Arts and Science.....	Elko
Martha Scrugham.....	Arts and Science.....	Reno

Catherine M. Slavin.....	Arts and Science.....	Tonopah.
Floyd Smalley.....	Arts and Science.....	Reno
Frances Smith.....	Arts and Science.....	Midas
Ralph T. Smith.....	Agriculture.....	Reno
Marthine Solares.....	Arts and Science.....	Reno
Nevada Solari.....	Arts and Science.....	Reno
Herbert J. Sommers.....	Arts and Science.....	Sacramento, Calif.
Anita L. Sourwine.....	Arts and Science.....	Reno
Mrs. Sallie R. Springmeyer.....	Arts and Science.....	Reno
John F. Stock.....	Mines.....	St. Louis, Mo.
Donnie A. Sullivan.....	Arts and Science.....	Sparks
Albert O. Sutherland.....	Arts and Science.....	Reno
John Swearingen.....	Mines.....	Mill Valley, Calif.
Mary E. Swett.....	Home Economics.....	Reno
Edward A. Taylor.....	Arts and Science.....	Reno
Alfred Thies.....	Agriculture.....	Gardnerville
Mary A. Thompson.....	Arts and Science.....	Reno
Thomas J. Trythall.....	Arts and Science.....	Ruth
Howard Umber.....	Arts and Science.....	Reno
Edward N. Usnick.....	Mines.....	McGill
Wayne S. Van Voorhis.....	Arts and Science.....	Fallon
Jim D. Wallace, Jr.....	Civil Engineering.....	Ely
Edna Beth West.....	Arts and Science.....	Sparks
Harold E. West.....	Arts and Science.....	Reno
Sessions S. Wheeler.....	Arts and Science.....	Reno
M. Virginia Wheeler.....	Home Economics.....	Reno
Melba F. Wible.....	Arts and Science.....	Reno
Harrold P. Willard.....	Mines.....	Oakdale, Calif.
Mary R. Williams.....	Arts and Science.....	Sparks
Donna P. Willson.....	Arts and Science.....	Reno
John Wilslef.....	Arts and Science.....	Reno
Mrs. Ralph K. Wittenberg.....	Arts and Science.....	Reno
Genevieve Wolf.....	Arts and Science.....	Reno
William J. Wright.....	Electrical Engineering.....	Reno
Florence Hamlin Yocum.....	Arts and Science.....	Reno
George H. Ziegler.....	Arts and Science.....	Reno

SOPHOMORES

Stacy W. Alter.....	Arts and Science.....	Elko
Evelyn Anderson.....	Arts and Science.....	Wichita, Kan.
Peter Anker.....	Civil Engineering.....	Lovelock
Jane de Courcy Archer.....	Arts and Science.....	Mono Lake, Calif.
Grace Armbruster.....	Arts and Science.....	Reno
Mable L. Armstrong.....	Arts and Science.....	Reno

Emma Aznarez.....	Arts and Science.....	Wellington
Richard Bagley.....	Arts and Science.....	Sparks
June L. Baker.....	Normal.....	Baker
Juana L. Barber.....	Home Economics.....	Reno
Dino B. Barengo.....	Arts and Science.....	Reno
Robert H. Barrett.....	Mines.....	Yerington
Mildred E. Basta.....	Arts and Science.....	Ely
Leonard E. Beck.....	Arts and Science.....	Hollywood, Calif.
Jack F. Belz.....	Arts and Science.....	Reno
Darrell A. Berry.....	Arts and Science.....	Fallon
Forrest Bibb.....	Arts and Science.....	Jungo
John M. Blakely.....	Arts and Science.....	Reno
Ruby E. Bliss.....	Home Economics.....	Sparks
Maxine J. Bondetti.....	Normal.....	Carson City
Harry Bonnifield.....	Electrical Engineering.....	Reno
William A. Brinkerhoff.....	Arts and Science.....	Sparks
Julius Broilli.....	Electrical Engineering.....	Reno
Clarence L. Byrd.....	Arts and Science.....	Fallon
Thomas M. Cahill.....	Mines.....	Round Mountain
Marjorie Cannan.....	Arts and Science.....	Ely
Caryl C. Carman.....	Arts and Science.....	Hawthorne
Victor E. Carroll.....	Civil Engineering.....	Alhambra, Calif.
Thomas F. Cashill.....	Arts and Science.....	Reno
Wilma Chanslor.....	Arts and Science.....	Tonopah
Antonio Chavez.....	Mines.....	Las Vegas
Walter J. Christian.....	Mechanical Engineering.....	Pioche
James H. Clark.....	Arts and Science.....	Reno
Rowan J. Colgan.....	Arts and Science.....	Elko
James W. Crawford.....	Mechanical Engineering.....	Reno
Robert B. Creps.....	Arts and Science.....	Reno
Lena A. D'Alessandro.....	Normal.....	Lovelock
Jack G. Davenport.....	Arts and Science.....	Reno
Gerald Delannoy.....	Mines.....	Hollywood, Calif.
Denver Dickerson.....	Arts and Science.....	Reno
Robert C. Downer.....	Arts and Science.....	Alhambra, Calif.
Lawrence Du Four.....	Arts and Science.....	Vallejo, Calif.
Harrison C. Dukes.....	Arts and Science.....	Reno
Fred D. Dunn.....	Mechanical Engineering.....	Reno
William Durbrow, Jr.....	Civil Engineering.....	Grass Valley, Calif.
Mary Louise Durkee.....	Arts and Science.....	Reno
William J. Eckhoff.....	Electrical Engineering.....	Reno
Loriamae Emerson.....	Arts and Science.....	Reno
Murray English.....	Arts and Science.....	Reno

Harry H. Ervin.....	Arts and Science.....	Reno
Sallie M. Fagan.....	Arts and Science.....	Reno
Marjorie F. Fay.....	Arts and Science.....	Truckee, Calif.
Frank N. Fisher.....	Electrical Engineering.....	Virginia City
Donald B. Fox.....	Arts and Science.....	Los Angeles, Calif.
Florine Frank.....	Arts and Science.....	Reno
Elizabeth Frey.....	Home Economics.....	Reno
Tennys Price Friberg.....	Normal.....	Reno
Raymond C. Frohlich.....	Arts and Science.....	Reno
Nevin C. Fryer.....	Arts and Science.....	Battle Mountain
Agnes A. Gardner.....	Normal.....	Ruby Valley
William E. Gelder.....	Arts and Science.....	Reno
Alson P. Gibson.....	Electrical Engineering.....	Las Vegas
Louis Gibson.....	Arts and Science.....	Eureka
Carl F. Gommel.....	Mines.....	Glendale, Calif.
Dorothy C. Gordon.....	Arts and Science.....	Reno
Bruce Gould.....	Mines.....	San Francisco
Sarah Graves.....	Arts and Science.....	Reno
Olive Gubler.....	Normal.....	Lund
Lloyd Guffrey.....	Arts and Science.....	Sparks
Charles L. Gundlach.....	Electrical Engineering.....	Montello
Kathleen Haffey.....	Arts and Science.....	Reno
Robert Hansen.....	Arts and Science.....	Yerington
Bela A. Harcos.....	Arts and Science.....	Los Angeles, Calif.
W. Herbert Hargreaves.....	Arts and Science.....	Reno
Robert L. Harris.....	Arts and Science.....	Reno
Leon Dale Hart.....	Arts and Science.....	Reno
Dolores Hartor.....	Arts and Science.....	Reno
Elmer P. Hawkins.....	Mines.....	Grass Valley, Calif.
Ralph Haynes.....	Electrical Engineering.....	Reno
Leland S. Hazeltine.....	Mechanical Engineering.....	Reno
Harriet B. Heidtman.....	Home Economics.....	Reno
Paul C. Heilmann.....	Civil Engineering.....	Live Oak, Calif.
Vera P. Hendra.....	Normal.....	Lovelock
Richard A. Herz.....	Arts and Science.....	Reno
Frank W. Hickey.....	Electrical Engineering.....	Las Vegas
S. Thomas Hilberg.....	Mines.....	Reno
Harvey W. Hill.....	Arts and Science.....	Fallon
Mary Hill.....	Arts and Science.....	Metropolis
James Temple Hoffman.....	Mech. Engineering.....	Alhambra, Calif.
Doris M. Holdcamper.....	Normal.....	Sparks
Ruby M. Hoskins.....	Home Economics.....	Reno
Betty A. Howell.....	Arts and Science.....	Reno

Ralph J. Hromadka.....	Arts and Science.....	Santa Monica, Calif.
George Hunter.....	Arts and Science.....	Elko
Wesley C. Hurley.....	Electrical Engineering.....	Reno
Dorothy V. Jackson.....	Arts and Science.....	Reno
Elwin L. Jeffers.....	Arts and Science.....	Reno
Charles S. Jensen.....	Arts and Science.....	Reno
Chandler A. Johnson.....	Mines.....	Reno
George H. Johnson.....	Agriculture.....	Carson City
William J. Johnstone.....	Civil Engineering.....	Los Angeles, Calif.
Charles Joseph.....	Arts and Science.....	Las Vegas
Blanche E. Keegan.....	Home Economics.....	Reno
Edgar Kell.....	Mines.....	Simon
G. Wesley Kennedy.....	Arts and Science.....	Lovelock
Roy F. Kipp.....	Arts and Science.....	Reno
Gordon B. Klein-Peter.....	Mines.....	Reno
Eugene J. Kneebone.....	Mines.....	Grass Valley, Calif.
William F. Kottke.....	Electrical Engineering.....	Battle Mountain
Yu Kwan.....	Electrical Engineering.....	Reno
Bernice Lam.....	Home Economics.....	Reno
Theodore J. Layman.....	Mechanical Engineering.....	Reno
Frank R. Leonard.....	Mines.....	McGill
James T. Leonard.....	Arts and Science.....	Las Vegas
Lloyd L. Leonard.....	Arts and Science.....	Reno
Paul A. Leonard.....	Arts and Science.....	Reno
Thelma M. Lewis.....	Normal.....	Eureka
George Lohse.....	Arts and Science.....	Fallon
Frandsen E. Loomis.....	Arts and Science.....	Reno
Edwin G. Lozano.....	Arts and Science.....	Reno
Ruth Lyon.....	Normal.....	Metropolis
Donald W. Macdonald.....	Arts and Science.....	Minden
Wm. Griffith Macdonald.....	Arts and Science.....	Minden
Shirley Machov.....	Arts and Science.....	Aberdeen, S. D.
Ernest W. Mack.....	Arts and Science.....	Reno
Kenneth Maclean.....	Arts and Science.....	Reno
Robert Madariaga.....	Arts and Science.....	Reno
Peggy L. Maher.....	Arts and Science.....	Reno
Robert Maher.....	Arts and Science.....	Reno
John A. Majors.....	Arts and Science.....	Reno
Roy C. Majors.....	Arts and Science.....	Reno
Helen T. Malloy.....	Arts and Science.....	Austin
George E. Mann.....	Electrical Engineering.....	Smith
Edwin C. Martinez.....	Electrical Engineering.....	Reno
Joseph Mastroianni.....	Arts and Science.....	Dayton

Victor E. Maxwell.....	Arts and Science.....	Reno
Cedric F. Maydwell.....	Mines	Reno
Stuart A. Mayfield.....	Arts and Science.....	Suisun, Calif.
Wm. Carleton McCulloch.....	Mines	Wheatland, Calif.
Ellen V. McFarland.....	Arts and Science.....	Hamilton City, Calif.
Joseph McLeod.....	Arts and Science.....	Reno
William F. McMenamain.....	Arts and Science.....	Reno
Glenna D. McQuerry.....	Arts and Science.....	Reno
Ralph J. Menante.....	Mechanical Engineering	Reno
Madelyn Miller.....	Arts and Science.....	Reno
Orison F. Miller.....	Arts and Science.....	Reno
Edward S. Montgomery.....	Arts and Science.....	Burlingame, Calif.
Helen Mortensen.....	Arts and Science.....	Reno
Bernarr G. Moulton.....	Arts and Science.....	Verdi
Virginia Murgotten.....	Arts and Science.....	Reno
Mary E. Murphy.....	Arts and Science.....	Reno
Dorothy E. Nason.....	Arts and Science.....	Sparks
Kathryn A. Nason.....	Home Economics	Sparks
Elva A. Neddenriep.....	Arts and Science.....	Gardnerville
Fred E. Needham.....	Civil Engineering	Auburn, Calif.
Maurice W. Nelligan.....	Arts and Science.....	Reno
Robert C. Nelligan.....	Arts and Science.....	Reno
Anna Nelson.....	Arts and Science.....	Reno
J. Norman Nelson.....	Mechanical Engineering	Sparks
Virginia Nelson.....	Arts and Science.....	Reno
Kathryn Nichols.....	Home Economics	Reno
Donald D. Odell.....	Electrical Engineering	Fallon
Edgar T. Olson.....	Arts and Science.....	Reno
Wallace B. Park.....	Arts and Science.....	Gardnerville
Alice L. Parman.....	Arts and Science.....	Reno
Lyman E. Parmenter.....	Mechanical Engineering	Reno
Herbert M. Peck, Jr.....	Arts and Science.....	Boulder City
Helene L. Per Lee.....	Arts and Science.....	Reno
Wilbert I. Petersen.....	Arts and Science.....	Sparks
Roy G. Petrie.....	Arts and Science.....	Reno
Conrad L. Pettengill.....	Electrical Engineering	Sparks
Clayton D. Phillips.....	Arts and Science.....	Reno
Edward L. Pine.....	Arts and Science.....	Reno
Alyce C. Poco.....	Home Economics	Reno
Perry B. Priest.....	Arts and Science.....	Schurz
Harlan M. Purdy.....	Arts and Science.....	Sparks
Jack C. Quaid.....	Arts and Science.....	Las Vegas
Alice Olds Raker.....	Normal	Reno

Margaret Rather.....	Arts and Science.....	Reno
Helen L. Records.....	Arts and Science.....	Reno
Darrell L. Reed.....	Arts and Science.....	Reno
James Earl Reid.....	Arts and Science.....	Cherryvale, Kan.
Thomas Reynolds.....	Arts and Science.....	Vacaville, Calif.
Forrest L. Rhodes.....	Electrical Engineering	Reno
Grant A. Rice.....	Electrical Engineering	Reno
Margaret Richards.....	Arts and Science.....	Reno
Marie L. Richards.....	Arts and Science.....	Reno
Robert C. Ritter.....	Arts and Science.....	Sparks
Agnes R. Roberts.....	Arts and Science.....	Reno
Thomas Haynes Roberts.....	Arts and Science.....	Lovelock
Dan D. Robertson.....	Civil Engineering	Reno
Edward H. Robertson.....	Arts and Science.....	Fallon
Oscar M. Robinson.....	Arts and Science.....	Reno
Esther B. Ronzone.....	Home Economics.....	Las Vegas
Hugh I. Rossolo.....	Electrical Engineering.....	East Ely
Lowell J. Russell.....	Civil Engineering	Reno
George L. Sanford, Jr.....	Mechanical Engineering.....	Carson City
William H. Savage.....	Arts and Science.....	Reno
Herman Sawyer.....	Civil Engineering	Reno
Betty W. Scrugham.....	Home Economics	Reno
Grace Semenza.....	Arts and Science.....	Reno
Dorothea V. Shidler.....	Arts and Science.....	Reno
Esther O. Siri.....	Normal	Reno
Don Small.....	Agriculture	Reno
John S. Smith.....	Civil Engineering.....	Oakland, Calif.
Peggy Smith.....	Arts and Science.....	Reno
Helen E. Smithe.....	Arts and Science.....	Sparks
George A. Southworth.....	Arts and Science.....	Reno
Leslie P. Springmeyer.....	Mechanical Engineering	Gardnerville
Helene Stark.....	Arts and Science.....	Reno
La Rue Stark.....	Arts and Science.....	Reno
Reed St. Clair.....	Arts and Science.....	Elko
George B. Steffens.....	Civil Engineer.....	Centre Moriches, N. Y.
H. Jackson Stephens.....	Arts and Science.....	Reno
J. Earl Stevenson.....	Mines	Las Vegas
Robert L. Stoker.....	Arts and Science.....	Reno
Cecil A. Stowell.....	Mechanical Engineering	Reno
John J. Sullivan.....	Arts and Science.....	Reno
James Thompson.....	Arts and Science.....	Reno
Louise F. Tidball.....	Arts and Science.....	Reno
Daniel W. Toquero.....	Arts and Science.....	Reno

Marvin Turner.....	Agriculture	Reno
Paul D. Turner.....	Arts and Science	Reno
Josephine E. Tyrrel.....	Normal	Fallon
Jane D. Uhart.....	Normal	Minden
Leslie P. Upson.....	Arts and Science	Reno
Angelo Urrutia.....	Arts and Science	Dayton
Leonard G. Voorheis.....	Civil Engineering	Lovelock
Stella I. Vucovich.....	Arts and Science	Reno
Ross Wainwright.....	Arts and Science	Reno
Elbert L. Walker.....	Arts and Science	Reno
Margaret E. Walker.....	Home Economics	Sparks
Dorothy D. Wallace.....	Normal	Reno
Frank E. Walters.....	Arts and Science	Reno
Fern E. Walts.....	Arts and Science	Reno
Kathryn H. Wardleigh.....	Arts and Science	Wells
Rachel Warrington.....	Arts and Science	Reno
Nelson M. Webster.....	Arts and Science	Sulphur
Clarke M. Weigand.....	Arts and Science	Reno
Ross Whitehead.....	Arts and Science	Sparks
Clara N. Whitney.....	Arts and Science	Reno
Jack D. Williams.....	Mechanical Engineering	McGill
Margaret Williams.....	Arts and Science	Reno
Clara Willison.....	Arts and Science	Carlin
Charles M. Worn.....	Arts and Science	Reno
Louis A. Yori.....	Arts and Science	Reno
Elizabeth V. Young.....	Arts and Science	Reno

FRESHMEN

Charles R. Adams.....	Agriculture	Reno
Jack M. Adams.....	Mines	Reno
Bernard R. Addenbrooke.....	Electrical Engineering	Reno
Ruby C. Arentz.....	Arts and Science	Simpson
Raymond E. Armstrong.....	Arts and Science	Reno
Ruth K. Atcheson.....	Arts and Science	Gardnerville
Harry L. Austin.....	Arts and Science	McGill
William C. Bailey.....	Arts and Science	Sparks
Ruth E. Bails.....	Home Economics	Sparks
Alfred H. Baldwin.....	Electrical Engineering	Reno
Ralph R. Ball.....	Mechanical Engineering	Reno
Pierino C. Barengo.....	Arts and Science	Reno
Elizabeth A. Barnes.....	Arts and Science	Reno
Walter E. Bartlett.....	Electrical Engineering	Fallon
Eleanor E. Bateman.....	Home Economics	Tonopah
Victor L. Becaas.....	Arts and Science	Reno

John F. Benson.....	Arts and Science	Reno
Lucile R. Berg.....	Arts and Science	Reno
Robert T. Best.....	Electrical Engineering	Fallon
John R. Betts.....	Arts and Science	Van Nuys, Calif.
Odessa M. Bick.....	Arts and Science	Truckee, Calif.
Muriel Bikker.....	Arts and Science	Reno
Ralph Birchard.....	Arts and Science	Los Angeles, Calif.
Fred D. Black.....	Arts and Science	Reno
Jack T. Blum.....	Arts and Science	Reno
C. Arlene Boerlin.....	Home Economics	Hawthorne
Paul G. Bohlke.....	Electrical Engineering	Reno
Alice E. Boland.....	Arts and Science	Reno
Albert C. Borghi.....	Mines	Sparks
Lloyd N. Bowen.....	Arts and Science	Reno
Walter M. Bowrin.....	Arts and Science	Sparks
Paula Bradshaw.....	Arts and Science	Tonopah
Leonard J. Brady.....	Arts and Science	Reno
Howard H. Brandis.....	Arts and Science	Reno
M. Ruth Brandis.....	Arts and Science	Reno
Edith N. Bremenkampf.....	Normal	Elko
Bernard W. Bronson.....	Arts and Science	Reno
Lois E. Brooks.....	Arts and Science	Reno
Donald C. Brown.....	Arts and Science	Reno
Roberta de Hart Browne.....	Arts and Science	Reno
Frances H. Burke.....	Arts and Science	Reno
Ada Jean Burrow.....	Arts and Science	Reno
Miriam L. Butler.....	Arts and Science	Sparks
Darrel S. Cain.....	Arts and Science	Reno
John V. Cameron.....	Arts and Science	Reno
Eleanor G. Campbell.....	Home Economics	Reno
Eleanora Campbell.....	Arts and Science	Reno
William J. Cashill.....	Arts and Science	Reno
Eunice A. Caton.....	Arts and Science	Reno
Ellis A. Ceander.....	Electrical Engineering	Reno
Verla R. Champagne.....	Arts and Science	Sparks
Dan H. Chiatovich.....	Arts and Science	Reno
Howard O. Christensen.....	Arts and Science	Reno
Joseph F. Clark.....	Arts and Science	Gardnerville
Mary Leone Clark.....	Arts and Science	Reno
William J. Cockrell.....	Electrical Engineering	Reno
Georgia L. Cole.....	Arts and Science	Reno
Stephen W. Comish.....	Arts and Science	Elko
Margaret A. Copren.....	Arts and Science	Sierraville, Calif.

Mary C. Corecco.....	Arts and Science.....	Reno
F. Evan Couch.....	Arts and Science.....	Reno
Geneva B. Covell.....	Normal.....	Santa Barbara, Calif.
Helen Crabtree.....	Arts and Science.....	Reno
Margaret J. Crosby.....	Arts and Science.....	Reno
Marion H. Cross.....	Arts and Science.....	Sparks
Bert G. Cummings.....	Civil Engineering.....	Reno
Elsie Cupples.....	Arts and Science.....	Reno
John F. Daszkiewicz.....	Mines.....	Centre Moriches, N. Y.
Gerald W. Davis.....	Normal.....	Reno
Clara M. Dellevoet.....	Arts and Science.....	Reno
John H. Dennison.....	Civil Engineering.....	Reno
Irene Dickey.....	Home Economics.....	Saratoga, Calif.
Eleanor L. Doan.....	Arts and Science.....	Sparks
John A. Doane.....	Civil Engineering.....	Fallon
Carl F. Dodge.....	Arts and Science.....	Fallon
Catherine D. Dondero.....	Arts and Science.....	Hawthorne
Gwen Doten.....	Arts and Science.....	Reno
Chester L. Doyle.....	Civil Engineering.....	Santa Maria, Calif.
Dariel Doyle.....	Arts and Science.....	Reno
Florence H. Doyle.....	Arts and Science.....	Reno
Vernon F. Eisenmann.....	Mines.....	Reno
Clarence J. Elkin.....	Arts and Science.....	Virginia City
William H. Elwell.....	Electrical Engineering.....	Las Vegas
Marguerite R. Enlow.....	Arts and Science.....	Fallon
Ellen Ernst.....	Arts and Science.....	Fallon
Walter J. Fancher.....	Mechanical Engineering.....	Manhattan
G. Donald Fanning.....	Arts and Science.....	Reno
Eslie E. Finn.....	Arts and Science.....	Reno
Eleanor J. Fisher.....	Arts and Science.....	Reno
Florence L. Ford.....	Arts and Science.....	Ogden, Utah
Virginia R. Ford.....	Arts and Science.....	Sparks
George F. Francis.....	Electrical Engineering.....	Las Vegas
John D. Franklin.....	Civil Engineering.....	Wells
Herman L. Freudenberg.....	Mines.....	Vallejo, Calif.
Edward R. Fuetsch.....	Arts and Science.....	Reno
John A. Fuller.....	Arts and Science.....	Reno
Mary Fulton.....	Arts and Science.....	Reno
Lillian Funk.....	Normal.....	Preston
Marian E. Gallaway.....	Home Economics.....	Reno
Lura Gamble.....	Arts and Science.....	Hazen
Jeanne Gates.....	Arts and Science.....	Reno
Lynn B. Gerow.....	Arts and Science.....	Reno

Inez Gillies.....	Normal.....	Sparks
Roy H. Gomm.....	Arts and Science.....	Reno
Clotilda Goni.....	Normal.....	Dayton
Frank S. Goodner.....	Arts and Science.....	Reno
Eugene M. Gordenev.....	Mines.....	San Francisco
Margaret R. Gorman.....	Home Economics.....	Reno
Frances C. Graf.....	Arts and Science.....	Reno
Maurine M. Graf.....	Arts and Science.....	Reno
Leslie A. Green.....	Civil Engineering.....	Reno
C. F. Lindsay Green.....	Arts and Science.....	Ely
Roberta O. Gregory.....	Arts and Science.....	Reno
Ruby I. Gubler.....	Normal.....	Lund
Peter V. Guisti.....	Civil Engineering.....	Reno
Florence Gulling.....	Arts and Science.....	Reno
Rita A. Gunter.....	Arts and Science.....	Reno
George R. Hadlen.....	Agriculture.....	Reno
Elna L. Hall.....	Normal.....	Sparks
Fleet Harrison.....	Mechanical Engineering.....	Minden
Frederick C. Hartman.....	Arts and Science.....	Reno
Opal E. Harvey.....	Arts and Science.....	Paradise Valley
Elda E. Haslett.....	Arts and Science.....	Reno
Robert M. Hatfield.....	Arts and Science.....	Reno
John McL. Hatton.....	Arts and Science.....	Tonopah
Leola P. Hawkins.....	Arts and Science.....	Palisade
Lorraine Hawkins.....	Arts and Science.....	Reno
Helen I. Hewitt.....	Normal.....	Reno
James G. Hickey.....	Arts and Science.....	Gardnerville
Virginia E. Hill.....	Arts and Science.....	Reno
Robert Hodgkin.....	Arts and Science.....	Reno
A. Colene Hollan.....	Home Economics.....	Eureka
Ruth N. Holliday.....	Arts and Science.....	Wabuska
Lucille Hook.....	Arts and Science.....	Reno
Edward John Horgan.....	Arts and Science.....	Reno
Betty E. Horton.....	Arts and Science.....	Reno
Steele M. Houx.....	Arts and Science.....	Colusa, Calif.
Jack R. Hughes.....	Arts and Science.....	Reno
Claude E. Hunter.....	Civil Engineering.....	Reno
Walter A. Hunting.....	Arts and Science.....	Reno
Anne L. Jenkins.....	Arts and Science.....	Reno
Ida M. Jensen.....	Normal.....	Preston
Peter S. Jensen.....	Arts and Science.....	Reno
Rita L. Jepson.....	Arts and Science.....	Sparks
Gail O. Jessen.....	Electrical Engineering.....	McGill

Lorraine B. Johnson.....	Arts and Science.....	Sparks
Sterling R. Johnson.....	Mechanical Engineering.....	Reno
Wesley Johnson.....	Arts and Science.....	Montello
William H. Johnston.....	Arts and Science.....	Reno
Joseph T. Jones.....	Elec. Enginr.....	North Hollywood, Calif.
Neca Jones.....	Home Economics.....	Overton
J. Wesley Jordan.....	Electrical Engineering.....	Baker
Joe R. Kelley.....	Arts and Science.....	Eureka
Maxwell F. Kepl.....	Arts and Science.....	Reno
Daphne M. Kepner.....	Home Economics.....	Reno
Mynor A. Kibby.....	Arts and Science.....	Reno
Nell E. Kilpatrick.....	Arts and Science.....	Reno
Florence E. Kirkley.....	Arts and Science.....	Reno
Chris J. Kocontes.....	Arts and Science.....	Reno
Frank J. Kornmayer.....	Electrical Engineering.....	Reno
Richard S. Laking.....	Agriculture.....	Sparks
Allen Lansdon.....	Arts and Science.....	Reno
Margaret L. Lawson.....	Normal.....	Silver City
Charles A. Leavitt.....	Arts and Science.....	Elko
Helen C. Lewis.....	Arts and Science.....	Reno
John H. Lewis.....	Arts and Science.....	Reno
Annie C. Lucas.....	Arts and Science.....	Mason
Duane W. Lucas.....	Arts and Science.....	Fallon
Alice Lundberg.....	Home Economics.....	Sparks
Ruth N. Lyons.....	Arts and Science.....	Reno
Inez MacGillivray.....	Arts and Science.....	Reno
Roy J. Mackedon.....	Mines.....	Fallon
Leonard S. Macy.....	Electrical Engineering.....	Fallon
Francis Matheus.....	Mechanical Engineering.....	Yerington
Evelyn G. Matson.....	Arts and Science.....	Reno
June McGuire.....	Home Economics.....	Wells
Howard L. McMullen.....	Normal.....	Las Vegas
James McNeely.....	Civil Engineering.....	Battle Mountain
Czerna W. McQuerry.....	Arts and Science.....	Reno
Velma E. Meneley.....	Arts and Science.....	Gardnerville
Bernard M. Mergen.....	Arts and Science.....	Sparks
Margaret F. Mergen.....	Normal.....	Sparks
Lois Midgley.....	Arts and Science.....	Reno
Frank T. Mildren.....	Electrical Engineering.....	Las Vegas
James W. Millar.....	Arts and Science.....	Reno
Jean Monaghan.....	Arts and Science.....	Tonopah
Andrew E. Morby.....	Arts and Science.....	Sparks
E. Ruth Morgan.....	Arts and Science.....	Reno

Tom Q. Morris.....	Electrical Engineering.....	Tonopah
Mildred M. Nagy.....	Arts and Science.....	Reno
Florindo Nannini.....	Electrical Engineering.....	Reno
Janet W. Newton.....	Normal.....	Los Angeles, Calif.
Morgan North.....	Mines.....	Berkeley, Calif.
John H. Noyes.....	Civil Engineering.....	Reno
Betty Ochsner.....	Arts and Science.....	Carson City
Mary R. Pappas.....	Arts and Science.....	Virginia City
Edward H. Paradis.....	Arts and Science.....	Sparks
May E. Parman.....	Arts and Science.....	Reno
George A. Pearson.....	Electrical Engineering.....	Minden
Dorothy E. Phillips.....	Arts and Science.....	Reno
Jane S. Phillips.....	Normal.....	Las Vegas
Margaret A. Piercy.....	Electrical Engineering.....	Tonopah
Frank Pieretti.....	Civil Engineering.....	Dayton
Daniel B. Pimentel.....	Agriculture.....	Fresno, Calif.
Romie E. Pine.....	Normal.....	Hawthorne
Russell V. Poulsen.....	Arts and Science.....	Reno
Nelle Price.....	Arts and Science.....	Las Vegas
Thomas C. Prunty.....	Arts and Science.....	Sparks
Arthur Putney.....	Arts and Science.....	Sparks
Frank Quilici.....	Arts and Science.....	Dayton
Fred Raab.....	Arts and Science.....	Reno
Dorrance S. Radcliffe.....	Electrical Engineering.....	Reno
Velma A. Ramelli.....	Home Economics.....	Vinton, Calif.
Fernley H. Rechel.....	Normal.....	Fallon
Richard P. Record.....	Arts and Science.....	Reno
Charles B. Rhodes.....	Arts and Science.....	Reno
Burt Rice.....	Arts and Science.....	Reno
Robert R. Rice.....	Arts and Science.....	Sparks
Claudine L. Riddick.....	Arts and Science.....	Reno
Elvira N. Roberts.....	Normal.....	Austin
Charlotte E. Robison.....	Arts and Science.....	Reno
Dorothy A. Roseberry.....	Arts and Science.....	Battle Mountain
Melvin C. Ruedy.....	Arts and Science.....	Reno
Graham C. Sanford.....	Arts and Science.....	Carson City
Iris H. Saulter.....	Arts and Science.....	Reno
Alma A. Schiappacasse.....	Arts and Science.....	Reno
Madjel E. Schlosser.....	Normal.....	Alhambra, Calif.
James A. Schultz.....	Normal.....	San Jacinto
Ralph W. Scott.....	Arts and Science.....	Sparks
Anne M. Sebbas.....	Normal.....	Lovelock
Orva L. Selkirk.....	Arts and Science.....	Gardnerville

Evelyn Semenza.....	Arts and Science.....	Reno
Marianne I. Severne.....	Arts and Science.....	Sparks
John F. Shaughnessy, Jr.....	Arts and Science.....	Carson City
Michael B. Shelley.....	Arts and Science.....	Sparks
Dorothy E. Shogren.....	Arts and Science.....	Reno
Philip Shore.....	Arts and Science.....	Reno
Dorothy F. Shoup.....	Arts and Science.....	Reno
Julia P. Sibley.....	Arts and Science.....	Reno
Frances P. Slavin.....	Arts and Science.....	Tonopah
Lillian M. Smith.....	Arts and Science.....	Reno
Emmett L. Spencer.....	Civil Engineering.....	Reno
Helen M. Spina.....	Arts and Science.....	Reno
Daudee L. St. Cyr.....	Arts and Science.....	Jarbridge
J. D. Stephens.....	Mines.....	Fresno, Calif.
Richard C. Stoddard.....	Arts and Science.....	Reno
E. Ralph Stowell.....	Civil Engineering.....	Santa Maria, Calif.
Edward F. Sullivan.....	Mines.....	Reno
Frank J. Sullivan.....	Arts and Science.....	Reno
Robert T. Sullivan.....	Arts and Science.....	Reno
Kenneth G. Swaney.....	Civil Engineering.....	Reno
Ross O. Tannehill.....	Arts and Science.....	Virginia City
Vernon Tapogna.....	Arts and Science.....	Reno
Edward F. Taylor.....	Mines.....	San Leandro, Calif.
John N. Tedford.....	Electrical Engineering.....	Fallon
Mary E. Tholl.....	Arts and Science.....	Sparks
Pauline Thompson.....	Normal.....	Hawthorne
Otho O. Touchstone.....	Electrical Engineering.....	Reno
Margaret C. Traner.....	Arts and Science.....	Reno
Alice R. Traynor.....	Normal.....	Tonopah
Mary E. Underwood.....	Home Economics.....	McLeansboro, Ill.
Edmond J. Uren.....	Arts and Science.....	Battle Mountain
Mary J. Vaughn.....	Arts and Science.....	Reno
Harvey Vonsild.....	Arts and Science.....	Reno
Genevieve Wakefield.....	Arts and Science.....	Reno
Harry D. Wakeling.....	Agriculture.....	Lund
Paul R. Walker.....	Agriculture.....	Sparks
Winifred A. Walsh.....	Arts and Science.....	Reno
Irvin Wanke.....	Civil Engineering.....	Sparks
Leland G. Ward.....	Arts and Science.....	Las Vegas
Doris E. Whitlock.....	Normal.....	Reno
Irma Lee Wilker.....	Normal.....	Reno
Charlotte J. Wilson.....	Arts and Science.....	Sparks

¹Died, November 25, 1932.

C. Joseph Winter.....	Arts and Science.....	Reno
Francis Wise.....	Electrical Engineering.....	Sparks
Dorothy Withrow.....	Arts and Science.....	Reno
Iris Fae Wittwer.....	Arts and Science.....	Las Vegas
Montford C. Word.....	Mech. Engineering.....	Calistoga, Calif.
Mark L. Yori.....	Agriculture.....	Reno
William V. Zmak.....	Arts and Science.....	Reno
Amelia Zorich.....	Arts and Science.....	Truckee, Calif.
Julia L. Zunino.....	Home Economics.....	Verdi

UNCLASSIFIED

Fairy Adams.....	Arts and Science.....	Sparks
Louyne Anderson.....	Arts and Science.....	Reno
Marian Blackmer.....	Arts and Science.....	Reno
George H. Chester.....	Arts and Science.....	Fallon
Clarence H. Clark.....	Electrical Engineering.....	Reno
Miriam Clark.....	Arts and Science.....	Reno
William Daniel.....	Arts and Science.....	Reno
Junius M. Dixon.....	Mines.....	Doyle, Calif.
George A. Dobel.....	Arts and Science.....	Reno
Brendan Donovan.....	Arts and Science.....	Reno
Loretta M. Donovan.....	Arts and Science.....	Reno
John R. Dunn.....	Arts and Science.....	Reno
Katherine Dunn.....	Arts and Science.....	Reno
Le Roy A. Edwards.....	Arts and Science.....	Reno
Mrs. Ruth E. Gould.....	Arts and Science.....	Reno
Lillian E. Guisti.....	Arts and Science.....	Reno
Milton R. Howard.....	Agriculture.....	Reno
William S. Judson.....	Arts and Science.....	Pebble Beach, Calif.
Lois Lamerton.....	Arts and Science.....	Reno
Mary Lukens.....	Arts and Science.....	Sparks
Henriette E. McElroy.....	Arts and Science.....	Reno
Leon P. Morris.....	Mech. Engineering.....	Long Beach, Calif.
Burt G. Moulton.....	Arts and Science.....	Verdi
Violet Palsgrove.....	Arts and Science.....	Reno
Cornelio B. Patinga.....	Mechanical Engineering.....	Reno
Ann Ross.....	Arts and Science.....	Reno
Mrs. Ruth Shipaugh.....	Arts and Science.....	Reno
Elizabeth P. Smith.....	Arts and Science.....	Reno
Ruth A. Smithe.....	Arts and Science.....	Sparks
Peter Sonna, Jr.....	Mech. Engineering.....	Hollywood, Calif.
Grace Warner.....	Arts and Science.....	Reno
Maud R. Williams.....	Arts and Science.....	Reno

Thelma Williams.....Arts and Science.....Reno
 Mrs. Emerald S. Wogan.....Arts and Science.....Reno

SPECIALS

William Backer.....AgricultureReno
 Anthony Belmonte.....AgricultureStewart
 George Burke.....Arts and Science.....Reno
 Mrs. Maude B. Cooke.....Arts and Science.....Mason
 Eugene Crum.....Arts and Science.....Reno
 Maxine Duncan.....Arts and Science.....Reno
 James R. Gerow.....Arts and Science.....Reno
 Eugene M. Gray.....Arts and Science.....Reno
 Mrs. Betty Guttzeit.....Arts and Science.....New York City
 Mrs. Lois Anne Hecker.....Arts and Science.....Reno
 C. Leland Hill.....AgricultureReno
 William O. Holmes.....Arts and Science.....Reno
 Milan J. Jeffers.....Arts and Science.....Reno
 Thomas G. Kachos.....Electrical EngineeringGreece
 John M. Lee.....AgricultureSacramento, Calif.
 Mrs. Catherine McCampbell.....Arts and Science.....Reno
 Gordon M. McCaw.....NormalBattle Mountain
 Mrs. Mildred Olmsted.....Arts and Science.....Reno
 Harry J. Orleman.....MinesReno
 Charles V. Otis.....AgricultureLos Angeles, Calif.
 Joseph Peters.....Arts and Science.....Sparks
 Ben Louie Ravera.....Arts and Science.....Reno
 Ben H. Sheahan.....MinesLas Vegas
 John D. Stevens.....MinesGlenn, Calif.
 Gerold F. Tucker.....Arts and Science.....Reno
 Anthony A. Whitney.....Arts and Science.....Reno
 Frederick L. Williams.....Arts and Science.....Reno

PROSPECTORS' SHORT COURSE

Charles L. Adams.....G. K. Morrison.....Reno
 Taylorsville, Calif. James J. Murphy.....Reno
 Fielden H. Carter.....Reno Charles H. Parr.....
 George D. Cushing.....Reno Sacramento, Calif.
 Arthur G. DeVries.....Reno Keston L. Ramsey.....Reno
 Willard DouglasReno Joseph M. Reading.....Reno
 Marvin H. Felesina.....Reno James L. Ring.....Reno
 John GilbertReno R. L. Stuart.....Reno
 George C. Greene.....Reno Daniel J. Sullivan.....Reno
 Earl H. Leaf.....Reno Glen M. Thompson.....Reno
 Thomas MansfieldReno Cy WainwrightReno
 John C. McFadyen.....Reno

DIRECTORY OF OFFICERS AND EMPLOYEES

DIRECTORY

OFFICERS, FACULTY, PUBLIC SERVICE WORKERS, AND OTHER EMPLOYEES CONNECTED WITH THE UNIVERSITY

All addresses are Reno, unless otherwise specified. Phone numbers given at end of each address.

- Adams, Maxwell, Vice President, Dean of the College of Arts and Science, Professor of Chemistry, 29 W. Ninth St. 4049.
- Adams, Wayne B., Chemist, Food and Drug Laboratory, 1909 Plumas St. 7732.
- Akin, Bertha V., State Supervisor of Home Economics, Carson City.
- Amens, Clark, Instructor in Engineering.
-
- Becaas, Anita, Assistant to Dean of Women, Artemisia Hall. 3543.
- Beckwith, Carolyn M., Secretary to President and Board of Regents, 638 Washington St. 6639.
- Billinghurst, Benson D., Lecturer in Education, 729 Evans Ave. 3039.
- Bixby, F. L., Professor of Civil Engineering, 1015 Sierra St. 3994.
- Blackler, William R.,¹ Assistant Professor of Economics, Business and Sociology and Master of Lincoln Hall, University Campus. 4892.
- Blair, G. B., Associate Professor of Physics, 1059 Sierra St. 6032.
- Boardman, Horace P., Professor of Civil Engineering and Director of Engineering Experiment Station, 735 West St. 5466.
- Boerlin, H. Elwood, Assistant Extension Agent, 236 W. Liberty St. 5398.
- Brambila, Robert M., Colonel U. S. A., Professor of Military Science and Tactics, 462 Court St. 7522.
- Brennen, Chester, Range Economist, Agricultural Experiment Station, Elko.
- Brenner, Margaret, Extension Agent, Elko.
- Brown, Charles L., Assistant Professor of Biology, 445 E. Eighth St. 5748.
- Brown, Judge George S., Chairman of the Board of Regents, 737 Humboldt St. 3129.
- Brown, Harold N., Assistant Professor of Education, 445 Ninth St., Sparks. Sparks 744.
- Bruce, Mrs. Martha, Illustrator and Secretary, Agricultural Experiment Station, Elko.
- Buckman, Thomas E., Assistant Director, Agricultural Extension Division, 722 Arlington Ave. 5028.
- Buol, Mrs. Mary E., Assistant Director, Agricultural Extension Division, 311½ East Sixth St. 3433.
- Carroll, T. W., Heating Plant, 619½ Evans Ave.

¹Absent on leave, 1932-1934.

- Carpenter, Jay A., Professor of Mining, 245 University Terrace. 6334.
- Chappelle, B. F., Professor of Modern Languages, 576 Ridge St. 5645.
- Church, J. E., Jr., Professor of the Classics, 358 Washington St. 6082.
- Clark, Walter E., President, University Campus. 3446.
- Clay, Robert, Assistant, Experiment Station Farm, 16 Burns St.
- Cline, Lewis E., Extension Agricultural Economist, 693 Chestnut St. 3900.
- Codd, Mrs. Helen, Secretary, School of Education, 788 West St. 4417.
- Cokefair, V. E., Assistant, Food and Drug Laboratory, P. O. Box 709.
- Costello, Grace, Librarian and Secretary to Director, Agricultural Experiment Station, 620 Humboldt St. 6236.
- Crook, Royal D., Extension Agent, Ely.
- Condon, Mrs. Frances W., Extension Stenographer, 900 Sierra St.
- Couch, B. F., Instructor in Mines Accounting, 1410 N. Virginia St. 5305.
- Creel, Cecil W., Director, Agricultural Extension Division, 35 W. Taylor St. 5354.
- Daniel, James, Janitor, 619 S. Center St. 3479.
- Deming, Meryl W., Assistant Professor of Chemistry, 235 College Drive. 4956.
- Dietz, Dorothy D., Assistant, Buildings and Grounds, 1743 D. St., Sparks.
- Dinsmore, Sanford C., Commissioner, Food and Drugs, 208 University Terrace. 7784.
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