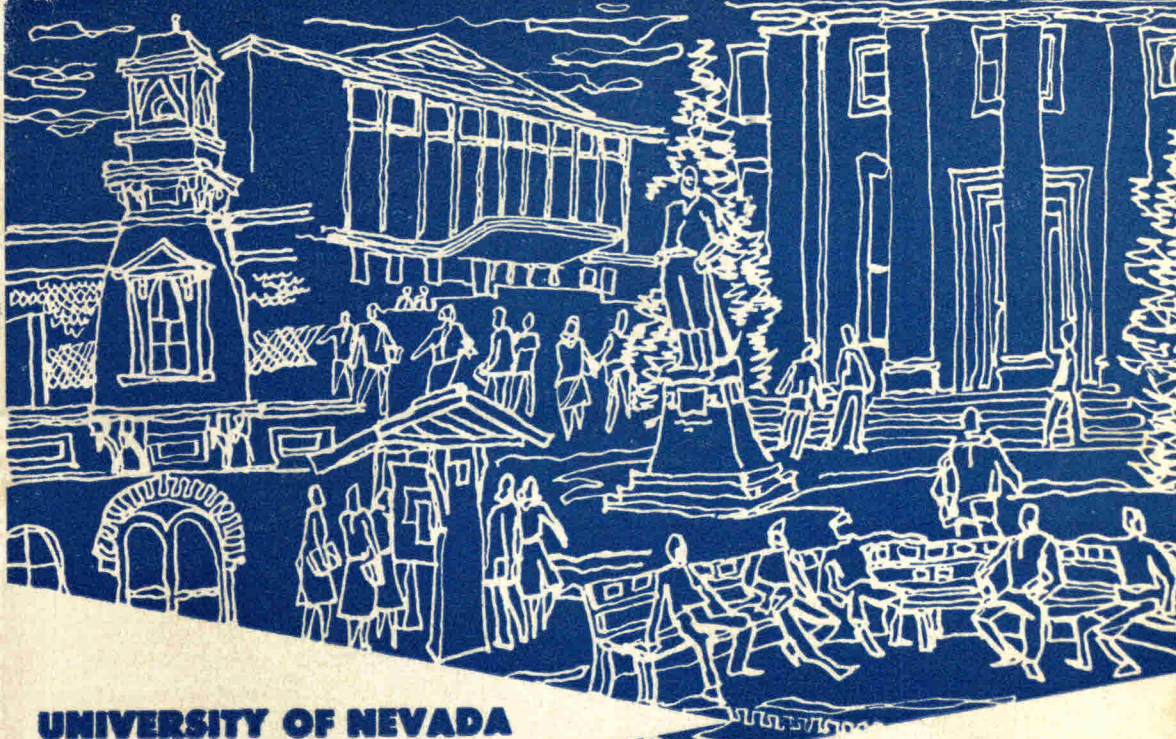

UNIVERSITY OF NEVADA

catalogue

1955 - 1956

University of Nevada Bulletin

CATALOGUE

ANNOUNCEMENTS

FOR

1955-1956

WITH

RECORD FOR 1954-1955

VOLUME XLIX JULY 1955 No. 2.

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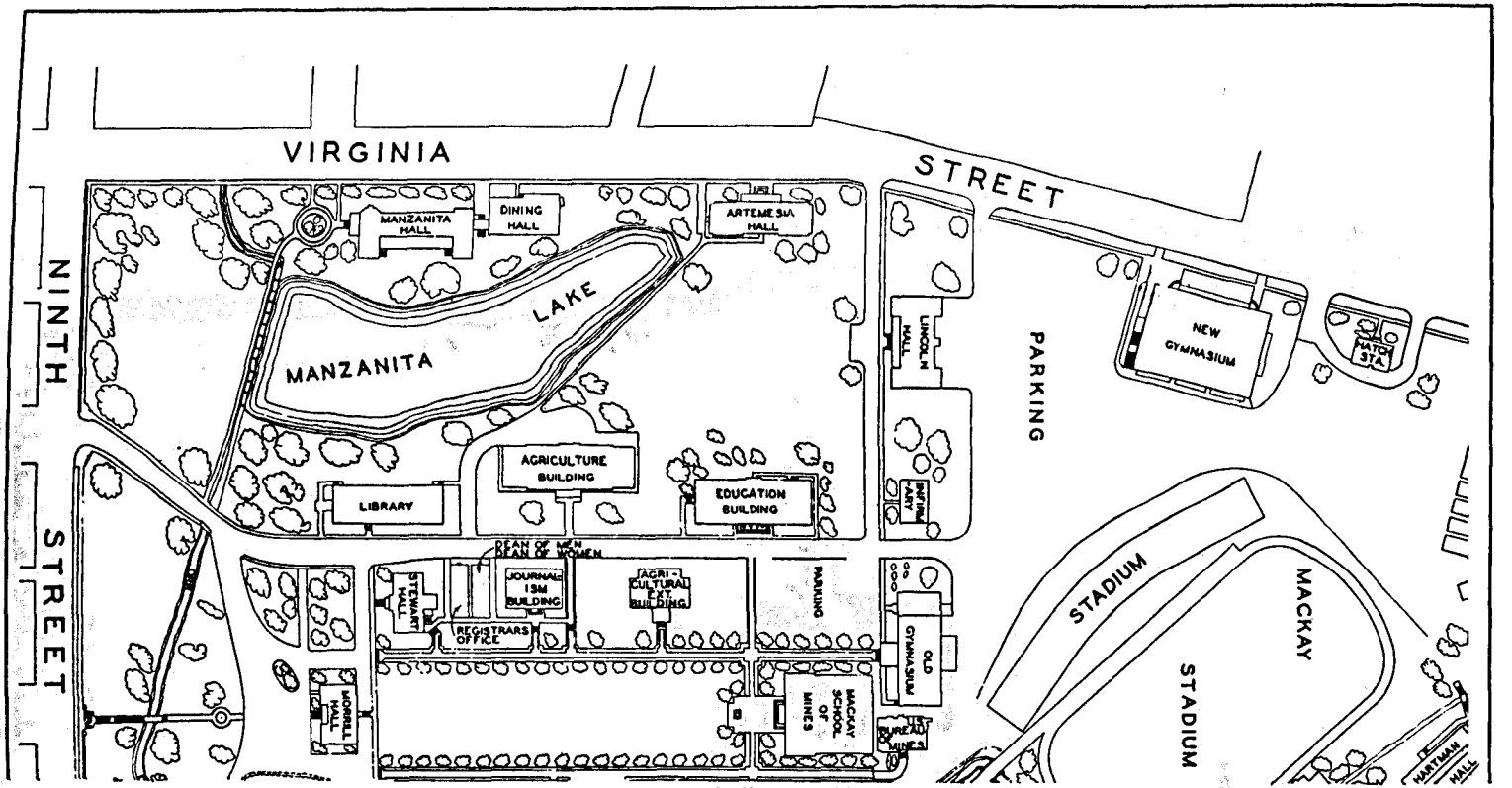
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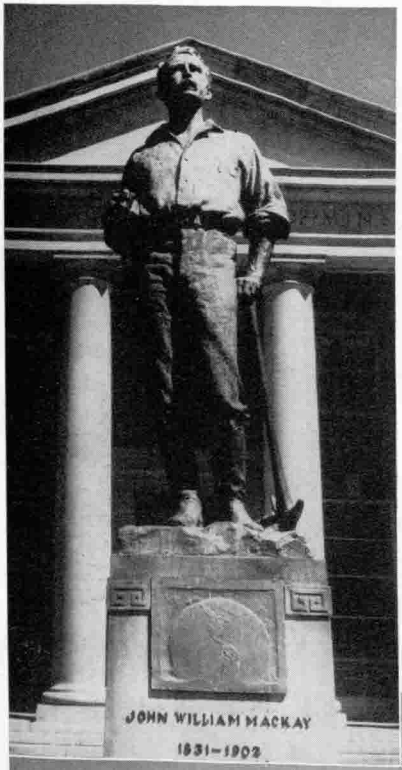
MACKAY SCHOOL OF MINES
HARTMAN HALL

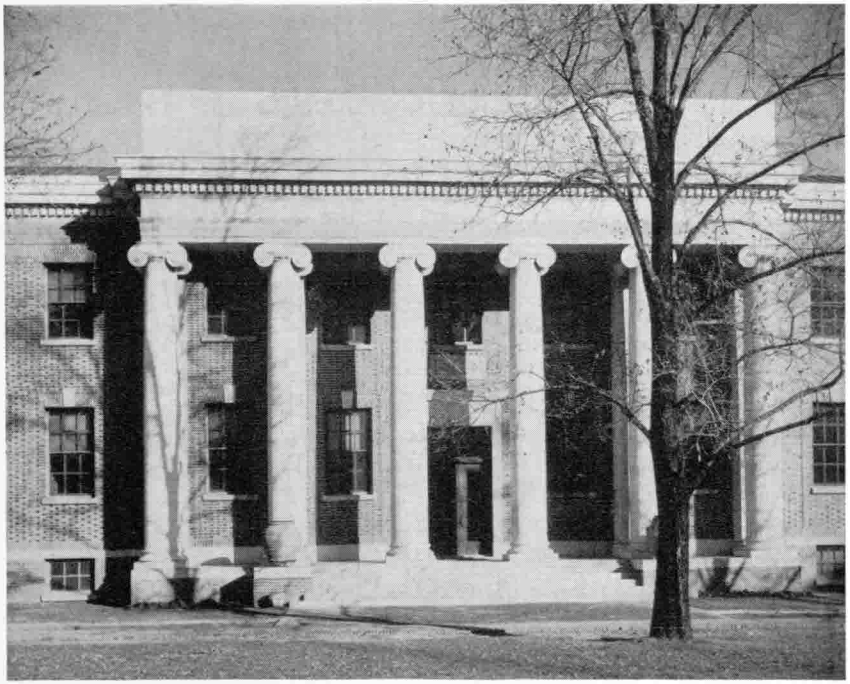
UNIVERSITY OF NEVADA

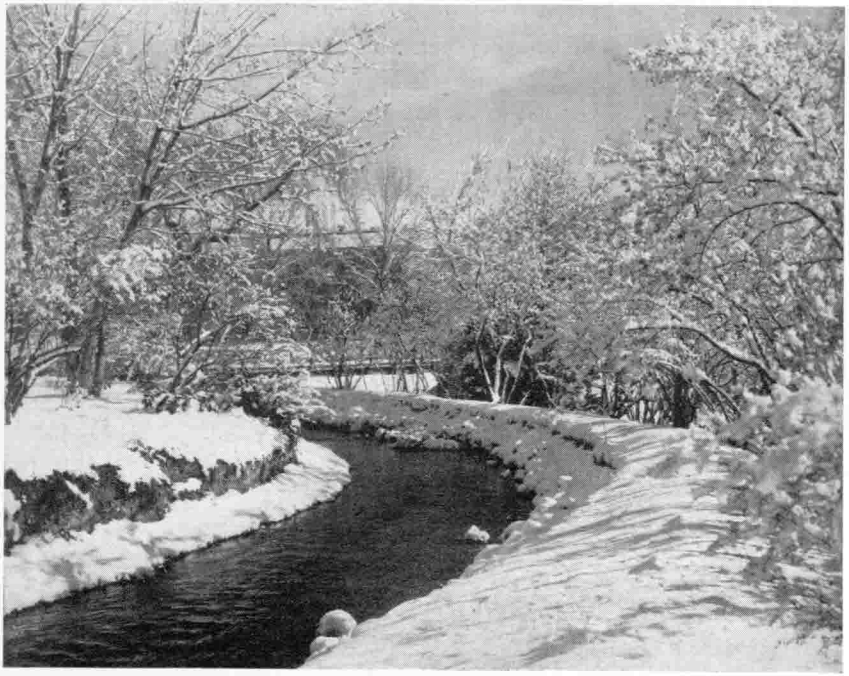
BUILDINGS & GROUNDS



CAMPUS SCENES AND COLLEGE LIFE

. . . at the University of Nevada form a varied and picturesque pattern. The seasons take their full course on this campus in the Sierra foothills, ranging from summer tranquility to winter snow. In addition to our regular agenda of student activities, we have our special events—such as the annual Winter Carnival, one of the nation's foremost collegiate ski festivals, and our Horse Show, the largest student-managed event of its type in the United States.





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OFFICE OF THE
BOARD OF REGENTS, UNIVERSITY OF NEVADA
RENO, NEVADA, July 1, 1955

To His Excellency, CHARLES RUSSELL, *Governor of the State of Nevada.*

SIR: The Regents of the University of Nevada have the honor to submit herewith the Annual Catalogue of the University, giving the records for the year 1954–1955, containing the courses of study, general information and membership of the Faculty, as required by an Act of the Legislature, approved March 6, 1901.

By the Board of Regents:

SILAS E. ROSS,
Chairman.

ALICE TERRY, *Secretary.*

1955

JANUARY

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1956

JANUARY

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UNIVERSITY CALENDAR

1955-1956 FIRST SEMESTER

September 7-11	Wednesday-Sunday	Examination and Orientation of new students.
September 12	Monday	Registration.
September 13	Tuesday	Instruction begins.
October 29	Saturday	Homecoming.
October 31	Monday	Admission Day.
November 8	Tuesday	Midsemester.
November 10	Thursday	Grade reports due.
November 23-28	Wednesday, 5:00 p. m. Monday, 8:00 a. m.	Thanksgiving recess.
December 17	Saturday, 12 noon	Christmas vacation begins.
January 2	Monday, 8:00 a. m.	Instruction begins.
January 19-25	Thursday-Wednesday	Semester examinations.
January 25	Wednesday, 5:00 p. m.	Semester closes.
January 27	Friday, 12 noon	Final grades on file with Registrar.

SECOND SEMESTER

January 26-28	Thursday-Saturday	Examination and Orientation of new students.
January 30	Monday	Registration.
January 31	Tuesday	Instruction begins.
March 23	Friday	Midsemester.
March 24	Saturday, 12 noon	Grade reports due.
March 24-April 2	Saturday, 12 noon- Monday, 8:00 a. m.	Easter recess.
April 28	Saturday	Mackay Day.
May 26-June 2	Saturday-Saturday	Semester examinations.
May 30	Wednesday	Memorial Day Recess.
June 1	Friday	Meeting of Honorary Board of Visitors.
June 2	Saturday, 5:00 p. m.	Semester closes.
June 2	Saturday evening	Phi Kappa Phi banquet.
June 3	Sunday	Baccalaureate.
June 4	Monday	Commencement.
June 6	Wednesday, 9:00 a. m.	Final grades on file with Registrar.

1956 SUMMER SESSIONS

June 9	Saturday	Registration for first two-week session and for long ten-week session.
June 11	Monday	Instruction begins for first session and for long session.
June 22	Friday	First session ends.
June 23	Saturday	Registration for main six-week session.
June 25	Monday	Instruction begins for main session.
August 3	Friday	Main session ends.
August 4	Saturday	Registration for post two-week session.
August 6	Monday	Instruction begins for post session.
August 17	Friday	Long session and post session end.

OFFICERS OF THE UNIVERSITY

THE BOARD OF REGENTS

HON. A. C. GRANT (1957) ..... Las Vegas
HON. SILAS E. ROSS (1957) ..... Reno
HON. ROY A. HARDY (1959) ..... Reno
HON. LOUIS E. LOMBARDI, M.D. (1959) ..... Reno
HON. BRUCE R. THOMPSON (1959) ..... Reno

ORGANIZATION OF THE BOARD

HON. SILAS E. ROSS ..... Chairman
HON. A. C. GRANT ..... Vice Chairman
HON. SILAS E. ROSS, HON. ROY A. HARDY, HON. LOUIS E. LOMBARDI, and HON. BRUCE R. THOMPSON ..... Executive Committee
MISS CAROLYN M. BECKWITH ..... Secretary Emeritus
MISS ALICE TERRY ..... Secretary

ADMINISTRATIVE OFFICERS

MINARD W. STOUT, Ph.D., President.
WILLIAM R. WOOD, Ph.D., Academic Vice President.
JOHN R. BERTRAND, Ph.D., Dean of the Max C. Fleischmann College of Agriculture.
CLARENCE E. BYRD, M.A., Registrar and Director of Admissions.
WILLIAM D. CARLSON, M.A., Dean of Student Affairs.
PERRY W. HAYDEN, B.A., Comptroller and Treasurer.
JAMES J. HILL, M.A., B.S. in L.S., Director of Libraries.
GAROLD D. HOLSTINE, Ph.D., Dean of the College of Education.
RALPH A. IRWIN, Ph.D., Dean of the College of Arts and Science.
MISS ELAINE MOBLEY, M.A., Dean of Women.
JOE EUGENE MOOSE, Ph.D., Dean of the Graduate School.
STANLEY G. PALMER, M.E., Sc.D., Dean of the College of Engineering.
VERNON E. SCHEID, Ph.D., Dean of the Mackay School of Mines.

PUBLIC SERVICE DIVISION

JOHN R. BERTRAND, Ph.D., Director of Agricultural Experiment Station and Agricultural Extension Division.
C. E. FLEMING, B.S.A., Associate Director of Agricultural Experiment Station.
EDWARD L. RANDALL, M.S., Commissioner of Food and Drugs; State Sealer of Weights and Measures.
EDWARD RECORDS, V.M.D., Director of Veterinary Control Service.
VERNON E. SCHEID, Ph.D., Director of Nevada Bureau of Mines and Nevada Mining Analytical Laboratory.

Associated Students
JAMES MCNABNEY, Graduate Manager.

Buildings and Grounds
CARL M. HORN, Superintendent.

Dining Hall
MRS. NELLIE NELSON, Director.

Infirmary

ROBERT LOCKE, M.D., Physician.
MISS MARY E. JOHNSON, R.N., Head Nurse.
MISS BERTHA E. NELSON, R.N., Assistant Nurse.
MRS. ANN BARNES, Assistant.

Residence Halls

MRS. BELLE DREW, Hostess of Artemisia Hall.
MRS. JAMES NAISMITH, Hostess of Manzanita Hall.

THE UNIVERSITY STAFF*

President

MINARD W. STOUT, Ph.D., Professor and President.
A.B., Iowa State Teachers College, 1929; M.A., University of Iowa, 1933; Ph.D., 1943. (1952)

WALTER ERNEST CLARK,[1] Ph.D., LL.D., President Emeritus.
B.A., Ohio Wesleyan University, 1896; M.A., 1898; Ph.D., Columbia University, 1903; LL.D., Ohio Wesleyan University, 1918; LL.D., University of Nevada, 1938; Chevalier, Legion d'Honneur, 1937. (1917–1938)

Staff Emeriti

LENA H. BERRY, B.S., Home Demonstration Agent, Churchill County, Emeritus.
B.S., University of Nebraska, 1925. (1928–1954)

FREDERICK L. BIXBY, C.E., Professor of Civil Engineering, Emeritus.
B.S., University of California, 1905; C.E., University of Nevada, 1918. (1919–1947)

HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering, Emeritus.
B.S., University of Wisconsin, 1894; C.E., 1911. (1907–1939)

CHARLES LEROY BROWN, M.A., Associate Professor of Biology, Emeritus.
B.A., University of Nevada, 1912; M.A., 1913. (1918–1938)

JAY ARNOLD CARPENTER, E.M., Sc.D., Professor of Mining Engineering, Emeritus.
B.S., University of Nevada, 1907; E.M., 1911; Sc.D., 1949. (1908–1951)

JAMES EDWARD CHURCH, Ph.D., LL.D., Professor of the Classics; Meteorologist, Agricultural Experiment Station, Emeritus.
A.B., University of Michigan, 1892; Ph.D., University of Munich, 1901; LL.D., University of Nevada, 1937. (1892–1939)

BERTRAND FRANKLIN COUCH, Instructor in Mine Accounting, Emeritus.
(1924–1951)

CECIL W. CREEL, B.S., D.Agr., Director of Agricultural Extension Division, Emeritus.
B.S., University of Nevada, 1911; D.Agr., University of Maryland, 1939. (1919–1952)

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*The date following each description designates the time of original appointment to the faculty of the University. (Dates of resignations and reappointments are not indicated.) A second date indicates the beginning of service in present rank when this differs from the date of original appointment.

[1]Died May 1, 1955.

SAMUEL BRADFORD DOTEN,[1] M.A., Sc.D., Director of Agricultural Experiment Station, Emeritus.
B.A., University of Nevada, 1898; M.A., 1912; Sc.D., 1950. (1890–1946)

PETER FRANDSEN, A.M., LL.D., Professor of Biology, Emeritus.
A.B., University of Nevada, 1895; A.B., Harvard University, 1898; A.M., 1899; LL.D., University of Nevada, 1924. (1900–1942)

VINCENT P. GIANELLA, Ph.D., Professor of Geology, Emeritus.
B.S., Oregon Agricultural College, 1910; B.S., Oregon School of Mines, 1911; M.S., University of Nevada, 1920; Ph.D., Columbia University, 1937. (1923–1952)

FRANCIS B. HEADLEY, Chief in Farm Development, Agricultural Experiment Station, Emeritus.
(1925–1950)

ALBERT ELLSWORTH HILL, A.B., Professor of English, Emeritus.
A.B., University of Chicago, 1899. (1913–1944)

HELEN JOSLIN, Lecturer in Art, Emeritus.
(1939–1952)

JOSEPH D. LAYMAN, B.L., Librarian, Emeritus.
B.L., University of California, 1888. (1907–1929)

PHILIP A. LEHENBAUER, Ph.D., Professor of Horticulture, Emeritus.
A.B., Westminster College, 1907; A.M., Millikin University, 1909; Ph.D., University of Illinois, 1914. (1914–1947)

ALICE B. MARSH, M.S., Associate Professor of Home Economics, Emeritus.
B.S., Oregon State College, 1914; Professional Degree, 1933; M.S., Kansas State College, 1934; M.A., Ohio University, 1936. (1936–1952)

MEREDITH R. MILLER, M.S., Research Chemist, Agricultural Experiment Station, Emeritus.
B.S., University of California, 1912; M.S., University of Nevada, 1927. (1918–1951)

FRANCIS CLARK MURGOTTEN, Ph.D., Professor of Foreign Languages, Emeritus.
A.B., Stanford University, 1901; A.M., 1908; Ph.D., Columbia University, 1924. (1922–1950)

WALTER S. PALMER, E.M., Professor of Metallurgy, Emeritus.
B.S., University of Nevada, 1905; E.M., Columbia School of Mines, 1907. (1910–1952)

JESSIE P. POPE, M.A., Associate Professor of Home Economics, Emeritus.
B.S., University of Nebraska, 1913; M.A., Columbia University, 1926. (1918–1953)

[1]Died May 9, 1955.

ALBERT J. REED, M.S., Animal Husbandman, Agricultural Extension Division, Emeritus.
B.S., University of Nevada, 1921. (1921–1952)

JEANETTE CAMERON RHODES, B.A., Registrar, Emeritus.
B.A., University of Nevada, 1904. (1937–1952)

KATHERINE RIEGELHUTH, A.M., Professor of English, Emeritus.
B.A., University of Nevada, 1897; A.M., Columbia University, 1913. (1905–1943)

EDITH E. RUEBSAM, M.A., Associate Professor of Education, Emeritus.
B.A., Columbia University, 1921; M.A., University of California, 1934. (1925–1953)

ELSA SAMETH, M.S., Professor of Physical Education for Women, Emeritus.
A.B., Cornell University, 1911; B.S., Columbia University, 1911; M.S., University of Wisconsin, 1922. (1913–1948)

VERNER E. SCOTT, M.S., Professor of Dairy and Poultry Husbandry; Soil Conservationist, Agricultural Extension Service, Emeritus.
B.S., University of Wisconsin, 1911; M.S., University of Nevada, 1933. (1912–1948)

GEORGE WALLACE SEARS, Ph.D., Professor of Chemistry, Emeritus.
B.S., Drury College, 1908; M.S., University of Illinois, 1911; Ph.D., 1914. (1917–1949)

FRED W. TRANER, Ph.D., Professor of Education, Emeritus.
A.B., Beloit College, 1908; M.A., University of California, 1920; Ph.D., 1930. (1915–1952)

LYMAN R. VAWTER, D.V.M., Associate in Veterinary Science, Agricultural Experiment Station, Emeritus.
D.V.M., Kansas State Agricultural College, 1918. (1920–1951)

MILAN J. WEBSTER, Ph.D., Professor of Economics, Business, and Sociology, Emeritus.
B.E., Nebraska Normal College, 1908; B.A., University of Nevada, 1929; M.A., 1931; Ph.D., University of Colorado, 1934. (1929–1953)

JOHN H. WITTWER, B.S., Agricultural Agent, Clark County, Emeritus.
B.S., Utah Agricultural College, 1917. (1921–1951)

JAMES REED YOUNG,[1] Ph.D., Professor of Psychology, Emeritus.
B.L., Berea University, 1907; A.B., Stanford University, 1909; A.M., 1910; Ph.D., University of Chicago, 1916. (1915–1948)

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[1]Died November 29, 1954.

Staff

MARY F. ALVEY, Mines Librarian and Map Curator.
(1952)

NORMA BAKER, Ph.D., Assistant Professor of Education.
A.B., University of California, 1936; M.A., Stanford University, 1943; Ph.D., University of California, 1953. (1954)

FRED C. BATCHELDER, M.S., Agricultural Agent, Lyon County.
B.S., University of Nevada, 1942; M.S., Oregon State College, 1952. (1940)

E. MAURICE BEESLEY, Ph.D., Associate Professor of Mathematics.
A.B., Lafayette College, 1936; Sc.M., Brown University, 1938; Ph.D., 1943. (1940–1944)

ROBERT L. BEREUTER, Lt. Colonel, U. S. Army, Professor of Military Science and Tactics.
(1954)

JOHN R. BERTRAND, Ph.D., Professor and Dean of the Max C. Fleischmann College of Agriculture, Director of Agricultural Experiment Station, Extension Division, and Resident Instruction.
B.S., Texas Technological College, 1940; M.S., 1941; Ph.D., Cornell University, 1950. (1954)

ALVIN T. BLEAK, B.S., Research Range Conservationist, Collaborator, U.S.D.A.
B.S., University of Utah, 1941. (1952)

HOWARD B. BLODGETT, C.E., Professor of Civil Engineering.
B.S., University of Arizona, 1928; M.S., 1929; C.E., 1933. (1947)

VERLE RUDOLPH BOHMAN, Ph.D., Assistant Professor of Animal Husbandry; Assistant Animal Nutritionist, Agricultural Experiment Station.
B.S., Utah State Agricultural College, 1949; M.A., 1951; Ph.D., Cornell University, 1952. (1952)

JOHN A. BONELL, C.E., Associate Professor of Civil Engineering.
B.S., South Dakota State College, 1936; M.S., California Institute of Technology, 1938; C.E., South Dakota State College, 1950. (1949–1952)

C. KENNETH BRADSHAW, B.S., Instructor in Mathematics.
B.S., Iowa State College, 1945. (1947–1954)

ANN BREWINGTON, M.A., Lecturer in Business Administration (Las Vegas).
B.S., State Teachers College (Missouri), 1920; Ph.B., University of Chicago, 1921; M.A., 1922. (1954)

LAUREN BRINK, Ph.D., Associate Professor of English.
B.S., University of Minnesota, 1941; M.A., 1945; Ph.D., 1950. (1954)

GEORGE A. BROTEN, Ed.M., Associate Professor and Director of Health, Physical Education, and Athletics.
B.S., Oregon State College, 1940; Ed.M., 1947. (1948–1954)

HAROLD N. BROWN, Ed.D., Professor of Education.
B.S., Kansas State Teachers College, 1923; A.M., Stanford University, 1927; Ed.D., University of California, 1935. (1930–1940)

THOMAS E. BUCKMAN, M.S., Assistant Director for County Agent Work, Agricultural Extension Service.
B.S., University of Nevada, 1921; M.S., 1933. (1921–1925)

FERREN W. BUNKER, B.S., Agricultural Agent, Lincoln County.
B.S., University of Nevada, 1940. (1947)

JOHN N. BUTLER, M.S., Project Engineer and Research Metallurgist, Mackay School of Mines.
B.S., State College of Washington, 1932; M.S., 1935. (1952)

CLARENCE E. BYRD, M.A., Registrar and Director of Admissions.
B.A., Central Normal College (Indiana), 1925; M.A., University of Colorado, 1936; B.S., University of Nevada, 1948. (1943–1952)

WILLIAM D. CARLSON, M.A., Dean of Student Affairs.
B.E., St. Cloud State Teachers College (Minnesota), 1939; M.A., University of Minnesota, 1951. (1953)

VIRGINIA CARROLL,[1] M.A., Associate Professor of Home Economics.
B.S., Columbia University, 1927; M.A., 1933. (1943)

WALTER C. CHRISTENSEN, B.S., Assistant Agricultural Agent, Washoe County.
B.S., University of Nevada, 1939. (1953)

SIDNEY J. CLAUNCH, JR., M.A., Instructor in Economics, Business, and Sociology.
A.B., Ohio University, 1949; M.A., University of Wisconsin, 1951. (1954)

THOMAS W. COOK, B.S., Agricultural Agent, White Pine and Eureka Counties.
B.S., University of California, 1952. (1952)

DONALD G. COONEY, Ph.D., Assistant Professor of Biology.
B.S., University of Nevada, 1947; Ph.D., University of California, 1952. (1948–1952)

HOWARD P. CORDS, Ph.D., Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station.
B.S.A., University of Arizona, 1941; M.S., 1942; Ph.D., Ohio State University, 1954. (1954)

[1]Died January 13, 1955.

RAYMOND C. COX, B.S., Agricultural Agent, Douglas, Ormsby and Storey Counties.
B.S., University of California, 1949. (1950)

JAMES A. CROWE, B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
B.S., U. S. Military Academy, 1945. (1953)

ALEX D. DANDINI, Ph.D., Associate Professor of Foreign Languages.
D.S.L., University of Grenoble, 1921; D.H.E., University of Turin, 1923; Ph.D., University of Laval (Quebec), 1954. (1946–1953)

E. ALLAN DAVIS, Ph.D., Assistant Professor of Mathematics.
A.B., University of California, 1940; M.A., 1944; Ph.D., 1951. (1947–1948)

J. KIRK DAY, B.S., Agricultural Agent, Humboldt and northern Lander Counties.
B.S., University of Nevada, 1946. (1947)

MAURICE ROLLAND DEMERS, M.A., Assistant Professor of Mathematics.
B.S., University of Michigan, 1935; M.A., University of Buffalo, 1937. (1948–1951)

MERYL WILLIAM DEMING, Ph.D., Professor of Chemistry.
B.A., University of Oregon, 1923; M.A., 1925; Ph.D., University of Washington, 1928. (1929–1946)

JAMES R. DICKINSON, B.A.E., Instructor in English (Las Vegas).
B.A.E., University of Florida, 1939. (1949)

LARAINE ERNEST DUNN, Ph.D., Associate Professor of Soils and Plant Nutrition.
B.S., Oregon State College, 1929; M.S., Iowa State College, 1931; Ph.D., Washington State College, 1942. (1947)

WALTER B. DYE, Ph.D., Research Chemist, Agricultural Experiment Station.
B.S., University of Oklahoma, 1924; Ph.D., Stanford University, 1938. (1951)

MAYBELL S. EAGER, M.A., Lecturer in Home Economics; Home Demonstration Leader and Home Economics Specialist, Agricultural Extension Service.
A.B., University of California, 1920; M.A., 1924. (1952)

HENRY PHILLIP EHRLINGER, III, E.M., Assistant Research Metallurgist, Mackay School of Mines.
E.M., Colorado School of Mines, 1950. (1953)

BETTY J. EILERTSEN, Ph.D., Assistant Professor of Foreign Languages.
B.A., Russell Sage College, 1940; M.A., University of Wisconsin, 1941; Ph.D., University of Illinois, 1944. (1954)

PAUL RICHARD ELDRIDGE, Ph.D., Professor of English.
B.A., University of Oklahoma, 1919; M.A., Harvard University, 1922; Ph.D., University of Iowa, 1942. (1945–1949)

RUSSELL R. ELLIOTT, Ph.D., Associate Professor of History and Political Science.
B.A., University of Nevada, 1934; M.A., University of Washington, 1938; Ph.D., University of California, 1946. (1949–1954)

RODERICK A. FALK, A.B., Laboratory Instructor in Chemistry.
A.B., Westmont College (California), 1950. (1951)

JOHN M. FENLEY, M.S., Agricultural Agent, Clark County.
B.S., University of California, 1939; M.S., 1948. (1951)

LOIS FITZGIBBONS, M.Ed., Instructor in Health, Physical Education, and Athletics.
B.S., Lewis and Clark College, 1947; M.Ed., 1950. (1953)

CHARLES E. FLEMING, B.S.A., Associate Director of Agricultural Experiment Station.
B.S., Utah Agricultural College, 1909; B.S.A., Cornell University, 1910. (1916)

HARRIETT E. FONDA, M.S., Lecturer in Home Economics.
B.S., New York State College of Home Economics, Cornell University, 1943; M.S., Oklahoma Agricultural and Mechanical College, 1953. (1955)

THOMAS VERNON FRAZIER, Ph.D., Assistant Professor of Physics.
B.A., University of California (Los Angeles), 1943; M.A., 1949; Ph.D., 1952. (1950–1952)

LOUIE A. GARDELLA, B.S., Agricultural Agent, Washoe County.
B.S., University of Nevada, 1932. (1934)

WILLIAM LAWRENCE GARROTT, M.S., Associate Professor of Electrical Engineering.
B.S., University of Kentucky, 1942; M.S., 1954. (1952–1954)

ALBERT RICHARD GLOCKZIN, M.S., Assistant Geologist, Nevada Bureau of Mines.
B.S., St. Norbert College, 1939; M.S., Louisiana State University, 1942. (1953)

CECILLY GOLDEN, M.S., Home Demonstration Agent, Churchill County.
A.B., Hunter College, 1946; M.S., Oregon State College, 1953. (1955)

WILLIAM A. GOODALE, B.S., Assistant in Soils Research, Agricultural Experiment Station.
B.S., University of Nevada, 1926. (1944–1947)

DUWAYNE LEROY GOODWIN, M.S., Assistant Professor of Range Management; Assistant Plant Ecologist, Agricultural Experiment Station.
B.S., University of Idaho, 1942; M.S., University of Wisconsin, 1946. (1954)

ROBERT MARK GORRELL,[1] Ph.D., Associate Professor of English.
A.B., Cornell University, 1936; Ph.D., 1939. (1945–1949)

JOHN GOTTARDI, M.A., Professor of Foreign Languages.
B.A., University of Nevada, 1921; M.A., 1926. (1922–1953)

ROBERT STUART GRIFFIN, Ph.D., Professor of English.
B.S., Oregon State College, 1928; M.A., University of Southern California, 1935; Ph.D., 1941. (1928–1944)

RUTH JOYCE HADLEY, B.L.S., Reference Librarian.
B.A., University of Wisconsin, 1949; B.L.S., 1950. (1954)

CLAUDE W. HAMMOND, Met.E., Assistant Professor of Metallurgy; Assistant Chemist, Nevada Mining Analytical Laboratory.
B.S., University of Nevada, 1931; Met.E., 1950. (1947–1950)

EVERETT WHITE HARRIS, Ph.D., Professor of Mechanical Engineering.
B.S., University of Nevada, 1926; S.M., Massachusetts Institute of Technology, 1932; Ph.D., University of California, 1941. (1938–1949)

MABEL L. HARTLEY, B.A., Assistant Agricultural Economist, Agricultural Experiment Station.
B.A., University of Nevada, 1929. (1934)

PERRY W. HAYDEN, B.A., Comptroller and Treasurer.
B.A., University of Nevada, 1931. (1945)

M. GERTRUDE HAYES, B.S., Home Demonstration Agent, Washoe County.
B.S., University of Missouri, 1918. (1929)

FELTON HICKMAN, M.A., Assistant Professor of Music.
B.A., University of Nevada, 1938; M.A., Brigham Young University, 1954. (1950)

CHARLES ROGER HICKS, Ph.D., Professor of History and Political Science.
A.B., Clark University, 1915; A.M., Stanford University, 1922; Ph.D., Clark University, 1931. (1924–1931)

ALFRED LESLIE HIGGINBOTHAM, A.M., Professor of Journalism.
A.B., Oberlin College, 1920; A.M., 1920. (1923–1936)

EDWARD WESLEY HILER, Ph.D., Instructor in Psychology and Philosophy.
B.A., Princeton University, 1949; M.A., University of Michigan, 1951; Ph.D., 1954. (1953)

JAMES JULIAN HILL, B.S. in L.S., Professor and Director of Libraries.
B.A., University of Oklahoma, 1915; M.A., 1915; B.S. in L.S., University of Illinois, 1929. (1944)

[1]Absent on leave, fall 1954.

WILLIAM F. HOFF, B.S., Assistant Agricultural Agent, Clark County.
B.S., California Polytechnic College, 1943. (1954)

EDITH J. HOLMES, B.A., Order Librarian.
B.A., University of Nevada, 1938. (1947)

GAROLD D. HOLSTINE, Ph.D., Professor and Dean of the College of Education.
B.Ed., Western Illinois State Teachers College, 1932; M.A., University of Iowa, 1935; Ph.D., 1942. (1954)

FRANK E. HOLT, A.B., Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
A.B., San Jose State College, 1941. (1953)

JAMES M. HOYT, M.B.A., Assistant Professor of Economics, Business, and Sociology.
B.S., Miami University, 1947; M.B.A., Indiana University, 1948. (1948–1954)

ROBERT A. HUME, Ph.D., Professor of English.
A.B., Stanford University, 1929; LL.B., 1932; M.A., 1935; Ph.D., Cornell University, 1940. (1944–1951)

JAMES E. HUNTER, B.S., Lecturer in Animal Husbandry; Superintendent of South Virginia Farm.
B.S., University of California, 1939. (1952)

AUSTIN E. HUTCHESON, Ph.D., Associate Professor of History and Political Science.
B.A., Reed College, 1925; M.A., University of California, 1929; Ph.D., University of Pennsylvania, 1937. (1940–1943)

RALPH A. IRWIN,[1] Ph.D., Professor and Dean of the College of Arts and Science.
B.S., Kansas State Agricultural College, 1928; M.S., 1929; Ph.D., Ohio State University, 1938. (1929–1955)

ALLVAR H. JACOBSON, Ph.D., Associate Professor of Economics, Business, and Sociology.
B.S., Miami University, 1937; M.A., 1939; Ph.D., Ohio State University, 1950. (1954)

KEISTE JANULIS, M.S., Associate Professor of Journalism.
B.A., Lehigh University, 1938; M.S., Columbia University, 1941. (1946–1954)

CLARE LOUISE JOHNSON, B.A., Catalogue Librarian.
B.A., Northland College (Wisconsin), 1923. (1929)

ELOYDE JONES, B.A. in L.S., Assistant Catalogue Librarian.
B.A., University of Oklahoma, 1950; B.A. in L.S., 1952. (1953)

LOWELL L. JONES, Ph.D., Assistant Professor of Biology.
A.B., University of California, 1935; Ph.D., 1939. (1949–1950)

[1]Appointed Dean effective July 1, 1955.

EARL W. KERSTEN, JR., M.A., Assistant Professor of Geography.
A.B., Washington University, 1949; M.A., University of Nebraska, 1951. (1951–1954)

JAMES F. KIDWELL, Ph.D., Associate Professor of Animal Husbandry; Associate Animal Geneticist, Agricultural Experiment Station.
B.S., University of California, 1943; Ph.D., 1950. (1951)

LAWTON B. KLINE, Ph.D., Assistant Professor of Foreign Languages.
B.A., University of Nevada, 1926; M.A., 1928; Ph.D., Stanford University, 1950. (1931–1937)

VICTOR E. KRAL,[1] E.M., Mining Engineer, Nevada Bureau of Mines.
B.S., University of Nevada, 1938; E.M., 1951. (1936)

CHARLTON G. LAIRD, Ph.D., Professor of English.
B.A., University of Iowa, 1925; M.A., 1927; Ph.D., Stanford University, 1940. (1943–1945)

JAMES A. LANGFORD, Ph.D., Assistant Professor of Education.
A.B., Western Kentucky Teachers College, 1937; M.A., University of Michigan, 1947; Ph.D., 1954. (1950)

IRA LA RIVERS, Ph.D., Associate Professor of Biology.
B.S., University of Nevada, 1937; Ph.D., University of California, 1948. (1948–1954)

E. RICHARD LARSON, Ph.D., Associate Professor of Geology.
B.A., Columbia University, 1942; M.A., 1947; Ph.D., 1951. (1949–1953)

ROBERT W. LAUDERDALE, B.S., Entomologist, Agricultural Extension Service.
B.S., Oregon State College, 1949. (1955)

GLENN J. LAWLOR, B.A., Assistant Professor of Health, Physical Education, and Athletics.
B.A., University of Nevada, 1930. (1942–1954)

JEANNE B. LAWSON, M.A., Instructor in English.
B.A., University of California, 1943; M.A., 1949. (1953)

ROBERT P. LAXALT, B.A., University Editor.
B.A., University of Nevada, 1947. (1954)

SIGMUND W. LEIFSON, Ph.D., Professor of Physics.
B.S., North Dakota State Agricultural College, 1922; Ph.D., University of California, 1925. (1925–1935)

JOSEPH LINTZ, JR., M.S., Assistant Professor of Geology; Assistant Geologist, Nevada Bureau of Mines.
A.B., Williams College, 1942; M.S., University of Oklahoma, 1947. (1951)

[1]Resigned December 31, 1954.

LYLE O. MCCARTNEY, B.S., Animal Husbandman, Agricultural Extension Service.
B.S., University of Nevada, 1949. (1948–1952)

JOHN MCCORMICK, B.S., Superintendent of Newlands Field Station, Agricultural Experiment Station.
B.S., Oregon State College, 1938. (1950)

LON S. MCGIRK, JR., Ph.D., Assistant Professor of Geology.
B.S., Oregon State College, 1942; M.S., Stanford University, 1950; Ph.D., 1952. (1952)

EFFIE MONA MACK, Litt.D., Ph.D., Lecturer in History (Las Vegas).
A.B., University of Nevada, 1909; B.A., Smith College, 1912; M.A., University of Nevada, 1916; Ph.D., University of California, 1930; Litt.D., University of Nevada, 1948. (1954)

ROBERT A. MADSEN, B.S., Agricultural Agent, Nye, Esmeralda, and southern Lander Counties.
B.S., University of Nevada, 1955. (1955)

PAUL L. MALONEY, B.S., Assistant Director of Junior Extension Work, Agricultural Extension Service.
B.S., University of Nevada, 1925. (1925)

EMORY L. MARSHALL, Assistant Agricultural Agent, Lyon County.
(1955)

JOHN EDWARD MARTIE, M.P.E., Professor of Health, Physical Education, and Athletics.
B.S., Central Missouri State Teachers College, 1923; M.P.E., Y.M.C.A. College (Massachusetts), 1930. (1923–1929)

HOWARD G. MASON,[1] B.S., Agricultural Economist, Agricultural Experiment Station.
B.S., University of Nevada, 1940. (1935)

CLYDE F. MEAD, Ed.D., Assistant Professor of Education.
B.Ed., Western Illinois State Teachers College, 1940; M.A., University of Illinois, 1946; Ed.D., Indiana University, 1954. (1952)

HENRY MELENDY, M.S., Assistant Animal Husbandman, Agricultural Experiment Station.
B.S., University of California (Davis), 1948; M.S., University of Idaho, 1954. (1954)

CHRISTIAN W. F. MELZ, Ph.D., Associate Professor of Foreign Languages.
B.A., University of California, 1931; M.A., 1933; Ph.D., 1935. (1941–1947)

MARK W. MENKE, B.S., Agricultural Agent, Elko County.
B.S., University of Nevada, 1929. (1929)

[1]Retires June 30, 1955.

LLOYD E. MEYERS, JR., M.S. (CE), Irrigation Engineer, Collaborator, U.S.D.A.
B.S., Utah State College, 1949; M.S., 1950. (1954)

JESSICA MILLER, B.E., Home Demonstration Agent, Lyon County.
B.E., University of California (Los Angeles), 1924. (1954)

ROBERT H. MILLER, Ph.D., Assistant Professor of Biology.
A.B., University of California, 1950; Ph.D., Oregon State College, 1954. (1953–1954)

WILLIAM CHARLES MILLER,[1] Ph.D., Associate Professor of English.
B.S., University of Southern California, 1931; M.A., 1932; Ph.D., 1947. (1932–1947)

H. ELAINE MOBLEY, M.A., Dean of Women.
B.S., University of Oregon, 1926; M.A., University of California, 1947. (1946)

CHARLES H. MONSON, JR., Ph.D., Assistant Professor of Philosophy.
B.S., University of Utah, 1948; M.S., 1949; Ph.D., Cornell University, 1952. (1952)

JOE EUGENE MOOSE,[2] Ph.D., Professor of Chemistry; Director of Research and Graduate Study.
A.B., Southern Methodist University, 1917; M.S., University of Illinois, 1922; Ph.D., 1924. (1945–1954)

ROBERT J. MORRIS, Ph.D., Assistant Professor of Chemistry.
B.S., University of Idaho, 1936; M.S., 1938; Ph.D., Ohio State University, 1947. (1947–1948)

JOHN W. MORRISON, Ph.D., Assistant Professor of English.
B.A., University of Washington, 1937; Ph.D., 1948. (1949–1950)

HARVE P. NELSON, Ph.D., Associate Professor of Mining.
B.S., Texas College of Mines, 1930; E.M., 1948; M.S., Missouri School of Mines and Metallurgy, 1950; Ph.D., University of Missouri, 1952. (1951)

FRANCIS N. NEVILLE, JR.,[3] D.V.M., Associate Veterinarian, Agricultural Experiment Station.
B.S., Agricultural and Mechanical College of Texas, 1947; D.V.M., 1950. (1952)

BURTON C. NEWBRY, Ed.D., Assistant Professor of Education.
B.A., College of Idaho, 1947; M.A., Montana State University, 1949; Ed.D., University of Oregon, 1954. (1952)

ARTHUR J. PALMER, JR., M.A., Teaching Assistant in Geography (Las Vegas).
B.S., University of Nevada, 1943; M.A., Columbia University, 1951. (1951)

[1]Absent on leave, fall 1954.
[2]Appointed Dean of the Graduate School effective July 1, 1955.
[3]Resigned December 31, 1954.

STANLEY G. PALMER, M.E., Sc.D., Professor and Dean of the College of Engineering.
B.S., University of Nevada, 1909; M.E., Cornell University, 1910; Sc.D., University of Nevada, 1949. (1915–1942)

WALTER S. PALMER, JR., Ph.D., Associate Professor of Economics, Business, and Sociology.
B.A., University of Nevada, 1937; M.B.A., Stanford University, 1941; Ph.D., 1954. (1946–1954)

RAY K. PETERSON, M.S., Superintendent, Field Stations in Southern Nevada, Agricultural Experiment Station.
B.S., Utah State Agricultural College, 1937; M.S., Agricultural and Mechanical College of Texas, 1939. (1946–1947)

ALDEN J. PLUMLEY, A.M., Associate Professor of Economics, Business, and Sociology.
B.A., University of Nevada, 1929; A.M., Brown University, 1932. (1931–1953)

ROBERT C. POOLMAN, B.S., Assistant Professor of Civil Engineering.
B.S., California Institute of Technology, 1945. (1946–1948)

THEODORE H. POST,[1] M.A., Professor and Director of Music.
New England Conservatory of Music, Certificate, 1918; A.B., Washburn College, 1922; M.A., Harvard University, 1926. (1927)

EDWARD L. RANDALL, M.S., Commissioner of Food and Drugs; State Sealer of Weights and Measures.
B.S., University of Nevada, 1931; M.S., University of Michigan, 1933. (1933–1954)

EDWARD RECORDS, V.M.D., Veterinarian Agricultural Experiment Station; Director, Veterinary Control Service.
V.M.D., University of Pennsylvania, 1909. (1914)

JOHN P. REED, M.A., Instructor in Economics, Business, and Sociology.
B.A., Tulane University, 1947; M.A., University of Illinois, 1950; LL.B., 1953. (1953)

FRANK RICHARDSON, Ph.D., Associate Professor of Biology.
B.A., Pomona College, 1934; Ph.D., University of California, 1939. (1941–1949)

HAROLD RICHARDSON, Ph.D., Assistant Professor of Psychology.
B.A., University of Minnesota, 1946; M.A., 1948; Ph.D., 1950. (1950)

GROVER ROBERTS, JR., B.S., Associate Agricultural Agent, Elko County.
B.S., Colorado Agricultural and Mechanical College, 1949. (1952)

[1]Died April 19, 1955.

JOSEPH H. ROBERTSON, Ph.D., Associate Professor of Range Management; Associate Range Ecologist, Agricultural Experiment Station.
A.B., Peru State Teachers College (Nebraska), 1928; M.Sc., University of Nebraska, 1932; Ph.D., 1939. (1947)

W. C. ROBOCKER, Ph.D., Agronomist, Collaborator, U.S.D.A.
B.S., University of Wisconsin, 1949; M.S., 1950; Ph.D., 1952. (1953)

RUTH IRENE RUSSELL, Ph.D., Associate Professor of Health, Physical Education, and Athletics.
B.S., University of Colorado, 1937; M.S., University of Oregon, 1939; Ph.D., University of Iowa, 1954. (1939–1954)

JACK TORNEY RYAN, Shop Superintendent, Mechanical Engineering.
(1931)

FRED RYSER, JR., Ph.D., Assistant Professor of Biology.
B.S., University of Wisconsin, 1947; M.S., 1948; Ph.D., 1952. (1953)

IRVING JESSE SANDORF, M.S., Professor of Electrical Engineering.
B.S., University of Michigan, 1923; M.S., University of Nevada, 1931. (1928–1944)

VERNON E. SCHEID, Ph.D., Professor and Dean of Mackay School of Mines; Director of Nevada Bureau of Mines and Nevada Mining Analytical Laboratory.
A.B., Johns Hopkins University, 1928; M.S., University of Idaho, 1940; Ph.D., Johns Hopkins University, 1946. (1951)

OTTO R. SCHULZ, B.S., Agronomist, Agricultural Extension Service.
B.S., University of Nevada, 1928. (1928)

FRANK SCOTT, JR.,[1] Ph.D., Assistant Agricultural Economist, Agricultural Experiment Station.
B.S., Oregon State College, 1944; M.A., University of Missouri, 1947; Ph.D., University of Illinois, 1953. (1951)

CHESTER M. SCRANTON, M.A., Associate Professor of Health, Physical Education, and Athletics.
B.A., University of Nevada, 1924; M.A., 1928. (1928–1936)

H. JEROME SEIM, Ph.D., Assistant Professor of Chemistry.
B.A., St. Olaf College, 1941; M.S., Montana School of Mines, 1943; Ph.D., University of Wisconsin, 1949. (1949–1951)

CHARLES H. SEUFFERLE, Ph.D., Assistant Professor of Agricultural Economics; Assistant Economist, Agricultural Experiment Station.
B.S., Purdue University, 1939; M.S., University of Maryland, 1940; Ph.D., Purdue University, 1952. (1955)

[1]Resigned December 15, 1954.

J. Craig Sheppard, B.F.A., Associate Professor of Art.
B.F.A., Painting, University of Oklahoma, 1938; B.F.A., Sculpture, 1939. (1947–1952)

Wilbur S. Shepperson,[2] Ph.D., Assistant Professor of History and Political Science.
B.S., Northeast Missouri State College, 1941; M.A., University of Denver, 1947; Ph.D., Western Reserve University, 1951. (1951–1952)

David B. Slemmons, Ph.D., Assistant Professor of Geology.
B.S., University of California, 1948; Ph.D., 1953. (1951)

Claude Carson Smith, Ph.D., Professor of History and Political Science.
A.B., Carson-Newman College, 1921; M.A., University of Oklahoma, 1924; Ph.D., Stanford University, 1947. (1929–1948)

A. McCall Smith, Agricultural Editor, Max C. Fleischmann College of Agriculture.
(1954)

Mitchell Smith, Ph.D., Lecturer in History and Political Science.
B.A., University of Texas, 1939; M.A., 1940; Ph.D., 1949. (1954)

Oliver F. Smith, Ph.D., Plant Pathologist, Agricultural Experiment Station; U.S.D.A. Collaborator.
B.S., Utah State Agricultural College, 1930; M.S., University of Wisconsin, 1932; Ph.D., 1934. (1940)

Hugh Smithwick, M.S., Instructor in Health, Physical Education, and Athletics.
B.A., University of Nevada, 1948; M.S., University of Southern California, 1952. (1948–1953)

William I. Smyth, E.M., Professor of Metallurgy and Mining.
B.S., University of Nevada, 1914; E.M., 1927. (1925–1947)

T. Joseph Snyder, B.S., Agricultural Agent, Pershing County.
B.S., Colorado Agricultural and Mechanical College, 1921. (1954)

Victor E. Spencer, M.S., Soils Chemist, Agricultural Experiment Station.
B.S., University of Illinois, 1915; M.S., 1926. (1928)

Robert H. Staehlin, M.A., Loan Librarian.
B.S., Winona State Teachers College, 1946; M.A., University of Minnesota, 1951. (1953)

Robert W. Stephens, B.S., Assistant Research Metallurgist, Mackay School of Mines.
B.S., State College of Washington, 1943. (1952)

Mildred Swift, M.S., Professor of Home Economics.
B.S., Russell Sage College, 1927; M.S., Cornell University, 1930. (1942)

[2]On leave, 1954–1955.

LOUIS TITUS, M.S., Professor of Farm Mechanics.
B.S., University of Nevada, 1924; M.S., Cornell University, 1931. (1933–1947)

CLARK R. TORELL, M.S., Superintendent of Knoll Creek Field Station, Agricultural Experiment Station.
B.S., University of Idaho, 1953; M.S., 1954. (1954)

JAMES R. VAN DYKE, M.E., Professor of Mechanical Engineering.
B.S., Pennsylvania State College, 1918; M.E., 1922. (1941–1944)

WILLIAM VAN TASSEL, M.S., Assistant Professor of Mechanical Engineering.
B.S., University of Nevada, 1943; M.S., University of Colorado, 1950. (1947–1950)

MARVIN ALMA WADE, B.S., Laboratory Technician, Animal Husbandry, Agricultural Experiment Station.
B.S., Idaho State College, 1950. (1954)

LEGRAND WALKER, B.S., Lecturer in Animal Husbandry; Superintendent of University Dairy Farm.
B.S., Utah State Agricultural College, 1928. (1945–1949)

FRANCES HAILAND WATERMAN,[1] B.S., Home Demonstration Agent, Douglas, Ormsby and Storey Counties.
B.S., University of Nevada, 1944. (1946)

ROLLIE A. WEAVER, B.S., Assistant Agricultural Agent, Churchill County.
B.S., University of Nevada, 1954. (1954)

HOWARD J. WEETH, Ph.D., Assistant Professor of Animal Husbandry; Assistant Animal Physiologist, Agricultural Experiment Station.
B.S., University of California (Davis), 1947; M.A., University of Missouri, 1949; Ph.D., 1952. (1954)

LORING RIDER WILLIAMS, Ph.D., Professor of Chemistry.
B.S., West Virginia Wesleyan, 1927; M.S., West Virginia University, 1932; Ph.D., University of Illinois, 1939. (1939–1953)

JACQUELINE WILSON, M.S., Instructor in Health, Physical Education, and Athletics.
B.A., University of Nevada, 1951; M.S., University of California (Los Angeles), 1954. (1954)

JOHN S. WINSTON, M.Sc., Assistant Professor of Metallurgy.
A.B., Cornell College (Iowa), 1937; M.A., University of Chicago, 1939; M.Sc., Missouri School of Mines and Metallurgy, 1950. (1952)

ELDON E. WITTWER, Ph.D., Professor and Associate Director of Resident Instruction in Agriculture.
B.S., University of Nevada, 1922; Ph.D., Cornell University, 1930. (1938–1949)

[1]Resigned April 15, 1955.

FREDRICK WOOD,[1] Ph.D., Professor and Dean of the College of Arts and Science.
A.B., University of Wisconsin, 1915; M.A., 1916; Ph.D., 1923. (1932–1938)

GARLAND P. WOOD, M.S., Assistant Professor of Agricultural Economics; Assistant Economist, Agricultural Experiment Station.
B.S., University of Wisconsin, 1951; M.S., 1954. (1955)

WILLIAM R. WOOD,[2] Ph.D., Professor and Dean of State-wide Development Program of Higher Education.
B.A., Illinois College, 1927; M.A., University of Iowa, 1936; Ph.D., 1939. (1954)

R. EDWIN WORLEY, Ph.D., Associate Professor of Physics.
B.A., Pomona College, 1931; Ph.D., University of California, 1940. (1948–1952)

EDWARD W. YATES, M.F.A., Assistant Professor of Art.
B.F.A., University of Oklahoma, 1950; M.F.A., 1955. (1952)

CHARLES R. YORK, B.S., Agricultural Agent, Churchill County.
B.S., University of Nevada, 1939. (1946)

GEORGE ZAPPETTINI, M.S., Extension Forester and Range Management Specialist, Agricultural Extension Service.
B.S., University of Nevada, 1950; M.S., University of Idaho, 1952. (1952)

J. HAZEL ZIMMERMAN, B.S., Home Demonstration Agent, Clark and Lincoln Counties.
B.S., Oklahoma College, 1917. (1921)

[1]Retires June 30, 1955.
[2]Appointed Academic Vice President effective July 1, 1955.

General Information

Location of the University

The University of Nevada is in Reno, a city of about 41,000, in the west-central part of the State. Located only a few miles from the resort areas of the Sierra Nevada mountains, at an elevation of 4,500 feet, Reno provides a pleasant and healthful environment, combining in its climate the dryness of the desert and the coolness of the mountains. Reno's churches and cultural activities such as the Reno Little Theatre and the Nevada Community Concerts welcome students of the University.

Good highways, the Southern Pacific Railroad, United Air Lines, Bonanza Air Lines, and several bus lines, including Greyhound and Burlington Trailways, make the city easily accessible.

History and Development

The University of Nevada has reached its present standing as an important, fully accredited, institution of higher learning through steady growth from a small preparatory school of the pioneer West to a university offering a wide variety of courses of study and conducting significant research. Established by an article in the State Constitution in 1864, the University of Nevada actually began work in Elko on October 12, 1874, with a class of seven students. For 10 years the University continued at Elko, at a time when high schools were almost unknown in the intermountain area, primarily serving a few local students in elementary studies.

By 1886, however, the educational demands of the State had become enough greater to move the University to Reno, nearer the center of the State's population, where 50 students were enrolled in 1887. The Morrill Land Grant Act of 1862 had already provided Federal aid for the establishment of a University, and the subsequent acts of Congress provided grants which aided the development of the institution.

The University progressed steadily after its reopening in Reno. By 1888 work in mining had been organized and plans made for adding work in agriculture to the already established arts and sciences program. Federal and State grants allowed establishment and steady expansion of the public service divisions of the University. State appropriations and the gifts of benefactors like Mrs. John W. Mackay, Clarence H. Mackay, William A. Clark, Jr., and Max C. Fleischmann allowed the physical

plant to grow. The growth of the faculty and the establishment of the Robert Lardin Fulton Lecture Foundation, the Frank S. Hunt Foundation, and a large number of scholarships and loan funds further developed the academic program.

By the time of the 75th anniversary of its founding, in 1949, the University had become a widely recognized educational institution, with an extensive campus, a well-trained faculty, and an active student body.

A bequest from W. E. Travis, early Nevada pioneer, and matching funds provided by the State Legislature, will make possible a Student Union Building to be known as the Jot Travis Student Building.

The Max C. Fleischmann Foundation in 1954 made provisions for financing the construction of a modern physical plant to house the laboratories, classrooms, and offices of the Max C. Fleischmann College of Agriculture.

Accreditation

Continuously since 1938, the University of Nevada has been "fully accredited as a University" by the Northwest Association of Secondary and Higher Schools.

The College of Engineering and the Mackay School of Mines are recognized and accredited by the Engineers' Council for Professional Development.

The University is an active member of the following national professional education associations: American Council on Education, Association of Land-Grant Colleges and Universities, Department of Higher Education of the National Education Association, National Association of State Universities, Northwest Association of Secondary and Higher Schools, Western College Association, and American Society for Engineering Education.

Organization of the University

The University is a combination of five colleges and various divisions, which function as individual units to provide specialized training and work together to offer a variety of educational opportunities to the student. The student selects the college in which he wishes to enroll in accordance with his individual interests and plans and concentrates most of his work in the departments of his college. He may, and is encouraged to, take courses in other colleges in order to broaden his general knowledge. Detailed information about the programs of each college and division appears later in this catalogue.

The Colleges

Five colleges of the University present basic undergraduate and graduate programs.

The *Max C. Fleischmann College of Agriculture* offers curricula in the School of Agriculture and in the Sarah Hamilton Fleischmann School of Home Economics which lead to the degrees of Bachelor of Science in Agriculture or Bachelor of Science in Home Economics. Master of Science degrees may be earned in animal husbandry, and in agronomy and range management. Agricultural curricula, which include basic courses in the arts and sciences, are available in general agriculture, agricultural economics, agricultural education, agronomy, animal husbandry, range management, and soils. Curricula in home economics are available in home economics education, foods and nutrition, and general home economics. Both men and women will find professional opportunities, as well as fundamentals for sound home and community citizenship, in these areas of study. An integral part of this College is the Agricultural Experiment Station which provides opportunities for research experience both to selected undergraduates and to graduate students. Also a part of this College is the Agricultural Extension Service which carries the findings of research in agriculture and home economics to interested persons not enrolled for formal classes at the University.

The *College of Arts and Science* offers a wide range of courses for students who seek a background of culture and scholarship in order to prepare for more intelligent living and for later specialization. Curricula leading to the degrees of Bachelor of Arts or Bachelor of Science include courses in the following: art, astronomy, biology,* botany,* business administration, chemistry,* dramatics, economics, education, English,* foreign languages,* geology-geography, history,* journalism, library science, mathematics,* military science, music, philosophy, physical education,* physics,* political science,* psychology,* secretarial science, speech, sociology, and zoology.* In addition, standard professional courses are offered in business administration, chemistry, chemical technology, and journalism, and preparatory courses are provided for students interested in later specialization in medicine, nursing, medical technology, law, social work, and wildlife management. The College offers graduate instruction in each of its departments. Graduate programs leading to the degrees of Master of Arts or Master of Science may be had in each of the departments marked with an asterisk (*) above.

The *College of Education* offers curricula for teachers in both elementary and secondary teaching fields which lead either to the

degree of Bachelor of Arts in Education or the degree of Bachelor of Science in Education. These four-year degree programs qualify the prospective teacher for recommendation by the faculty of the College of Education for professional high school and elementary school teaching certificates. These certificates are granted by the State Department of Public Instruction in Carson City. The College of Education also offers specific courses for school principals, supervisors, and superintendents. The Master of Arts or the Master of Education degrees are offered to graduate students with majors in the following basic areas: general education, elementary education, secondary education, school administration and supervision, education for the handicapped, and teacher education.

The *College of Engineering* offers general preparation for professional engineering work and specialized training in various branches of engineering. The three divisions of the College, the Schools of Mechanical, Electrical, and Civil Engineering, offer four-year courses leading to the degrees of Bachelor of Science in Mechanical Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Civil Engineering. Under certain conditions the College grants professional degrees.

The *Mackay School of Mines* is equipped with laboratory and classroom facilities to give first-class instruction and professional training in the sciences and technologies of the mineral industry. The School offers four curricula which lead to the degrees of Bachelor of Science in Geology, Geological Engineering, Metallurgical Engineering, or Mining Engineering. The Master of Science degree may be earned in these same fields and in Metallurgy. The School grants professional degrees.

Graduate Study

Curricula leading to the degrees of Master of Arts, Master of Science, and Master of Education are offered by the University under the direction of the Dean of the Graduate School and a Graduate Study Committee appointed by the President. The Master of Arts and Master of Science curricula include an integrated program of 24 credits of graduate courses in a major and minor field or in a field of concentration, and a thesis, and culminate in a final oral examination by a special examining committee. The Master of Education curriculum includes 16 to 17 credits in the major field (education), 8 credits in a minor field, and 7 to 8 credits in cognate courses or education electives. A thesis is not required.

The University of Nevada does not offer the doctor's degree.

Summer Sessions

Summer Sessions, both on the Reno campus and in the off-campus centers, provide a limited program of courses, conferences, and workshops for students wishing to advance more rapidly toward degrees, to study in fields of professional or special interest, or to supplement their professional preparation in education and other related fields. For further details consult the section of this catalogue entitled *Summer Sessions* or write the Director of Summer Sessions, University of Nevada, Reno, Nevada.

State-wide Educational Services

Through the Office of State-wide Development of Higher Education the University extends many services to the people of Nevada in their home communities. With one institution of higher education for 110,000 square miles, Nevada has become known as "the University with the State-wide campus". The goal is to provide adequate and appropriate educational opportunities to all residents beyond the age of compulsory school attendance who seek and can benefit from them.

Correspondence Study

For the convenience of students who wish to continue their education in home study, a program of correspondence courses has been developed by the several departments of the University. New courses are added as demand from the field indicates a definite need. For the latest *Correspondence Study Bulletin* write to the Dean of State-wide Development.

Educational Television

In cooperation with local television stations and with national organizations, the University sponsors educational television programs. These are of value both to the educators in the State and to the general public. Present arrangements make possible numerous opportunities for students and faculty members to prepare and present educational programs through this important new communication media.

Evening Division Program

An extensive program in continuing education for adults is being developed throughout the State. During the fall term of 1954 more than 500 adults were registered in approximately 40 different courses offered in the Reno and Las Vegas areas. Courses may be taken for college credit or not, as the individual

student prefers. Intensive six-week short courses are scheduled during the year. These are designed primarily for the benefit of military personnel stationed in Nevada. Courses in the Evening Division are sometimes scheduled for late afternoon, or for Saturday mornings. They are organized in response to requests from individuals and groups. The program is quite flexible and varies from year to year. For information concerning current offerings, write to the Dean of State-wide Development.

Film Preview Centers

Through arrangements with the Film Council of America the latest 16 mm. educational films are screened each month for the benefit of faculty, students, teachers in the public schools, and representatives of civic organizations through Film Preview Centers established in several communities of the State. At present these preview centers are in operation in Reno, Las Vegas, Winnemucca, Elko, Ely, and Hawthorne.

Program Planning and Community Development Service

Consultative services are available to public schools and community groups that are planning educational programs for their organizations. Arrangements for speakers on special topics by members of the University staff may be made through the Office of State-wide Development.

Southern Regional Division

Since the end of World War II, Southern Nevada has experienced a phenomenal population growth. About one-third of the people of the State now live in Clark County. To help meet the college needs of this area a Regional Division of the University has been established in Las Vegas. It is popularly referred to as "Nevada Southern." In the fall term of 1954 over 300 students were enrolled. A full program of freshman-level studies is provided as well as an extensive offering of day, evening, and Saturday classes in continuing education for adults. A limited number of undergraduate and graduate-level studies are available for teachers of the area in summer sessions as well as during the academic year. It is anticipated that a full program of sophomore-level courses will be available by September 1955.

Public Services

As activities of the University, a number of Federal and State bureaus conduct research and provide information on specialized topics.

The *Agricultural Experiment Station* is given Federal support

to conduct scientific investigation of agricultural problems, including problems arising from soil conditions, animal disease, internal parasites of animals, production and marketing of livestock, insect pests, plant diseases, and the use of improved varieties and strains of plants.

The research program of the Station is made up of many projects. These projects represent a selection of only a few of the many more possible choices. They do not by any means cover all of the desirable or even all of the decidedly important lines of work that the Nevada Station might be doing. In past years many projects have been completed and the results published in bulletin form. Others are still in progress, new ones have been started, and still others are on a list awaiting the time when the completion of projects now active will permit the beginning of new lines of work.

Suggestions are always most welcome as to how the investigative program of the Station can be improved for the betterment of the agriculture of the State.

The *Agricultural Extension Service* is supported by Federal and State grants to provide information on agriculture and home economics for persons not attending the University. Activities include demonstrations, instruction, and publications.

State Public Service Departments. Public service departments of the State for identification and assaying of minerals, investigation of mineral resources, control of food and drugs, weights and measures, and petroleum products, and veterinary control are under the direction of the President and the Board of Regents.

The United States Bureau of Mines, conducting research for the United States in rare and precious metals, is located on the University campus. A working agreement between the United States Bureau of Mines and the University provides for use of University laboratories and libraries by staff members of the Mines station and for use of the station laboratories and library by staff members and advanced students of the University.

University Administration

The Board of Regents. The control of the University of Nevada is vested by law in a Board of Regents consisting of five members elected by the people of the State of Nevada. It shall formulate and establish the policies which shall be followed in the administration of the University.

The President. The administration of the University is vested by the Board of Regents in the President of the University. As the executive head of the University, it is his duty to secure an

effective, efficient, orderly, and economical administration which provides a healthful development of the University.

The Academic Vice President. This officer is responsible to the President for curriculum and instruction in all phases of the academic program at the main campus in Reno, Nevada, Southern Regional Division in Las Vegas, and extension branches throughout the State.

The Treasurer and Comptroller. The Treasurer and Comptroller is authorized by the President to receive all moneys arising from gifts or bounties in any form to the University or for its benefits; all fees from students or others; proceeds from all sales 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 shall keep the accounts of the moneys in his custody in such separate funds as are necessary for proper and systematic accounting.

The Deans. The administration of the various colleges, Statewide Development, and of student affairs is delegated by the President to the respective dean of each. He is responsible to the President for the efficient, effective, orderly and economical administration of his area.

The Department Chairmen. The administration of the various departments within a college may be delegated by the dean of the college to department chairmen, who shall be responsible to the dean for the efficiency and educational effectiveness of the respective departments.

Committees. An administrator may appoint committees to advise him or to aid him in carrying out his duties. Committees shall be responsible directly to the appointing administrator and through him to the President. The administrator shall be responsible for the committees he appoints. Membership of advisory committees may, upon invitation, include faculty, students, or other specially qualified residents of the State.

University Plant and Equipment

Buildings and Grounds

The University of Nevada has at its disposal a modern educational plant, including more than 30 buildings financed partly by State appropriations, partly by private gifts, and one by the Federal Bureau of Mines Division. Most of these buildings are centered on the main campus in northern Reno, overlooking extensive lawns and Manzanita Lake.

Administrative offices are located at the southern end of the campus in the original building on the site, Morrill Hall, and in two quonset huts which temporarily house the offices of the Director of Admissions, the Registrar, the Dean of Student Affairs, the Dean of Women, and the Alumni Secretary.

Devoted to the departments of instruction for classroom, laboratory, library, office, and conference use are the Agriculture Building, the Education Building, the Electrical Engineering Building, the Engineering Building, the Journalism Building, the Mackay School of Mines Building, Mackay Science Hall, the Mechanical Building, Morrill Hall, Stewart Hall, and the temporary English and Art Buildings.

The general library collections of the University are housed in the Clark Memorial Library.

The New Gymnasium and the Old Gymnasium are used in the University athletic program and by the Departments of Physical Education and Military Science. In addition, Mackay Stadium, Mackay Training Quarters Building, and a number of practice fields in the northern part of the campus provide facilities for athletics.

Special laboratory facilities include the Blair Observatory, the Greenhouse on the main campus, the University South Virginia Farm located two miles south of Reno, the Experiment Station Farm east of the campus, the University Dairy Farm three miles south of Reno, the Experiment Station Farm near Fallon, the Knoll Creek Experiment Station near Contact, and the Experiment Substation at Logandale.

The University maintains residence facilities in Manzanita and Artemisia Halls for women, and Lincoln and Hartman Halls for men. The Dining Hall on the west side of the campus accommodates a large portion of the student body.

Public service divisions of the University are located in the Agricultural Extension Building, Hatch Station, the Mackay School of Mines Building, and the Veterinary Science Building.

The President's home is located on the southeast corner of the campus.

The Infirmary is located on the campus near Lincoln Hall. The present Student Union Building is just off the campus on University Avenue. A new one will be constructed soon.

A new U. S. Bureau of Mines Building is located at the north end of the campus and makes additional facilities available to the students in the mineral industry fields.

Since a marked increase in the size of the student body during the next few years is anticipated, plans for further expansion of plant facilities are under consideration by the Board of Regents.

Libraries

The University libraries supply printed materials to support courses offered by the University, assist the investigations undertaken by the research and teaching staffs, and provide space for study. The collections contain about 104,000 bound volumes and more than 125,000 unbound serials and pamphlets. The collections have been supplemented by private gifts.

Students will find it advisable to familiarize themselves at once with the University libraries; information is available at the reference desk and in the pamphlet, *Handbook of the Libraries,* which can be obtained at the reference desk or by writing the Director of Libraries.

The Alice McManus Clark Memorial Library houses the general collections of the University and provides a convenient place for study. The main reading room on the second floor contains a general reference collection available on the open-shelf plan, and the browsing room on the first floor offers the student comfortable facilities for reading general and current books. Collections in the Clark Library of special interest are the Hester Mayotte Library, containing rare books in foreign languages; the Nevada history collection, containing some of the rarest Nevada newspaper files; and the Charles Cutts collection of fine printing. The University Library is an all-depository for publications of the Federal Government and the Army Map Service. The map collection now contains more than 25,000 items. In 1954 a library collection and service for the Southern Regional Division at Las Vegas was begun.

The Agricultural Experiment Station Library in Hatch Station has about 5,000 volumes and pamphlets on agriculture.

The Mineral Industry Library in the Mackay School of Mines Building has more than 20,000 volumes and other publications relating to geology, mining, and metallurgy.

Departmental libraries for chemistry and physics are in Mackay Science Hall; for music and education in the Education Building; for veterinary science in the Veterinary Science Building; for electrical engineering in the Electrical Engineering Building; for civil engineering and mechanical engineering in the Engineering Building; and for animal husbandry, biology, and home economics in the Agriculture Building.

The Washoe County Public Library in Reno, a general collection of about 100,000 volumes, and the Nevada State Library at Carson City, containing more than 240,000 volumes, especially in law, history, and government publications, are also available to University staff and students. The Clark County Library in Las Vegas is open to students attending the Southern Regional Division.

Laboratories

All colleges of the University maintain well-equipped laboratories which facilitate practical experience for students and research for both students and faculty members.

The Max C. Fleischmann College of Agriculture has laboratories for work in agriculture and home economics. The University farms are regularly in use as laboratories for the courses in agriculture; in addition, however, the departments maintain special laboratories in agricultural mechanics; animal industry, including animal breeding, animal nutrition, wool, processing of meats, and dairy and poultry production; farm crops, range and pasture management; soils research; and veterinary science. Laboratories in foods and clothing, and a laboratory for practice in the supervision of preschool children are available to students in home economics.

The College of Arts and Science maintains special laboratories in art, astronomy, biology, chemistry, physics, journalism, and music. The Blair Observatory is used as a laboratory for students in astronomy. The biology laboratories include apparatus, instruments, and greenhouse facilities for university-level work in the life sciences. The chemistry and physics laboratories include facilities for lecture demonstrations, individual student work, and special research by advanced students and faculty members. The Department of Journalism has a news laboratory, equipped like a newsroom of a modern daily newspaper, and a printing laboratory. In addition, the facilities of local newspapers, advertising agencies, and radio stations serve as laboratories for students in the course in journalism internship. A record collection and phonograph, and a number of musical instruments are available in the Department of Music.

The College of Education offers educational opportunities for professional observations and demonstrations in teaching and administration in cooperation with selected affiliated public schools, including Sparks and Reno. An Audio-Visual and Instructional Materials Laboratory is maintained in the Education Building.

The College of Engineering has a large number of laboratories designed to give the student wide opportunities for individual experiment and practice. The School of Electrical Engineering has special laboratories for the study of electrical machinery, small motors, electronics, industrial electronics, X-ray, radio, and communication. The School of Mechanical Engineering has special laboratories in engineering materials and processes, instruments and calibrations, internal combustion, steam, air conditioning, mechanical vibrations, and mechanical refrigeration. Civil Engineering laboratories include equipment and materials for

work in fluid mechanics, surveying, and various kinds of testing of materials.

The Mackay School of Mines, composed of the Departments of Geology-Geography, Metallurgy, and Mining, is completely equipped with modern apparatus and many collections for teaching and research in the sciences and technologies of the mineral industry. The School maintains laboratories for physical geography, general geology, mineralogy, mineragraphy, petrology, paleontology, assaying, ore dressing, hydro- and electro-metallurgy, physical metallurgy, ventilation, and mining.

Scientific Collections and Museums

The Museum, in the northwest wing of the Mackay School of Mines Building, contains an extensive collection of rocks, ores, minerals, metallurgical products, and historical material related to mining. The collection, which is constantly growing, is designed to give a general idea of the mineral industry in Nevada and to illustrate scientific classifications of minerals and rocks. Included in the displays of the museum are collections of Nevada ores, collections of minerals arranged according to their economic uses, the Joseph D. O'Brien mineral collection presented to the University by F. S. Markham, models of mines and mining equipment, and pictures, maps, and relics of historical interest.

The Zoological Collections in the Department of Biology Museum, portions of which are arranged for public exhibition and demonstration, include about 1,000 skins and mounts of native birds; 100 sets of bird eggs and nests, donated by Mr. Steinmetz of Carson City; the La Barthe egg collection, donated by Mrs. Jules La Barthe, containing approximately 1,000 sets of eggs; 500 mammal skins and mounts, including 100 mammal study skins donated by Mr. Albert Alcorn of Fallon; 5,000 fishes, amphibians and reptiles; 30 mounted skeletons of various vertebrates; 10,000 insects and other arthropods; 250 insect life history mounts; and nearly 1,000 general museum preparations.

The Herbarium of the University now contains approximately 25,000 sheets of mounted specimens and is probably the most complete collection of Nevada plants in existence. It is particularly valuable in studying the distribution of native and introduced plants in the State and for checking identifications of plants sent in by Nevada citizens. The Nevada Agricultural Experiment Station herbarium now contains 15,750 sheets of mounted specimens, nearly all of western species, and at least half of them from Nevada.

The Pathological Museum in 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 is available for teaching purposes and inspection.

University Regulations

Admission

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.

All students who wish to register in any semester for courses carrying a total of more than 6 credits must matriculate at the University of Nevada and meet all requirements for admission. Students wishing to enroll for 6 or fewer credits may register as students not candidates for a degree (see *Nonmatriculated Students* and *Auditors* in the index).

Application for Admission

Students interested in admission to the University should request application forms from the Office of Admissions, University of Nevada, Reno, Nevada. Admission forms should be filled out and returned with proper credentials between March 1 and August 15 for the fall semester and between November 1 and January 5 for the spring semester. High school seniors and transfer students who are enrolled in another collegiate institution may submit incomplete transcripts, but an official and final transcript of all work in progress must be on file in the Office of Admissions before admission status will be determined.

Former students of the University of Nevada should contact the Registrar's Office and make application for a registration form.

Students are not required to submit credentials for admission to the Summer Sessions, but credit toward a degree will be granted only after the student has met all requirements for admission and has matriculated at the University.

The following credentials are required. Responsibility for filing complete credentials rests with the applicant. No credentials will be returned.

1. The official application form obtained from the Office of Admissions.

2. The student's official high school record to be sent direct from the high school on the standard high school form.

3. An official transcript of record from each collegiate institution attended (none can be omitted). Students who have

attended other colleges must pay a $3 transfer credit evaluation fee.

4. Student Information Blanks, provided with application forms, filled out in detail and in triplicate.

5. Foreign students must, in addition to the above credentials, submit adequate proof of ability and proficiency in the English language, of financial responsibility for all obligations for the full period of time for which they are making application, and evidence of sponsorship by a reputable American (citizen of Nevada preferred) or acceptable organization.

Matriculated Students

A matriculated student is one who has met all requirements for admission as a candidate for a degree and has paid the matriculation fee.

According to the amount of work for which he is registered, a matriculated student may be either a *full-time* student or a *part-time* student. For all University purposes, a full-time student is defined as one registered for 12 or more credits of work.

Matriculated students may be admitted either to *regular status* or to *unclassified status* in accordance with the conditions set forth in the sections immediately following.

Admission to Regular Status

Students normally qualify for admission as regular students of the University of Nevada by either of the following methods:

1. Presenting a certificate of graduation from an accredited high school or other acceptable preparatory school and fulfilling the requirements listed below.

2. Transferring with an acceptable record from any university or college of recognized standing.

Requirements: Preparatory Work

Fifteen High School Units

Applicants for admission to regular standing in the University of Nevada must present satisfactory evidence of high school graduation and of having completed 15 units of acceptable high school or preparatory work.

Definition of Unit. A "unit" represents a year's study of any subject in a secondary school. Two periods of laboratory work, or shop work, count as the equivalent of one recitation.

Ten Basic Units

Of the 15 units required for admission, at least 10 must be presented from the following list:

English:	
1st year through 4th year, Public Speaking, Journalism	1 unit each
Foreign Languages:	
1st year	1 unit each
Advanced (one or more years)	1–3 units
Social Sciences:	
All Histories (one year each)	1 unit each
Civics	½–1 unit each
Economics, Sociology, Psychology	½–1 unit each
Mathematics:	
Algebra, Plane Geometry	1 unit each
General Mathematics (elements of algebra, geometry, etc.)	1 unit each
Advanced Algebra, Solid Geometry, Trigonometry	½ unit each
Sciences:	
General Science, Physics, Chemistry	1 unit each
Botany, Biology, Physiology, Physical Geography, Mineralogy, Geology	½–1 unit each
Miscellaneous:	
Commercial Law, Commercial Geography, Shorthand, Bookkeeping, Vocational Agriculture, Home Economics	½–1 unit each

Additional units for academic subjects listed above or additional subjects will be accepted if approved by the Admissions Committee.

Five Elective Units

All elective subjects accepted by the high school toward graduation are acceptable. Physical education is not used for entrance purposes. ROTC, also, is not used for entrance since the third-year program in high school may receive college credit and is not acceptable for both purposes.

Quality Units

Of the units presented for admission to first-year standing, 6 units must carry grades of 80 percent or better and 4 of the 6 must be in acceptable basic subjects. Nevada students who

cannot meet this requirement may be able to qualify for admission as unclassified students.

Specific Subject Requirements

Of the 15 units required for admission to regular standing, each college makes its own specific subject requirements, as follows:

The *Max C. Fleischmann College of Agriculture:*

English, 3 units.
Mathematics (algebra and/or geometry), 2 units.
Natural Science, 1 or 2 units
Social Science, 1 or 2 units } 3 units required.

The *College of Arts and Science* and the *College of Education:*

English, 3 units.
Algebra, Geometry, or Natural Science (including general science), 2 units.

The *College of Engineering* and the *Mackay School of Mines:*

English, 3 units.
Algebra, 1½ units.
Plane Geometry, 1 unit.
Trigonometry, ½ unit.
Chemistry or Physics, 1 unit.

The student entering mining or engineering must present all the subjects here listed, especially the 1½ units of algebra, or it is probable that he will be unable to graduate in four years. In addition, it is recommended that he present ½ unit of solid geometry. It is advised that elective units include 2 units of foreign language, preferably modern language.

A student who qualifies for admission to the University, but who is deficient in specific high school subjects required by the college he wishes to enter, may be admitted to that college. Specific subject entrance deficiencies may be removed in the same manner provided for unclassified students with deficiencies. All deficiencies must be made up promptly.

Admission by Transfer

All applicants for admission to the University who have attended other colleges, whether they have received credits or not, are considered transfer students.

Transfer students may be admitted on the basis of high school and college records.

An applicant from an accredited institution of collegiate standing must submit evidence that he has fulfilled entrance requirements for the University of Nevada for regular freshman

standing, or that he has a grade average of "C" or better for all his collegiate-grade work and has completed 12 semester credits.

Advanced Standing

Applicants for advanced standing from universities and colleges of recognized standing will receive, upon presentation of their credentials, such credit as the Admissions Committee may deem fair. All credit for advanced standing depends upon:

1. Possible duplication of credit.
2. Accreditation of institutions from which transfer credits are presented.

Graduates from a one-year professional course in an accredited normal school are allowed one year's credit on advanced standing in only the Colleges of Arts and Science and Education.

A student may receive no more than two years' credit on advanced standing for graduation from an accredited two-year normal school or junior college. Such students will be expected to fulfill all requirements for graduation, including all special requirements outlined for the freshman and sophomore years.

In unusual cases extra transfer credit may be allowed on the basis of special examinations in courses in which credit has been earned at another recognized institution of learning.

Special Regulations

A nonreturnable fee of $3 is charged for evaluation of transcripts from other institutions. This fee is not to be applied to other fees.

The advanced standing granted on transcripts of record is valid only if the applicant enrolls within one year following the date on which the record was submitted for evaluation.

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

Students with junior standing transferring from a recognized university, college, junior college, or normal school may be excused by proper authority from the requirements prescribed by this University for military training and physical education, but must meet all other requirements for graduation prescribed by their college and must have no entrance deficiencies.

Admission to Unclassified Status

Unclassified Students

Certain students who fail to meet the entrance requirements described above may be admitted as unclassified students. They

must matriculate in the University and follow regular academic regulations. Only the following are eligible for such admissions:

Graduates of Nevada high schools (or graduates of out-of-State high schools who are legal residents of Nevada or whose parents or guardians are legal residents of Nevada) who fail to meet entrance requirements for regular standing.

Legal residents of Nevada, 21 years or more of age, who fail to meet entrance requirements for regular standing.

Obtaining Regular Status

Unclassified students may obtain regular status either by removing entrance deficiencies and thereby satisfying regular entrance requirements or by demonstrating ability to do creditable college work. They may use any of the following methods which are appropriate:

1. *Examination.* Successfully passing college aptitude and achievement tests or proficiency examinations in subjects in which credit is lacking.

2. *Noncredit Courses.* Successfully completing noncredit, subcollege courses, such as English A or Mathematics A. If a noncredit course is not offered, college credit may be used. If the grade in the college course is C or higher, the credit need not be canceled.

3. *College Credits.* Using college credit to cancel high school deficiencies at the rate of not less than 3 credits for each high school unit.

4. *College Record.* Demonstrating ability to do creditable college work by earning 30 or more credits at the University of Nevada in a regular course with an over-all grade point average of 2.5 or better, or 45 or more credits with an over-all average of 2.0 or better.

Students Not Candidates for a Degree

Nonmatriculated Students

Persons who are 21 years of age or more and/or who can present evidence of high school graduation who wish to enroll for *not more than 6 credits in any session* at the University may be registered as nonmatriculated students. Formal admission and matriculation are unnecessary. These students shall be governed by University rules and pay $10 per credit and laboratory fees. In general, such students will wish to take a few definite courses for training in one specific field of study, or selected courses for use if and when they are admitted and matriculated at the University.

Auditors

With the consent of the dean and the instructor concerned, auditors may be enrolled. They shall be governed by University rules and pay $5 per credit and laboratory fees. Auditors receive no credit, but may, at the discretion of the instructor, have the class privileges of other students.

Registration

All students must, at the beginning of each semester, register officially for the program which they wish to pursue. Students are urged to follow carefully the registration procedures outlined in the *Schedule of Classes,* available at the Office of the Registrar.

Planning a Course

Before registration time each student should study the requirements of his college or special course as outlined in this catalogue. Many courses specify fairly rigid programs for specialized training, but others will allow the student considerable choice of subjects. There are also limits specified for the work which students may take (see *Graduation Requirements* in the index).

Credits

Courses in the University are evaluated in terms of the credit, which is defined as three hours of work per week for one semester. Usually this work is made up of one period in class plus two hours of preparation or laboratory practice. Thus a one-credit course is most commonly a course that meets once a week for a semester and requires two hours of preparation for each class. A three-credit course, sometimes called a three-hour course, meets three times a week and requires two hours of preparation for each class. On the other hand, a laboratory may meet for a three-hour period each week but carry only one credit since it does not require outside preparation.

Faculty Advisers

When a student has been officially admitted to the University, he is issued an Admission Card, carrying the name of his faculty adviser. Each student should consult his adviser before registration for advice and assistance in planning his schedule.

The Schedule

After learning the requirements for the kind of program he wishes to follow, the student should select specific courses which

interest him and consult the booklet, *Schedule of Classes,* to learn specific times at which the courses are offered. He can then plan a tentative program for the semester, avoiding conflicts in classes and meeting credit and subject requirements of his college or course.

Orientation

A required program of orientation for all new students precedes registration each semester.

Required Examinations and Photograph

All new students registering for more than 6 credits must be photographed and must take physical examinations, college aptitude tests, and English examinations scheduled during Orientation Week. For dates consult the University calendar and the *Freshman Week Program.*

The Registration Period

Registration Day. Preceding the beginning of instruction at the opening of each semester, a registration day is announced. For this day see the University calendar.

Completing Registration. Each student is expected to complete his registration on registration day. All registration must be completed by noon Saturday of the second week of the semester except in special cases approved by the dean of the college concerned.

Late Registration. A student who does not complete his registration on registration day may be subject to a late registration fee and may not be permitted to enroll for the number of credits to which he would otherwise be entitled (see *Late Registration* in the index).

Changes in Registration

Adding a Course

After the registration coupon has been filed with the Registrar, a student may add a subject in accordance with the rules. No subject may be added after the close of registration, noon Saturday of the second week of the semester, except in special cases approved by the dean of the college concerned.

To add a subject a student must secure the proper card from the Registrar, the signature of the instructor of the course he wishes to add, and the approval of his adviser and the dean of his college. He must then file the card with the Registrar.

After the registration coupon has been filed with the Registrar, a student who adds a subject must pay a fee of $1 for each course added. The fee will be omitted only when the change is caused by faculty action or at the request of the dean of the college concerned.

Withdrawal from a Course

After the registration card has been filed with the Registrar, a student may withdraw from a course at any time up to midsemester. He should secure the proper form from the Registrar's Office and secure the approval of the Dean of Student Affairs, his instructor, adviser, and the dean of his college. The date of withdrawal shall be the date on which the completed form is filed with the Registrar. The withdrawal shall be recorded as a W. No withdrawals will be permitted after midsemester except for illness, accident or similar emergencies.

Withdrawal from the University

Any student wishing to withdraw from the University should secure the proper form from the Registrar's Office. Prior to midsemester the withdrawal will be recorded as W. After midsemester if the instructor reports the student as passing, a record of W will be recorded. If the instructor reports the student as not passing, a record of WF will be recorded. The record of WF shall not be used in computing grade points for graduation. In case the student receives records of WF in more than one third of his work, he will be subject to probation or suspension.

Withdrawal to Enter Armed Forces

When a student enters the armed forces during a semester he *may* be granted partial or full credit for his work. The proper form should be secured from the Registrar's Office.

Letter of Honorable Dismissal

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.

Required Courses

Each student in registering must observe the following general University requirements as well as the specific course requirements of his college. The following courses must be taken as specified:

English 101-102

All students must register for English 101 and 102 in their freshman year.

Physical Education

Every student who is a candidate for graduation from the University will be required to complete the prescribed two-year (basic) course of physical education unless excused therefrom by the dean of his college. Students who, upon their initial registration at the University, are over 26 years of age are excused from physical education. This basic course is scheduled for both semesters of the freshman and sophomore years.

Military Science and Tactics

Every male student who is a candidate for graduation will be required to complete the two-year basic course of military training, as a member of the Reserve Officers' Training Corps, unless excused therefrom by the Professor of Military Science and Tactics. This basic course is scheduled for both semesters of the freshman and sophomore years.

The following may be exempted from enrollment upon presentation of necessary evidence:

1. Aliens are prohibited by law from enrollment in any ROTC courses.
2. Those who upon initial registration in the University are over 23 years of age are prohibited from enrollment in basic courses.
3. Enlisted personnel of the armed forces who are in an active status.
4. Commissioned personnel of the armed forces in any status.
5. Students who have satisfactorily completed 3 years of high school ROTC may be exempted from the first year of the basic course upon approval of the Professor of Military Science and Tactics.
6. Those who have satisfactorily completed equivalent training in the Armed Forces of the United States and have received honorable discharges therefrom. The amount of exemption will be based upon existing Army Regulations (duty with Reserve Components of the Armed Forces is not cause for exemption).
7. Students who are physically unfit for the Armed Forces.

8. Those students who upon registration have less than three academic years to complete prior to receiving their baccalaureate degree.

Political Science 201-202

The State law of Nevada provides that no student shall receive a diploma of graduation or a teacher's certificate without previously having passed a satisfactory examination upon the Constitution of the United States and of Nevada. Under this provision it is necessary for students to take, at an appropriate time, Political Science 201 and 202, or Political Science 101 and 102.

Precedence of Certain Courses

Required Courses

In registering, all students must give precedence to required courses in regular sequence; an elective course may not be retained to the exclusion of a required course. In no case may a required course be deferred beyond one year.

Failed Courses

Any required subject in which a student has failed takes precedence over all other subjects in the arrangement of his program. Such a failed subject must be repeated in class as soon as the study is repeated in the University program.

Number of Credits Required Each Semester

Except in unusual cases, each regular student is expected to register for the number of credits regularly prescribed by his college for the course which he has elected. Courses which carry no credit toward graduation are considered as part of a student's program on the basis of the credits to which they are equivalent (English A, 3; Mathematics A, 4).

Regular courses are prescribed by the colleges as follows:

College	*Credits per semester*
Max C. Fleischmann College of Agriculture	15 –17½
Arts and Science—	
Freshman and Sophomore years	15½
Junior and Senior years	16
Education—	
Freshman and Sophomore years	15½–16½
Junior and Senior years	16 –17½
Engineering and Mackay School of Mines	18

Registering for a Reduced Number of Credits

Any student may enroll for a program ½ to 3 credits lower than the program usually required by his course. To reduce total credits by more than 3 from the required course, the student must have the permission of the dean of his college.

Compulsory Reduction

Under the following conditions the student will not be permitted to register for the regular number of credits prescribed:

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

A student on probation shall not be allowed to register for more than 80 percent of the regular number of credits of his prescribed course.

Late Registration. A student who begins to register after the regular registration day shall not be permitted to enroll in the number of credits to which he would otherwise be regularly entitled; for every week or fraction thereof of delay in registering 1 credit will be deducted. This rule applies also to changes in registration.

Extra Credits

In case a student during his previous semester received no condition or failure and received an average of 3 grade points for each credit for which he was registered, excepting cases of W, he may be permitted, at the discretion of the dean, to enroll in a maximum of 3 credits above that specified for his course.

The deans are allowed to grant a student an additional credit beyond the limit specified in the rules and to allow a prospective graduate as many as 2 credits beyond the specifications of his course in order to give him sufficient credits for graduation.

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

Course Numbering System

The numbers prefixed to courses ordinarily denote the classes of students for whom the work is primarily intended. The following rules apply:

1. The numbers 101–299 designate lower-division courses.

The numbers 101–199 are used for courses *primarily* for freshmen. Usually, beginning courses in all subjects are designated 101, 102, etc.

The numbers 200–299 are used for courses *primarily* for sophomores.

2. The numbers 300–499 designate upper-division courses. Courses numbered 300–499 and marked (G) may be taken for graduate credit by graduate students.

3. The numbers 500–599 designate courses *primarily* for graduate students.

4. Numbers joined by a hyphen (101–102, 315–316, etc.) indicate that the course extends through two semesters. For such courses, an odd number designates the first part of the course.

5. When the same course may be repeated for credit, successive terms of the course may be designated by the small letters a, b, c, etc., following the course number.

6. The capital letters, A, B, C, etc., designate noncredit courses.

Registration in Courses Numbered 300 and Above

No course with the number 300 or above will be open to freshmen or sophomores without the written recommendation of the chairman of the department and the approval of the dean of the college.

Courses numbered 300–499 and marked (G) may be taken for graduate credit by graduate students.

Courses numbered 500–599 are graduate level courses designed primarily for graduate students. However, juniors and seniors of superior scholastic standing may be admitted to these courses upon approval of the instructor and department chairman concerned.

Registration for Correspondence Courses

Students while enrolled in the semester or summer session shall not be permitted to enroll in or to pursue a course by correspondence. Petitions for an exception to this rule should be addressed to the dean of the student's college.

Change of College

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, effective at the time the transfer is made, the details of the transfer to be handled by the Registrar and the deans concerned.

Classification of Sophomores, Juniors, Seniors

A regular student is classified by the Registrar as a sophomore, junior, or senior when he has completed the number of credits indicated for each college as follows:

	Sophomore	Junior	Senior
Max C. Fleischmann College of Agriculture	29	62	95
Arts and Science	28	59	91
Education	28	59	91
Engineering	30	66	102
Mackay School of Mines	30	66	102

A student on probation may not be classified as a senior.

Requirements for Graduation

Credit Requirements

In the Max C. Fleischmann College of Agriculture, the School of Agriculture requires 132 credits for graduation, except in agricultural education, where 144 credits are required. The Sarah Hamilton Fleischmann School of Home Economics requires 126 credits for graduation.

In the College of Arts and Science, 126 credits are required for graduation, except for the degrees of Bachelor of Science in Chemistry and Chemical Technology which each require 130 credits.

In the College of Education, 126 credits are required for graduation.

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

In the Mackay School of Mines, 144 credits are required for graduation.

Scholarship Requirements

In order to graduate, every student entering the University of Nevada in the fall of 1940 and thereafter, shall have an average of two grade points for each credit for which he has been registered at the University of Nevada except cases of W and WF.

Subject Requirements

In addition to specific subject requirements imposed by each college for its several courses, certain subjects are required by the University of all candidates for a degree. These courses as listed under *Required Courses* are English 101 and 102; the two-year basic course in military science for men, and in physical

education for both men and women, and Political Science 201 and 202 or Political Science 101 and 102. (See *History and Political Science* in *Courses of Instruction.*)

Resident Study

Attendance at day, Evening Division, or Saturday programs during the academic year or the Summer Sessions at the main campus or at any of the established Regional Divisions is construed as resident study.

A minimum of 15 credits in Summer Sessions is considered the equivalent of one semester's residence.

Residence Requirements

Students spending less than three years at the University must be in residence for the last year's work to be eligible for graduation; students who have completed three years or more work in residence may, after their last registration, be allowed to complete a maximum of 8 credits off-campus or by transfer from another accredited institution of higher learning.

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.

Premedical, prelegal, and prenursing students who have completed three years of approved work in residence may complete the work of the senior year by satisfactory work in a professional school.

Since there are definite advantages to each student graduating from the University in having close acquaintance with the purposes, personnel, facilities, and resources of the institution, a minimum period of study on the *main campus* has been established.

Candidates for the bachelor's degree must spend at least one semester of an academic year, or its equivalent (15 credits) in Summer Sessions, as a full-time student on the *main campus* of the University.

Any course offered for credit by the University may be used to fulfill degree requirements, provided the course is acceptable by the dean of the college concerned as a part of the student's approved program of studies. Mere accumulation of credits does not assure fulfillment of requirements for a college degree.

It should be noted further that not more than 15 credits of correspondence course work may be accepted toward an undergraduate degree.

Application for Graduation

At the beginning of the final period in which he expects to be graduated, each student must file an application for graduation. Forms are available in the offices of the deans of the colleges. A fee of $3 will be charged if the application is filed later than the first ten days of the semester or summer session preceding graduation. No application for graduation will be considered after December 15, March 15, July 1, or August 1 in the semester or summer session immediately preceding graduation.

Payment of Accounts

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.

Degrees

Graduates of the curricula in agriculture receive the degree of Bachelor of Science in Agriculture. Graduates of the curricula in home economics receive the degree of Bachelor of Science in Home Economics.

The College of Arts and Science confers upon its graduates the degrees of Bachelor of Arts, Bachelor of Science, Bachelor of Science in Business Administration, Bachelor of Science in Chemistry, Bachelor of Science in Chemical Technology, or Bachelor of Arts in Journalism.

Graduates of the College of Education receive bachelor's degrees as follows: Bachelor of Arts in Education or Bachelor of Science in Education.

Graduates of the College of Engineering receive degrees as follows: 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, or Bachelor of Science in Civil Engineering.

Graduates of the Mackay School of Mines receive the degree of Bachelor of Science in Geology, Geological Engineering, Mining Engineering, or Metallurgical Engineering.

A charge of $8 is made for all baccalaureate diplomas.

Advanced Degrees

For advanced and graduate degrees, see *Graduate Study* in the index.

Undergraduate Theses

Whenever a thesis is required for an undergraduate degree in any department, school, or college of the University, and such thesis is to be filed in the University Library, the format of the thesis must conform to the requirements determined by the Graduate Study Committee for masters' theses, in such matters as general style and mechanics, size and quality of paper, and type of binding.

Grading and Examinations

The Grading System

Marks Used

The grading system shall consist of four passing grades, of condition, of incomplete, and of failure. The passing grades shall be designated in descending order of excellence as A, B, C, and D; a condition shall be marked E, an incomplete I, and a failure F. W indicates withdrawal without failure; WF indicates withdrawal from the University with failure.

Definition of Marks

A indicates work that is *excellent;* B, *good;* C, *average;* D, *passing.* E for *condition* is a temporary mark and is to be used when the quality of the work is doubtful and further opportunity is desired for the student to demonstrate satisfactory achievement. I is used when a student has for acceptable reasons been unable to complete the required work by the close of the semester. Whenever an I is given, the instructor must state upon the final report sheet the reason why the student was unable to complete the work. WF is used only when a student withdraws from the University and is failing in one or more courses.

Grade Points

Each credit earned with a grade of A carries four grade points; a grade of B, three grade points; a grade of C, two grade points; a grade of D, one grade point; a grade of F, no grade points.

Determination of Final Grades

Each instructor will determine the final grade of his students by any method he may consider best adapted to his course. All final grades are to be submitted to the chairman of the department concerned before they are handed to the Registrar, but the chairman of the department shall not have the right to change the grades of his instructors.

Final Examinations

Final examinations shall be held at the end of each semester in all undergraduate courses except courses in which an examination is not practicable or appropriate. If a final examination is not given, the class shall meet during the examination period and shall continue for at least one hour.

All students are required to take the final examinations in all their courses in which examinations are given, or attend the class meeting held in place thereof. In case of emergency when it may prove an unreasonable hardship to a student to take a final examination at the scheduled time, the student, upon written petition to the dean of his college, may be granted such dispensation as the dean may determine.

Scholarship Average

In determining scholarship average the sum of the grade points received for each credit for which the student is registered shall be divided by the total number of credits for which the student is registered. In determining averages, E and I shall be counted as carrying no grade points. The symbol W is not a scholarship grade and shall not be used in any manner in determining a student's scholarship record.

Honor Rolls

Semester Honor Roll

A scholarship honor roll which includes the upper 5 percent of the undergraduate student body who have completed at least 15 credits is announced by the Registrar at the end of each semester.

Senior Honor Roll

At commencement, recognition is made of those seniors who have taken an average of 15 credits each semester with an average grade equal to or above the lower limit of the fall semester honor roll.

Four-Year Honor Roll

At commencement, recognition is made of those graduating seniors who have maintained an average grade equal to or above the average of the lower limits of the past seven honor rolls.

Midsemester Reports

At midsemester instructors will report students whose grades

are D, E, F, and I with a statement in each case of the reason for the low mark. When because of their low grades students are subject to probation or suspension, they will be required to meet with the Committee on Scholastic Standing.

Changing a Grade

After the class records have been filed with the Registrar, a grade may be changed only to correct a clerical error. Corrections of clerical errors in grades shall be submitted in writing to the Registrar by the instructor concerned after approval by the chairman of the department and the dean of the college.

Repeating a Course for Grade Points

A student may repeat a course in which he has received a passing grade in order to gain additional grade points, but he cannot gain additional credit by repeating such a course.

Removing a Condition

Procedure. A student who desires to remove a term condition must present to the instructor under whom the deficient work is to be completed a statement from the Registrar certifying that he is eligible and that the fee of $3 has been paid. The condition is removed when the student has satisfied the requirements of the department, and the instructor concerned has filed with the chairman of his department and the Registrar a written statement of completion.

Students Eligible. No disqualified student may be issued a permit to remove a condition. A student not in residence may receive a permit only by vote of the faculty or permission of the President.

Fee for Removing. Application for the removal of a condition will not be accepted by the Registrar until a fee of $3 has been paid.

Time for Removing. A condition may be removed only during the next semester of residence after the condition is incurred. If a condition is not removed by the end of the first semester of residence thereafter, the Registrar shall record a grade of F.

The individual instructor may set the date on which the condition may be removed.

Grade After Removing Condition. Upon the removal of a condition, the grade of D shall be given.

Removing an Incomplete

Procedure. A student may remove an incomplete by making up work which, for acceptable reasons, he has been unable to finish by the close of the semester. The incomplete is removed when the student has completed the work of the course and the instructor concerned has filed with the chairman of his department and the Registrar a written statement certifying the completion of the course and assigning a grade to it.

Time for Removing. Incomplete work must be completed by the close of the student's first semester of residence after the I was incurred.

Grade After Removal of Incomplete. When an incomplete course has been completed according to the rules, the student will receive whatever grade the instructor deems proper. If the course is not completed within the specified time limit, it will be graded F.

Repeating a Failed Course

Required Courses. Any required course which has been failed must be repeated in class as soon as the course is repeated in the University program; such a course takes precedence over all others in the student's program. Failures, therefore, cannot be made up by correspondence or by extension and can be made up in other institutions only in special cases approved in writing by the chairman of the department and the dean of the college concerned.

Elective Courses. Failures in elective courses are not required to be made up.

Credits by Examination

Matriculated students who have attained knowledge in a given field by experience or by study, other than in a recognized institution of learning from which transfer credits are available, may take an examination for advanced standing credit.

Examinations for transfer credit may be taken also in subjects for which credit has been earned in another recognized institution of learning. This may be in addition to the transfer credit permitted from a recognized two-year normal school or junior college.

To take an examination for credit the student must obtain an application from the Office of Admissions. When this application is properly signed by the student, the instructor, the chairman of the department, the dean of the college, and carries the Comptroller's stamp showing that the fee of $3 is paid, it should

be returned to the Director of Admissions. A certificate of eligibility to take the examination will be issued, signed by the Director of Admissions. When this certificate is presented to the instructor, the examination is authorized.

The instructor will record the credit, the grade, and his signature on the certificate and together with a copy of the examination and the student's examination paper return it to the Office of Admissions. If the department chairman and dean of the college approve, the advanced standing credit will be posted to the student's record in the Registrar's Office.

No student will be permitted to take such an examination in a subject which has been failed in class.

The amount of credit granted on the basis of such special examinations may not exceed the regular work of one semester in the college in which the student is registered.

No student will be permitted to take such an examination during a semester in which he has already enrolled for the maximum number of credits permitted, except for examinations on courses completed and accredited at other recognized institutions.

No freshman or sophomore student may take such an examination in courses numbered 300 or above.

Scholastic Standing Regulations

Class Conduct

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 dean and of the committee concerned.

Grade-Point Deficiency

A student who does not have at least two grade points for each credit for which he has registered is deficient in grade points (see *Grade Points* in the index). Deficiency in grade points endangers scholastic standing and leads to the penalties described in the following sections on probation and suspension.

Probation

Conditions Resulting in Probation

Scholarship

1. A student deficient 12 or more grade points is on probation.
2. At midsemester a student must be passing in at least two-thirds of his work or he is on probation.
3. A student transferring from another institution where he

is on probation is on probation when he enters the University of Nevada.

Conduct

4. A student may be placed on probation any time his conduct warrants such action.

Penalties for Probation

1. A student on scholastic probation shall not be allowed to register for more than 80 percent of the regular number of credits of his prescribed course unless he has a grade-point average of 2.0 or better for the preceding semester *and the approval of his dean.*

2. A student on probation may not be classified as a senior.

3. A student on conduct probation will be required to report at regular intervals to a probation adviser appointed by the Student Welfare Committee.

Release from Probation

A student is no longer on scholastic probation when he is deficient fewer than 12 grade points on his entire University of Nevada record.

A student on conduct probation remains on probation until removed therefrom by the Student Welfare Committee.

Suspension

Conditions Resulting in Suspension

Scholarship

1. A student deficient 22 or more grade points at the end of any semester is suspended from the University.

2. If the class preparation, attendance, or progress of a student toward a degree is deemed unsatisfactory, the student may be suspended from the University at any time.

Conduct

3. A student may be suspended or expelled from the University by action of the appropriate committee any time his conduct warrants such action.

4. A student on conduct probation may be recommended to the Administrative Committee for immediate suspension for any infringement of University regulations.

Penalties for Suspension; Readmission

1. Students suspended from the University may apply for readmission only after an interval of one semester. With the consent of the Scholastic Standing Committee, however, a suspended student may enter the summer sessions at the University

of Nevada and may be considered for readmission in the following fall semester if he has earned at least 8 credits and a grade-point average of 2.0 or better in those summer sessions.

Evening division, extension, and correspondence courses may be taken for credit by students suspended from the regular College sessions only by petition to, and favorable action by, the Scholastic Standing Committee.

2. When a student is readmitted after suspension, he is on probation.

Disqualification

Conditions Resulting in Disqualification

1. A student readmitted after scholastic suspension is disqualified whenever his grade-point average at the end of any semester is less than 2.0 unless he has reduced his total grade-point deficiency to less than 22.

2. After he has reduced his grade-point deficiency below 22, a student is disqualified whenever he is again deficient 22 or more grade points at the end of a semester.

Penalty for Disqualification

A disqualified student may not register in the University for credit in any program of instruction offered by the University.

Appeal to Committee

Any student on scholastic probation or suspended or disqualified may appeal to the Scholastic Standing Committee, which may grant a change of status if the student's unsatisfactory record is due to extenuating circumstances. Such an appeal must be filed at least two weeks prior to the registration date of the semester in which the student desires to re-enter. Proper forms may be secured from the Office of the Registrar.

Financial Information

The University endeavors to anticipate the needs of students and to provide them with a good home and with congenial surroundings for intellectual and social growth during their college years. Having in mind, also, that modest financial means should not be an insuperable bar to higher education, the administration makes every effort to reduce the necessary cost of attendance at the University. At the same time, the student should remember that even in an institution where much of the cost is borne by the State, higher education cannot be cheap if it is to be good. No student should attempt to attend the University without some financial backing. On the other hand, the University is able to offer assistance to worthy students, and there are many means within the community by which a serious and capable student can help himself.

Student Expenses

Student expenses will vary with personal habits, standard of living, the chosen course of study, whether the student is a resident or nonresident* of Nevada, and whether the student takes advantage of lower costs as offered by University housing and dining hall accommodations. Omitting such items of expense as clothing, travel, and personal incidentals, an approximation of costs for ONE SEMESTER for a full-time undergraduate student follows:

Board and room	$291.00 to	$400.00
Books, paper, notebooks, etc.	30.00 to	50.00
Fees (fixed: registration and others)	65.00 to	65.00
Deposits (breakage, ROTC)	10.00 to	30.00
Laundry (residence hall facilities may be used)	20.00 to	30.00
Total	$416.00 to	$575.00
*Tuition (residents of Nevada)	none	none

Tuition

The State of Nevada offers its citizens free tuition at the State University. Except as indicated below nonresidents are charged tuition, set by the Board of Regents at $135 per semester, beginning September, 1955. The student is classified as a resident or nonresident of Nevada by the Office of Admissions when the student is admitted. Responsibility for providing full documentary proof of Nevada residency for purpose of securing waiver of nonresident tuition is upon any applicant making such claim of

*Out-of-State students are required to pay $135 tuition per semester.

residency. Nonresident tuition will be collected at registration time from the claimant in whose case determinations are not complete. All students concerned should read the following statement from the Compiled Laws of Nevada which govern the payment of nonresident tuition.

WHEN THE REGENTS MAY CHARGE TUITION. Section 7735, Chapter 167, Statutes of Nevada 1945, paragraph 10. *The board of regents of the University of Nevada shall have the power to fix a tuition charge for students at that university; provided, however, that tuition shall be free*

(a) *to all students whose families are bona-fide residents of the State of Nevada, and*

(b) *to all students whose families reside outside of the State of Nevada providing such students have themselves been bona-fide residents of the State of Nevada for at least six months prior to their matriculation (first registration) at the University.*

As determined by Nevada law, no person shall be deemed to have gained residence by reason of attendance at the University of Nevada.

Evening and extension students and students registering for fewer than 7 credits are not charged nonresident tuition.

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, Navy, Air Force, and their children.

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

Board and Room

The University makes every effort to assure students of suitable living conditions, food, and housing. The core of the housing system is provided by the University residence halls, which supply complete living facilities for a considerable number of men and women. Students have good rooms, meals prepared with dietetic control, and a supervised social life. A number of fraternities and sororities maintain chapter houses near the campus. In addition to these facilities, exclusively for students, living quarters and dining rooms are available on a commercial basis in Reno, which, as a small city, offers a variety of accommodations.

Residence Halls

Women's Residence Halls

The residences for women are Artemisia and Manzanita Halls. The Halls are located on the campus and are under University management and the supervision of the Dean of Women. The housemothers are women trained and experienced in problems of group living. They serve at all times as advisers and coordinate the student government with University policies.

Artemisia-Manzanita Hall Association is formed by the women residents. The students elect their officers and manage their student government through an executive board and committee system. Their dues, which are used for social functions, are $2.50 per semester.

Required Residence. All unmarried undergraduate women of normal college age not living with their parents or guardians are required to reside in a University residence. The only exception to this rule may be made 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 or friends whose home is in Reno or Sparks.

Residence privilege in the halls will not be granted to married women unless they were students of the University prior to their marriage.

Applications for Residence. Students enrolled in the University should apply for residence privileges in Artemisia and Manzanita Halls during the latter part of the spring semester. Applications will be considered in order of their receipt. New students will receive an application for residence privilege when they receive their admission cards from the Director of Admissions. The residence form should then be completed immediately and mailed to the Office of the Dean of Student Affairs.

Residence Requirements. Each resident of a women's hall is required to:

1. Register in and carry at least 12 credits of University work each semester unless excused by the Dean of Women.
2. Conform to the regulations of the University and of the halls.
3. Provide bedding for twin-sized bed, including mattress pad, sheets, pillow cases, blankets, and spread.
4. Mark all personal articles and wearing apparel with the name of the owner.
5. Take care of her own room and linens.

Men's Residence Halls

The University is currently providing living accommodations for single men in Lincoln Hall and in Hartman Hall. All

residence halls are under University management and the supervision of the Dean of Student Affairs and all assignments are made from his office. New students will receive an application for residence privilege when they receive their admission cards from the Director of Admissions.

All residents of men's halls are required to register in and carry at least 12 credits of University work each semester unless excused by the Dean of Student Affairs.

In addition to the room rent, all residents of halls are required to pay dues to the hall association for social functions and the purchase of magazines and newspapers.

All residents of men's halls are required to provide blankets for a single bed. The University furnishes sheets and pillow cases (which it launders), beds and mattresses, mattress covers and pillows. Laundry facilities and equipment are provided for those who desire to do their own washing and ironing. The individual must supply his own electric iron.

The University Dining Hall

For the accommodation of students the University operates a dining hall under the supervision of a trained dietician. The price of board is approximately $50 per month. With the approval of the Board of Regents the rate of board may be raised or lowered to conform with current prices.

Regulations Governing the University Dining Hall

1. All students residing in University residence halls are required to board at the University Dining Hall.

2. Students boarding at the dining hall will be expected to come with sufficient funds to keep their board bill paid one month in advance. The board bill must be paid at the Comptroller's office within the first five days of the month, or a 50 cents charge per day will be made. The board receipt must be presented to the dining hall and exchanged for a meal ticket. Those failing to obtain a meal ticket will be billed at guest rates for meals taken.

3. Months in which university vacations occur will be prorated.

4. Students who wish to board in the dining hall for a partial month will be charged at a rate 20 percent more than the usual rate.

5. Refunds for necessary absences from or withdrawals from the dining hall will not be made for periods of less than one week. For absences involving one week or more, the rate of refund will be 80 percent of the amount paid by the student for

the period in question. Due notice must be given and permission secured in advance or no refund will be allowed.

Preferences in Dining and Residence Halls

The Board of Regents has adopted the following rule:

Whenever the requests for University of Nevada residence hall 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.

Applications will be considered in order of their receipt. Applications which are not received at least two weeks before the opening of any given semester may not be considered. It is urged that all applications be placed on file as early as possible.

Fees and Deposits

All students are liable for some fees. Fees may be assessed for disciplinary reasons, especially to insure prompt attention to necessary procedures, for example, in registration. A list and explanation of fees follows:

Matriculation Fee

Each new student who has been formally admitted to the University 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, and is not refunded.

Late Registration Fees

Each student is expected to complete his registration on registration day.

Each student who is registering for 7 or more credits and who begins registration before the end of the week of registration day shall pay to the comptroller a progressive increasing late registration fee as follows:

$1 if registration is completed on the second day after registration day;

$2 if completed on the third day;

$3 if completed on the fourth day;

$4 if completed on the fifth day; and

$5 if completed on any later day after registration day.

Each student who is registering for 7 or more credits and who does not begin his registration before the end of the week

of registration day shall pay to the Comptroller a late registration fee of $5.

Consolidated Fee for Matriculated Undergraduate Students

Matriculated undergraduate students who are residents* of Nevada and who are registered for 7 or more credits are required to pay a consolidated fee of $65 per semester. This covers basic registration, library, and course fees with the following exceptions: (a) elective courses requiring equipment, facilities, or materials not available on the University campus, for example, bowling, golf, or swimming; and (b) personal expenses of students incurred in connection with field trips. This fee also includes the Associated Students Membership and Student Union fees, and the Health Service fee.

Associated Students Membership and Student Union Fees

At the request of the Associated Students of the University, the Board of Regents made the fee of $14 per semester for membership in the student association a compulsory fee upon all students except:

1. Auditors.
2. Members of the University staff.
3. Nevada school teachers in active service.
4. Graduates of this or of any other four-year University course.
5. Part-time students registering for fewer than 7 credits.
6. Nonmatriculated students.

The A.S.U.N. fee includes subscriptions to the U. of N. Sagebrush and to the Artemisia, pays up each student's class dues and covers admittance to all regular Varsity athletic events.

The Student Union fee of $5 per semester has been adopted by the students of the University.

Both of these fees are included as part of the consolidated fee for matriculated undergraduate students and must be paid to the Comptroller at the time of registration. It is understood that any student registering in any of the above exempt classifications has the privilege of paying these student fees and securing the benefits which accrue to the students.

*Out-of-State students are required, in addition, to pay $135 tuition per semester.

Fees for Nonmatriculated and Part-time Students

Nonmatriculated and part-time students registering for fewer than 7 credits in Evening Division, Saturday, or Extension programs pay $10 per credit.

Nonmatriculated and matriculated day students carrying fewer than 7 credits will be charged fees at the rate of $10 per credit.

Such students are not required to pay the A.S.U.N., Student Union, or Health Service fees, but they may avail themselves of the services provided by the payment of these fees.

Auditor's Fees

Students securing the privilege of auditing classes will be charged a fee of $5 per credit. No fees will be refunded if the student withdraws.

Consolidated Fee for Graduate Students

A fee of $50 per semester will be charged all graduate day students who are residents* of Nevada. Graduate students are not required to pay the A.S.U.N., Student Union, or Health Service fees, but they may avail themselves of the services provided by payment of these fees.

Diploma Fee

A diploma fee of $8 is due eight weeks before the date on which a student is graduated. If a student has a diploma ordered for him and then fails to meet requirements for graduation on the date specified, $2.50 of this fee is forfeited.

General Deposit

A general deposit of $10 is required from each student registering for 7 or more credits. Assessments for loss, breakage or damage in laboratory courses, library, residence halls and in any other University connection is charged against this deposit. The remainder of this deposit, after all charges, if any, are deducted, will be returned upon withdrawal or graduation from the University. The military deposit is additional to the general deposit. If there are substantial charges reported against any given student, the Comptroller has authority to require that student to renew his deposit to the full $10. The general deposit is not required of graduate students, Summer Sessions students, nonmatriculated or part-time students registered for fewer than 7 credits, Evening Division and Saturday class students.

*Out-of-State students are required, in addition, to pay $135 tuition per semester.

ROTC Deposit

Cadets enrolled in basic military courses normally deposit $20, $5 to guarantee against loss of texts and $15 to guarantee the uniform. If no text or uniform items are lost, the full amount of the deposit is returned to the student. Deposits for advanced students depend on current uniform costs and are arranged each year.

Uniforms

Men and women are required to furnish for physical education classes prescribed regulation outfits. These are available at the Sportsman.

Students of foods are requested to acquire two prescribed colored cotton dresses. Those majoring in foods and nutrition are requested to have two prescribed white uniforms.

Tuition Charges, Fees and Deposits

	Amount
*Associated Students fee	$14.00
Auditors	5.00 per credit
Change of registration	1.00 per course
Condition, fee for removing	3.00
Consolidated fee, undergraduate students	65.00
Consolidated fee, graduate students	50.00
Deposit, General	10.00
Diploma	8.00
Graduation, late application for	3.00
*Health Service	8.00
Late registration	1.00–5.00
Matriculation (new students only)	5.00
Nonmatriculated students	10.00 per credit
Part-time students	10.00 per credit
ROTC deposit for basic students	20.00
ROTC deposit for advanced students	To be arranged
Special examinations, each	3.00
Students registering for fewer than 7 credits	10.00 per credit
*Student Union Fee	5.00
Teacher Placement Service	5.00
Transfer credit evaluation	3.00
†Transcript of student record	1.00
Tuition to nonresidents	135.00

State-wide Educational Services

Correspondence Study	10.00 per credit
Evening Division courses	10.00 per credit
Extension courses	10.00 per credit

Summer Sessions

Auditors	5.00 per credit
Late registration	2.00

*Included in the consolidated fee for undergraduate students.

†When two or more transcripts of record are requested at one time, each additional transcript will be 50 cents.

Reno Campus Sessions

Nonresidents—	
First 3 credits (per session)	$12.00 per credit
Each additional credit	7.00 per credit
Residents—	
First 3 credits (per session)	10.00 per credit
Each additional credit	5.00 per credit

Off-Campus Sessions

All students except auditors	10.00 per credit

Students should be prepared to pay any of the above charges due to the University at registration time.

Delinquency in Paying Fees

Final grades or transcript of record will not be issued for any student delinquent in the payment of University fees, deposits, room rent, board, etc. Such delinquent student will not be permitted to register in any succeeding semester or session.

Refunds

Matriculated Students Registered for 7 or More Credits

A refund of two-thirds of all *laboratory, library, and hospital fees, room rent, and nonresident tuition* will be made if a student withdraws from the University before the end of the third week in a semester; a refund of one-half of these charges will be made if the withdrawal occurs between the end of the third week and the end of the eighth week, but no refund will be allowed if withdrawal follows the end of the eighth week. A student withdrawing from a laboratory course will have refunds based on the above schedule. (Revision of refund policy now under consideration.)

Nonmatriculated and Part-time Students Registered for Fewer Than 7 Credits

In case of withdrawal *before* the end of one-fourth of the total scheduled number of sessions of the class, a refund of three-fourths of the total fees for the course paid by the student will be made. In case of withdrawal thereafter, no refund of fees will be made.

Auditors

Refunds do not apply to auditors who withdraw.

Summer Sessions Students

For summer refund policy see current *Summer Sessions Bulletin.*

Financial Aid for Students

Scholarships, Prizes, Loan Funds

A large number of scholarships and prizes have been made available to students through provisions made by the Board of Regents and the generosity of individuals, commercial enterprises, and organizations who believe that good scholarship should be encouraged among university students. Some of these awards are in the form of medals or honors, providing recognition for superior work.

Entering freshmen students who are graduates of Nevada high schools and students who have completed part of their university work are eligible for scholarships, some of which carry payments as high as $500 per year.

All scholarship funds are administered by the Scholarships and Prizes Committee, which is empowered to receive and consider all applications.

Students and prospective students desiring further information on scholarships and prizes should obtain the booklet on *Scholarships and Prizes* from the Office of the Registrar, University of Nevada, Reno, Nevada.

Several student loan funds have been established for deserving students. Information concerning these funds can be obtained at the Office of the Dean of Student Affairs.

Student Employment

Limited part-time employment is available on the University campus and in Reno. Employment of students is coordinated with the Nevada State Employment Service. After a student's registration is completed, he may apply at the Office of the Dean of Student Affairs for part-time employment. Students are advised, however, to have adequate finances for the year before enrolling and thus not to depend upon employment during the academic year. Students who are employed while attending the University probably will find it necessary to carry a reduced academic program.

Student Life

Policy of the University Toward 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.

Rules on student conduct are outlined in the booklet, *Regulations for the Guidance of Students,* available from the Office of the Dean of Student Affairs.

Student Participation in Government

Students at the University of Nevada have the opportunity to participate in government by which they gain valuable experience for democratic citizenship.

The Associated Students

The students are organized into an association called, "The Associated Students of the University of Nevada." Through this organization the students handle matters relating to the student body. The organization functions through a senate, through committees and through officers elected by the student body. By the payment of the A.S.U.N. membership fee each semester a student receives an A.S.U.N. card which entitles him to a vote in the association, and to admission to all Varsity games, contests, or events under the University's management. Payment of this fee includes payment of class dues and subscriptions to the *Sagebrush* and the *Artemisia.* The A.S.U.N. operates the University Bookstore.

The Associated Women Students

The Associated Women Students is an organization made up of the women registered in the University. Its purpose is to coordinate all activities sponsored, and participated in, by women. It works with the A.S.U.N. as an integral part of the governing body.

Residence Hall Associations

Each residence hall has an organization of its residents for student control of group living and social activities. The executive

officers, elected by the residents, coordinate residence hall government with University policies.

Interfraternity Council

This council consists of representatives from each fraternity on the campus. Its purpose is to develop closer cooperation among the fraternities, stimulate scholarship, and improve general social welfare on the campus.

Panhellenic Council

Representatives of the sororities on the campus compose the Panhellenic Council whose purpose is to coordinate the policies of the National Panhellenic Council on this campus. The council works to improve cooperation, academic progress, and social welfare on the campus.

Public Lectures

The University endeavors to provide its students with opportunity to hear important figures of the day and to become acquainted with music and art. This endeavor is furthered by civic organizations in Reno, which make available various lecture and concert series, most of which are open to university students at reduced rates. The University presents lecturers of eminence, either through regular Assemblies, or through the agency of various organizations associated with the University. Of special note are the Fulton Lectures, provided through the Robert Lardin Fulton Lecture Foundation.

University News Service

The University maintains a news and publicity service administered by a full-time director. This office disseminates administration and student news on a regular basis to newspapers, radio, and television stations in Nevada and adjoining areas, special releases to educational publications throughout the United States, and sports news to state and national outlets. It arranges radio and television programs and assists in preparation of official University publications.

University Publications

The University issues publications each year in a wide area of classification. Some are official bulletins for the information of prospective students, others are official reports for public distribution, and still others are regular issuances required of various divisions.

Official publications are under the guidance of the Public

Information Committee or the University News and Publicity Service. Student publications are under the supervision of the A.S.U.N. Publication Board. Regular bulletin reports of various divisions are self-supervised.

In addition, many faculty members are authors of articles and books issued through academic, philanthropic, or commercial outlets.

Official Publications

The Biennial Report. The official report to the Governor of Nevada by the University Regents, containing the personal reports of the President, deans of the colleges, major departments, and certain special services. This report is made every two years.

The Bulletin. The official publication of the University, issued quarterly or oftener.

The Alumnus. The official publication of the University of Nevada Alumni Association.

Bulletins are issued by the Agricultural Experiment Station, the Agricultural Extension Service, the Nevada Bureau of Mines, the Departments of Food and Drugs, Weights and Measures, and Petroleum Products Inspection. The University of Nevada Directory is issued annually in the Fall.

Student Publications

The Artemisia. An annual published by The Associated Students of the University of Nevada.

The U. of N. Sagebrush. A weekly newspaper issued throughout the University year by The Associated Students of the University of Nevada.

Brushfire. A student literary magazine published by University students with cooperation of the Department of English.

A. S. U. N. Student Handbook. The official handbook of the student body, published annually by The Associated Students of the University of Nevada.

Physical Education, Health, Athletics

The University provides for physical recreation and training in health and hygiene through its required courses in physical education, its health service, and programs in intramural and intercollegiate athletics.

The regular courses in physical education are intended to aid students in making profitable physical preparation for life—to help them form good health habits and also acquire skills which

will enable them to participate in recreational activities. Students receive health instruction and also participate in a varied program of activities.

All students registered for 7 or more credits are entitled to benefits from the University Health Service which maintains an infirmary on the campus with resident nurses and a physician. Other students may avail themselves of these benefits by payment of the fee of $8 per semester. The Health Service is in accordance with the general practice of other colleges and in line with the recommendations of The American Student Health Association. The Health Service provides for a physical examination for all entering students and for routine medical care. Privileges and regulations of the Health Service are outlined in the booklet *Regulations for the Guidance of Students,* available from the Dean of Student Affairs.

In addition both men and women may participate in intramural sports sponsored by the Department of Physical Education. Women's activities are sponsored by the Women's Recreation Association.

University teams participate in a variety of intercollegiate sports, competing primarily as a member of the Far Western Conference and with other universities of the west coast and mountain areas.

Students who can satisfy the University regulations for eligibility as specified by the Eligibility and Athletics Committee may participate in intercollegiate sports.

Military Training

The University ROTC program provides, in addition to required basic training, advanced military training which qualifies the trainee for a reserve commission as a Second Lieutenant in the Army of the United States. Students should consult the Professor of Military Science and Tactics for details concerning the program in military training. A number of honors and awards for military excellence are described in the booklet *Scholarships and Prizes,* available at the Office of the Registrar.

Social Life; Organizations

The student at the University of Nevada has an opportunity for a well-rounded social life. Reno is a small city in a resort community; the nearby Sierra Nevada mountains offer year-round recreational opportunities. The churches, musical organizations, and other groups of the community welcome student

participation. The University, through the Associated Students and social organizations, sponsors a program of supervised social events.

In addition, a number of organizations on the campus affect the lives of the University community. Some of these encourage and direct the religious, scientific, scholarly, artistic, and humanitarian interests of students. Some provide honorary recognition of achievement. Others are purely social, or combine learned interests with social recreation. Each student will be able to find several organizations appealing to his special interests.

Max C. Fleischmann College of Agriculture

The School of Agriculture
The Sarah Hamilton Fleischmann School of Home Economics
Agricultural Experiment Station
Agricultural Extension Service

Aim

The aim of the Max C. Fleischmann College of Agriculture is to offer such training in scientific and vocational agriculture and home economics as will furnish a well-rounded education and fit students for the successful operation of a farm and home, and also for professional positions.

Requirements for a Baccalaureate Degree in Agriculture

The degree of Bachelor of Science in Agriculture with majors in general agriculture, agricultural economics, animal husbandry, range management, and soils will be conferred upon students who satisfactorily complete the full course of study in the selected field in the School of Agriculture, aggregating 132 credits of which 42 must be upper-division.

To obtain the Bachelor of Science degree with a major in agricultural education, a student must complete the curriculum as outlined with a total of 144 credits, 45 of which must be in upper-division courses.

A two-year preveterinary course is also offered for students desiring to prepare to enter a veterinary school.

Candidates for the degree of Bachelor of Science in Agriculture who have not had farm or ranch experience should consult their adviser about obtaining this experience if they wish to be recommended for positions requiring such experience.

Requirements for a Baccalaureate Degree in Home Economics

Home economics is a program of studies based on sound fundamental training in the physical, biological, and social sciences and their application to living.

Three areas of concentration are offered in the Sarah Hamilton Fleischmann School of Home Economics in order to meet individual needs: home economics education, foods and nutrition, and general home economics. The degree of Bachelor of Science in Home Economics is conferred upon the satisfactory completion of 126 approved credits.

Curricula in Agriculture

To complete a major in the School of Agriculture a student must complete a prescribed curriculum in a given field in the College. The following curricula are prescribed:

Uniform Freshman Year

The following is the specified program for the first year for all students in agriculture.

		1st Sem.	*2d Sem.*
Military 101-102	Basic Course	1	1
Physical Education 101-102	Freshman Activities	½	½
Agriculture 104	Orientation in Agriculture	1	..
Animal Husbandry 101	Elements of Animal Husbandry	3	..
Soils 106	Soils	..	3
English 101-102	Composition and Rhetoric	3	3
Chemistry 101, 102	General Chemistry	4	2
Botany 103	General Botany	3	..
Zoology 103, 104	General Zoology	..	4
Mathematics 101	Intermediate Algebra	..	2
		15½	15½

Students majoring in soils will take Chemistry 122 in the second semester in place of English 102, and will take English 102 in the second semester of the sophomore year.

Preveterinary students will substitute Chemistry 122 for Soils 106, and History 101 for Botany 103.

General Agriculture Major

The curriculum in general agriculture is designed for students who desire a broad training in scientific and practical agriculture preparatory to entering the farming or ranching business. This course of study will also prepare students for work as county agents or for positions requiring knowledge of general agriculture.

Course Requirements in General Agriculture

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
Agriculture 104	Orientation in Agriculture	1
Chemistry 101, 102	General Chemistry	6
Chemistry 242	Introductory Organic	4
English 101-102	Composition and Rhetoric	6
Speech 111	Public Speaking	2
Mathematics 101, 102	Intermediate Algebra, Plane Trigonometry	4
Physics 151-152	General Physics	6
Botany 103, 222	General Botany, Taxonomy	7
Biology 351	Bacteriology	4
Zoology 103, 104	General Zoology	4
Agriculture 350	Genetics	3
Economics 201	Principles of Economics	3
Political Science 201-202	Constitutions of the United States and Nevada	2
Animal Husbandry courses		10
Agronomy and Range Management courses		10
Agricultural Economics courses		8
Soils and Agricultural Mechanics courses		10
Agricultural Electives		10
Electives		26
		132

Students planning to go into Agricultural Extension work should take:

Journalism 370 Botany 364 Zoology 359, 360

Agricultural Economics

The growth of agriculture into a vast commercial industry, with many economic, financial and marketing problems, has opened many attractive opportunities for students trained in agricultural economics.

The study of agricultural economics is concerned with the business aspects of farming and with agriculture in its broad economic relationships. It includes a study of farm organization and management, marketing of farm products, farm credit and finance, prices and price making factors as they relate to agriculture and problems in the economic utilization of land.

The curriculum in agricultural economics is designed to prepare the student to operate a farm or ranch successfully. He is also trained for State and Federal Government jobs requiring a knowledge of agricultural economics and for entering a business career in fields related to agriculture, such as processing and marketing farm products, real estate, farm financing organizations, feed, seed and fertilizer business, etc. Upon graduation with a Bachelor of Science degree in Agricultural Economics the

student may pursue graduate work leading to an advanced degree preparatory to teaching, research or agricultural extension work.

Course Requirements in Agricultural Economics

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
English 101-102	Composition and Rhetoric	6
Speech 111-112	Public Speaking	4
Botany 103	General Botany	3
Zoology 103, 104	General Zoology	4
Mathematics 101, 102, 110	Algebra, Trigonometry	7
Chemistry 101, 102	General Chemistry	6
Business Administration 241 or Chemistry 242	Business Organization or Organic Chemistry	3 or 4
Business Administration 243-244	Elementary Accounting	6
Business Administration 373	Business Law	3
Economics 201-202	Principles of Economics	6
Economics 353	Money and Banking	3
Political Science 201-202	Constitutions of United States and Nevada	2
Animal Husbandry 101	Elements of Animal Husbandry	3
Soils 106	Soils	3
Agronomy 207	Field Crops	4
Agriculture 104	Orientation in Agriculture	1
Agriculture 357	Agricultural Statistics	3
Agricultural Economics 212	Agricultural Economics	3
Agricultural Economics 245	Farm Accounting	3
Agricultural Economics 355	Agricultural Finance	2
Agricultural Economics 356	Land Economics	2
Agricultural Economics 357	Marketing Agricultural Products	3
Agricultural Economics 476	Farm Management	3
Agricultural Economics Electives		6
Agricultural Electives		10
Electives		26 or 27
		132

Agricultural Education

This course of study is designed to meet the needs of those students who are planning to teach vocational agriculture in rural high schools. In this curriculum, emphasis is given to practical farm experience, a broad general training in the basic fields of agriculture, and a consideration of methods and techniques of training youth and adults in the vocation of farming.

The breadth and extent of the training is such that a major part of this program is prescribed. This curriculum has been planned to meet the Nevada requirements for certification including:

(1) *Farm Experience*—Preferably the student should have been farm reared. In any case he shall have had at least two years of farm experience after arriving at the age of fourteen years.

(2) *Technical Training*—Graduation from an approved College of Agriculture, with sixty (60) credits of agriculture including the following:

	Minimum	Recommended
Animal Husbandry courses	10	20
Agronomy, Range Management, and Soils	10	10
Agricultural Mechanics and Engineering	8	10
Agricultural Economics	5	10

(3) *Professional Training*—A minimum of 18 credits in education is required for certification, including not less than 4 credits of observation and supervised teaching, and a course in methods of teaching vocational agriculture.

Course Requirements in Agricultural Education

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
Agriculture 104	Orientation in Agriculture	1
Chemistry 101-102	General Chemistry	6
Chemistry 242	Introductory Organic	4
English 101-102	Composition and Rhetoric	6
Speech 111	Public Speaking	2
Mathematics 101, 102	Algebra and Trigonometry	4
Botany 103, 222	General Botany and Taxonomy	7
Zoology 103, 104	General Zoology	4
Agriculture 350	Genetics	3
Biology 351	Bacteriology	4
Economics 201	Principles of Economics	3
Political Science 201-202	Constitutions of the United States and Nevada	2
Animal Husbandry courses		12
Agronomy and Range Management courses		8
Soils courses		3
Agricultural Economics courses		6
Agricultural Mechanics courses		8
Psychology 221	Educational Psychology	3
General Education 201	Introduction to Education	3
General Education 417	Professional Problems in Supervised Teaching	1
Secondary Education 341	General Principles, Materials, and Methods	3
Secondary Education 444	Methods in Teaching Farm Mechanics	2
Secondary Education 446	Problems in Agricultural Education	2
Secondary Education 447	Methods in Teaching Vocational Agriculture	3
Secondary Education 457	Supervised Teaching	6
Agricultural Electives		18
Electives		14
		144

Agronomy and Range Management

In this department instruction is given in both agronomy and range management. The range management major is designed to give scientific education in production and utilization of crops on irrigated and range lands. Graduates will be prepared to manage their own land, to enter professional positions in range management, or to continue in graduate study.

Course Requirements in Range Management

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
English 101-102	Composition and Rhetoric	6
Speech 111	Public Speaking	2
Mathematics 101, 102	Algebra, Trigonometry	4
Economics 201	Principles of Economics	3
Chemistry 101, 102	General Chemistry	6
Chemistry 242, 271	Introductory Organic, Physiological Chemistry	7
Physics 151-152	General Physics	6
Botany 103, 222	General Botany, Taxonomy	7
Botany 355, 380	Plant Physiology, Plant Ecology	7
Range Management 317	Range Agrostology	3
Zoology 103, 104	General Zoology	4
Zoology 381 or 382, plus 384	Animal Ecology Lecture and Laboratory	3
Political Science 201-202	Constitutions of the United States and Nevada	2
Agriculture 104, 357	Orientation and Agricultural Statistics	4
Agricultural Economics 212	Principles of Agricultural Economics	3
Animal Husbandry 101	Elements of Animal Husbandry	3
Animal Husbandry 303	Animal Nutrition—Feeds and Feeding	3
Animal Husbandry 304	Livestock Production and Skills	3
Agronomy 207	Field Crops	4
Soils 106, 311	Soils and Soil Management	7
Range Management 359	Principles of Range and Pasture Management	3
Range Management 362	Poisonous Range Plants	1
Range Management 364	Range and Pasture Field Trip	1
Range Management 366	Range Condition Classification and Improvement	2
Range Management 468	Advanced Range Management	3
Range Management 469	Range and Pasture Literature	2
Electives		27
		132

Suggested Electives:

Agricultural Economics 356.
Agronomy 346.
Biology 350.
Civil Engineering 241.
Geography 222.
Geology 101.
Humanities.
Social Sciences.

Graduate Study

Graduate study leading to the Master of Science degree is offered in the Department of Agronomy and Range Management. Two years is usually required beyond the bachelor's degree. Problems in range ecology, range improvement, or forage

improvement are usually selected as a basis for the thesis. Occasionally graduate research assistantships are available. See the section of this catalogue entitled *Graduate Study.*

Animal Husbandry

The Animal Husbandry Department offers, in addition to animal husbandry courses, instruction in poultry husbandry, dairy husbandry, and animal diseases and parasites. The course of study is so arranged that the student receives a fundamental training in animal sciences and by judicious selection of electives may place emphasis on animal husbandry, dairy husbandry, or poultry husbandry. Most of the animal husbandry staff hold both teaching and research appointments. The instruction is to a large degree offered by men actively engaged in research in the particular field.

The applied animal science curricula are designed to train men and women in the fundamentals of animal production and associated technical fields. Progress in the animal sciences has been determined by advances in the basic sciences. The curricula therefore include courses in the pertinent physical and biological sciences. Work in the arts and sciences is included to help the students become educated men and women capable of leading a fuller life. Specific courses in the applied animal sciences are designed to give an understanding of the animals with which the students work and a basis for solving the problems of animal production.

Graduates are fitted to enter a variety of animal production and technical fields. In general, they are prepared to (a) engage in ranching or farming operations; (b) enter the animal production or associated technical fields at the professional level of a B.S. degree, in occupations which include work in agricultural extension, herd management, ranch management, livestock marketing, meat packing, feed manufacture and sale, laboratory technical assistance, etc.; (c) pursue graduate work leading to a higher degree in animal genetics, animal nutrition, animal physiology, animal production or veterinary medicine.

In addition to the animal husbandry curriculum, a two-year preveterinary medicine course is offered.

Animal Husbandry

Instruction in animal husbandry deals with the basic sciences and their application to the livestock industry, with particular reference to Nevada. The student may place emphasis on dairy or poultry husbandry by the selection of appropriate electives. The general requirements for the animal husbandry curriculum are outlined as follows:

Course Requirements in Animal Husbandry

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
Chemistry 101, 102, 242, 271	General, Organic and Physiological Chemistry	13
Physics 151-152	General Physics	6
English 101-102	Composition and Rhetoric	6
Botany 103, 222	General Botany, Taxonomy	7
Biology 351	Bacteriology	4
Zoology 103, 104, 309	General Zoology, Comparative Anatomy	9
Agriculture 350	Genetics	3
Speech 111	Public Speaking	2
Mathematics 101, 102	Intermediate Algebra, Plane Trigonometry	4
Economics 201	Principles of Economics	3
Agricultural Economics 212	Agricultural Economics	3
Soils 106	Soils	3
Agriculture 104, 357	Orientation in Agriculture, Methods in Agricultural Statistics	4
Agronomy 207	Field Crops	4
Political Science 201-202	Constitutions of the United States and Nevada	2
Range Management 359, 366	Principles of Range and Pasture Management, Range Condition Classification and Improvement	5
Electives		18
Animal Husbandry Electives*		7
Required Animal Husbandry Courses—		
Animal Husbandry 101	Elements of Animal Husbandry	3
Animal Husbandry 201	Livestock Judging	2
Animal Husbandry 303	Animal Nutrition—Feeds and Feeding	3
Animal Husbandry 306	Advanced Animal Nutrition	3
Animal Husbandry 308	Animal Diseases and Parasites	3
Animal Husbandry 307	Physiology of Domestic Animals	5
Animal Husbandry 405	Animal Breeding	3
Agriculture 401 or 402	Agricultural Seminar	1
		132

Graduate Study

Graduate study leading to the Master of Science degree is offered in the Animal Husbandry Department. The student must meet the requirements for the Bachelor of Science degree in animal husbandry as set forth herein in addition to the University requirements for the Master of Science degree. It will normally require two academic years to complete the requirements. Research problems of animal breeding, animal nutrition, animal physiology, animal production, or meats may be investigated as a basis for the thesis.

*Must include at least one production course.

Preveterinary Medicine Course

The University of Nevada does not maintain a School of Veterinary Medicine. The preveterinary course allows the student to meet the entrance requirements established by the accredited schools to which he might be eligible. The general requirement is outlined below. A student will be required to maintain a B average or higher in order to be recommended for veterinary school. Satisfactory completion of this program does not guarantee acceptance by an accredited veterinary school.

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
English 101-102	Composition and Rhetoric	6
Speech 111	Public Speaking	2
Chemistry 101, 102, 122, 233, 242	General, Qualitative Analysis, Quantitative Analysis, Organic	17
Mathematics 101, 102	Algebra, Trigonometry	4
Zoology 103, 104, 309, 364	General Zoology, Comparative Anatomy, Embryology	13
Physics 151-152	General Physics	6
Restricted Electives†		12
		66

Soils and Plant Nutrition

In the Department of Soils and Plant Nutrition, a major is offered in soils which is designed to give the student a good understanding of the natural sciences along with technical training in soils, so he will be prepared for professional work in this field.

Agricultural mechanics is included in this department. Courses in agricultural mechanics are designed to give the students practical training in the operation, repair, and care of various types of farm machinery.

Courses in irrigation principles and practices are also taught in this department.

†Courses selected from the fields of social sciences, foreign languages, philosophy, psychology, fine arts, and literature, and/or additional courses in English, speech, and mathematics. The student should consult the announcement of the school of his choice to select electives.

Course Requirements in Soils

		Credits
Military	Basic Course	4
Physical Education	Freshman, Sophomore Activities	2
English 101-102	Composition and Rhetoric	6
Mathematics 101, 102	Algebra, Trigonometry	4
Economics 201	Principles of Economics	3
Chemistry 101, 102	General Chemistry	6
Chemistry 122, 233	Qualitative and Quantitative Analysis	7
Chemistry 242	Introductory Organic Chemistry	4
Physics 151-152, 153-154	General Physics	8
Botany 103	General Botany	3
Biology 351	Bacteriology	4
Botany 355	Plant Physiology	4
Zoology 103, 104	General Zoology	4
Geology 101	Physical Geology	3
Political Science 201-202	Constitutions of the United States and Nevada	2
Agriculture 104	Orientation	1
Speech 111	Public Speaking	2
Agricultural Economics 212, 476	Principles of Agricultural Economics, Farm Management	6
Animal Husbandry 101	Elements of Animal Husbandry	3
Agronomy 207	Field Crops	4
Agricultural Mechanics 221, 356	General Mechanics, Irrigation	5
Soils 106, 311	Soils, Soil Management	7
Soils 323	Soil Chemistry and Physics	4
Soils 325	Soil Genesis and Classification	3
Electives		33
		132

Suggested Electives:

Agricultural Economics 355-356.
Agriculture 357.
Animal Husbandry 304.
Botany 222, 364.
Business Administration 373.
Civil Engineering 241-242.
Geography 103, 222.
Geology 211.
Mathematics 110, 140.
Psychology 201.
Range Management 359.
Sociology 201.

Curricula in Home Economics

To complete a major in the Sarah Hamilton Fleischmann School of Home Economics a student must complete a prescribed curriculum in a given field in the College. The following curricula are prescribed:

Home Economics Education

The following program is designed for students who wish to qualify as teachers of home economics under the provision of the National Vocational Education Acts. Student teaching and accompanying courses in methods of teaching are offered in the senior year.

Arrangements are made for students to secure the minimum 6 credits of student teacher experience in an approved off-campus center.

Freshman Year

		1st Sem.	*2d Sem.*
English 101-102	Composition and Rhetoric	3	3
Chemistry 101, 102	General Inorganic Chemistry	4	2
Home Economics 103	Orientation	1	..
Home Economics 131	Food for Families		
or			
Home Economics 115	Clothing	3	..
Home Economics 132	Food for Families		
or			
Home Economics 116	Textiles	..	3
Music 204	Music Appreciation	..	2
Physical Educ. 161–162	Freshman Activities	1	1
Art 101	Freehand Drawing	2	..
Home Economics 218	Family Economics	..	3
Elective		..	1
		14	15

Sophomore Year

Physics 119	Physics of the Home	4	..
Home Economics 115	Clothing		
or			
Home Economics 131	Food for Families	3	..
Home Economics 116	Textiles		
or			
Home Economics 132	Food for Families	..	3
Home Economics 133	Nutrition	3	..
Home Economics 367	Family Clothing	3	..
General Education 201	Introduction to Education	3	..
Journalism 370	Agricultural Journalism	..	3
Speech 112	Public Speaking	..	2
Psychology 221	Educational Psychology	..	3
Art 115	Appreciation	..	2
Physical Educ. 201–202	Sophomore Activities	½	½
Elective		..	3
		16½	16½

Junior Year

		1st Sem.	2d Sem.
Secondary Education 341	General Principles, Materials, and Methods	3	..
Home Economics 253	Community, School, and Family Health	3	..
Home Economics 255	Art and Science of Meal Service	..	4
Home Economics 366	Advanced Clothing	..	3
Home Economics 475	Child Development	3	..
Home Economics 476	Family Life and Relationships	..	3
Home Economics 477–478	Child Guidance	3	3
Home Economics 486	Home Management	4	..
Home Economics 487	Home Planning and Furnishing	..	3
Political Science 201	Constitution of United States	1	..
Sociology 380	The Family	..	2
		17	18

Senior Year

Home Economics 402	Seminar	..	2
Home Economics 499	Demonstration	3	..
General Education 417	Professional Problems in Supervised Teaching	1	..
Secondary Education 448	Problems in Homemaking Education	..	3
Secondary Education 449	Methods in Teaching Homemaking	..	3
Secondary Education 457	Supervised Teaching	..	6
Political Science 202	Constitution of Nevada	1	..
Elective		10	..
		15	14

Foods and Nutrition

This area of concentration not only provides experience in food preparation and meal planning in relation to the requirements of good health, but provides preprofessional training in dietetics and institution management. Upon completion of a year's internship in an approved hospital or institution, the student is eligible to membership in the American Dietetic Association. This area also provides fundamental preparation for work as a nutrition specialist, a consultant in social work, or an agent in extension service.

Freshman Year

		1st Sem.	2d Sem.
English 101-102	Composition and Rhetoric	3	3
Chemistry 101, 102	General Inorganic	4	2
Home Economics 131-132	Foods	3	3
Home Economics 103	Orientation	1	..
Chemistry 242	Introductory Organic	..	4
Home Economics 133	Elementary Nutrition	3	..
Physical Educ. 161–162	Freshman Activities	1	1
Elective		..	3
		15	16

Sophomore Year		*1st Sem.*	*2d Sem.*
Physics 119	Household Physics	4	..
Home Economics 116	Textiles	..	3
Psychology 201	General	3	..
Psychology 241	Mental Hygiene	..	3
Philosophy 102	Social Ethics	..	2
Home Economics 218	Family Economics	..	3
Sociology 201	Principles of Sociology	3	..
Physical Educ. 201–202	Sophomore Activities	½	½
Elective		5	4
		15½	15½
Junior Year			
Chemistry 271	Physiological	3	..
Home Economics 334	Nutrition	..	3
Home Economics 499	Demonstration	3	..
Home Economics 494	Experimental Foods	..	2
English 232	Great Books	..	3
Home Economics 255	Meal Planning	..	4
Zoology 224	Human Anatomy and Physiology Part II	..	3
Elective		9	..
		15	15
Senior Year			
Home Economics 491	Education for Foods and Nutrition Majors	3	..
Home Economics 475	Child Development	3	..
Home Economics 476	Family Life and Relationships	..	3
Home Economics 477–478	Child Guidance	3	3
Home Economics 436	Diet Therapy	..	3
Political Science 201-202	Constitutions of the United States and Nevada	1	1
Biology 351	Bacteriology	4	..
Home Economics 498	Institution Organization and Management	..	3
Home Economics 496	Quantity Cooking	..	3
Home Economics 402	Seminar	..	2
Elective		2	..
		16	18

General Home Economics

In addition to the two professional areas in home economics (home economics education, and foods and nutrition), a general area is offered for the young women who expect to marry soon after graduation. The subjects for the general area are widely selected from home economics, the humanities, the life sciences and social sciences; they should help the student acquire the appreciation, understandings, and skills necessary for successful personal, family, and community living today.

The number of electives scheduled makes possible the opportunity to meet special interests and needs for each student. A minor field of concentration in either of the professional areas

may be selected following consultation with the Chairman of Home Economics.

Freshman Year		*1st Sem.*	*2d Sem.*
English 101-102	Composition and Rhetoric	3	3
Home Economics 103	Orientation	1	..
Speech 112	Public Speaking	..	2
Home Economics 131-132	Food for the Family	3	3
Physics 119	Household Physics	4	..
Psychology 121	Human Nature	..	2
Art 115	Art Appreciation	..	2
Home Economics 133	Elementary Nutrition	3	..
Physical Educ. 161–162	Freshman Activities	1	1
Elective		..	3
		15	16

Sophomore Year			
Home Economics 255	Art and Science of Meal Service	..	4
Home Economics 115	Clothing	3	..
Psychology 201, 241	General, Mental Hygiene	3	3
Home Economics 218	Family Economics	..	3
Political Science 105-106	Comparative Government	2	2
Science (choice of botany, chemistry, mathematics, zoology)		3	..
Physical Educ. 201–202	Sophomore Activities	½	½
Elective		4	..
Elective	English	..	2
	Other	..	2
		15½	16½

Junior Year			
Home Economics 367	Family Clothing	3	..
Home Economics 486	Home Management	4	..
Home Economics 253	Community, School, and Family Health	3	..
Political Science 201-202	Constitutions of the United States and Nevada	1	1
Sociology 379, 380	Minority Problems, The Family	2	2
Psychology 375	Marriage, Homemaking, and Divorce	..	2
Art 362	History of European Art	..	3
Music 304	Music of Today	..	2
Elective	English	2	..
	Other	..	6
		15	16

Senior Year			
Home Economics 402	Home Economics Seminar	..	2
Home Economics 475	Child Development	3	..
Home Economics 476	Family Life and Relationships	..	3
Home Economics 477–478	Child Guidance	3	3
Home Economics 487	Home Planning and Furnishing	..	3
Philosophy 462	Philosophy of Religion	..	3
Philosophy 482	Philosophy of Political Problems	..	2
Elective	English	3	..
	Other	7	..
		16	16

Desirable Electives

Freshman Year

Choose 3 credits: Art 101, 105; English 131, 141, 145, 171; Music 105, 106, 111, 112, 117, 118.

Sophomore Year

Choose 8 credits: English 231, 232, 247, 248; Music 203, 204; Art 251, 257; Business Administration 243–244; Home Economics 116; Physical Education, individual sports or hygiene.

Junior Year

Choose 8 credits: English 337, 355, 356; History 314; Psychology 361; Art 362, 363; Home Economics 366; Physical Education, same activities as sophomores; Journalism 370.

Senior Year

Choose 10 credits: English 441; Psychology 405; Home Economics 499; Journalism 370.

College of Arts and Science

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 of and sympathy with the broader and cultural aspects of life.

Requirements for a Baccalaureate Degree in Arts and Science

In order to be recommended for the degree of Bachelor of Arts[1] a candidate must, first, have satisfied the requirements for admission to regular standing; and, second, have gained credits in prescribed and elective courses aggregating 126 credits, of which at least 40 must be in courses numbered 300 or above. The degree of Bachelor of Science in Chemistry or Chemical Technology requires 130 credits.

Prescribed Courses[2]

1. From 2 to 6 credits in military and physical education as required by the University, and Political Science 201–202 as required by the State law.
2. A minimum of 6 credits in English 101–102[3] shall be required of all students.
3. A minimum of 16 credits[4] in foreign languages as outlined below:
   French, German, Italian, Latin, and Spanish. Four entrance units in not more than two languages will meet this requirement.
   A single year in a language will not be counted toward meeting the requirements unless one semester of that language be taken in college.
   With 3 entrance units the requirements are 3 college credits in the same language or course 101–102 in another language.

[1]Students who have majored in mathematics or science may on application to the Dean be granted the degree of Bachelor of Science.

[2]By action of the faculty, requirements for prescribed courses and requirements for a field of concentration were changed in 1949. Students entering the University for the first time in September 1949, or thereafter, will follow the rules for graduation outlined in this catalogue. Students entering the University before September 1949, may elect to follow either the rules prescribed in this catalogue or the rules in effect at the time they entered the University. Students who transfer from other colleges of the University to the College of Arts and Science must satisfy the requirements in effect at the time the transfer is made.

[3]Subject to provisions stated under *English Language and Literature*, in *Courses of Instruction*.

[4]The fulfillment of these group requirements by substitution of high school units will, however, not reduce the number of regular college units required for graduation below 126.

With 2 entrance units: Course 103–104 in the same language or course 101-102 in another language.

With 1 entrance unit: Courses 102 and 103–104 in the same language.

With no entrance units: Courses 101-102 and 103-104 in any one foreign language, or courses 101 and 102 in each of two foreign languages.

4. A minimum of 10 credits each in Groups 1 and 2 and 6 credits in Group 3 as shown below. To fulfill requirements the student must take courses in at least two subjects of each group.

GROUP 1. *Natural Sciences:* Astronomy, botany, zoology (except course 220), chemistry, geography (courses 103 and 222), geology, mathematics (except course 105), meteorology, physics.

GROUP 2. *Social Sciences:* Economics (except courses 361 and 362), geography (except courses 103 and 222), history, political science (except courses 201 and 202), psychology, sociology (except courses 381 and 386), journalism (courses 101, 102), zoology (course 220).

GROUP 3. *Humanities:* Art history and appreciation, English literature, foreign literature, music history and appreciation, speech history and interpretation, philosophy.

Curriculum for First Two Years

In order that these requirements may be used to the best advantage in assuring a well-balanced course and at the same time give the student some freedom of choice in the selection of his courses, the course of study as given below is prescribed for the first two years. At least 5 credits per semester must be selected from courses fulfilling the above group requirements and requirements in language. Because of the variation in the language requirements it may be necessary for some students to complete as many as 8 credits per semester from these groups.

Freshman Year

First Semester	*Credits*	*Second Semester*	*Credits*
Military and Physical Education	½ to 1½	Military and Physical Education	½ to 1½
English 101	3	English 102	3
Language	5 to 8*	Language	5 to 8*
Natural Science		Natural Science	
Social Science		Social Science	
Humanities		Humanities	
Elective		Elective	
	15½		15½

*These credits may not include courses in groups in which the requirements have already been fulfilled.

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Military and Physical Education	½ to 1½	Military and Physical Education	½ to 1½
Language, Natural Science, Social Science, Humanities	5 to 8*	Language, Natural Science, Social Science, Humanities	5 to 8*
Elective		Elective	
	15½		15½

Freshman Courses Which Satisfy Requirements

The only courses open to freshmen which may be used to fulfill the above requirements in natural sciences, social sciences, and humanities are listed below:

GROUP 1—Natural Sciences and Mathematics—
Botany 103, 104, 105.
Chemistry 101, 102, 122, 124.
Geography 103, 222.
Geology 101, 102.
Mathematics 101, 102, 110, 151-152, 210.
Physics 101-102, 103-104, 107, 117-118, 151-152, 153-154.
Zoology 101, 103, 104.

GROUP 2—Social Sciences—
Economics 107, 164.
Geography 101, 106.
History 101-102, 105-106.
Journalism 101, 102.
Political Science 101-102, 105-106.
Psychology 121, 201.

GROUP 3—Humanities—
Art 115, 261.
English Literature 131-132, 141, 145, 171-172, 231-232, 235-236, 247-248, 291.
Music 203, 204.
Philosophy 101, 102, 107.
Speech (see English) 221-222.

Sophomore or Upper-Division Courses Which Satisfy Requirements

Courses requiring a prerequisite or sophomore or upper-division standing which may be used to fulfill requirements in natural sciences, social sciences, and humanities:

GROUP 1—Natural Sciences and Mathematics—
Botany courses numbered above 200.
Chemistry courses numbered above 200.
Geology courses numbered above 200.
Mathematics 140 and courses numbered above 200.
Physics courses numbered above 200.
Zoology courses numbered above 200 except 220.

*These credits may not include courses in groups in which the requirements have already been fulfilled.

GROUP 2—Social Sciences—
Economics 201-202 and courses numbered above 300 except 361 and 362.
Geography courses numbered above 200 except 222.
History courses numbered above 300.
Political Science courses numbered above 300.
Psychology courses numbered above 200.
Sociology courses numbered above 200 except 381 and 386.
Zoology 220.

GROUP 3—Humanities—
Art 359-360, 362, 462.
English Literature courses numbered above 300 except 305-306, 385, 405-406.
French courses numbered above 300 except 355-356, 379-380, 389-390.
German courses numbered above 300 except 355-356, 359-360, 379-380.
Italian courses numbered above 300 except 355-356.
Latin courses numbered above 300.
Music 303, 304.
Philosophy courses numbered above 200.
Spanish courses numbered above 300 except 355-356, 379-380.
Speech (see English) courses numbered above 300 except 311, 315, 317-318, 411, 412, 413, 417-418, 419-420.

General Regulations

Students who, upon their initial registration in the University, are over 26 years of age are excused from physical education.

No course with a number above 300 will be open to freshmen or sophomores without the written recommendation of the chairman of the department and the approval of the Dean.

When students transfer to the College of Arts and Science from other colleges, they will be considered deficient in as many credits in arts and science as they are deficient in the college from which they transferred. The credit requirement for graduation from the College of Engineering and the Mackay School of Mines is greater than that of the College of Arts and Science. Engineering students transferring to the College of Arts and Science must make 2½ more than the 126 credits required for graduation in arts and science for each semester they have been enrolled in engineering. A similar rule applies to students transferring to the College of Arts and Science from the College of Agriculture.

No student may transfer from one of the other colleges of the University to the College of Arts and Science unless he be a regular student in the college from which he transfers.

Courses given primarily in other colleges of the University may be taken by arts and science students, but of these courses not more than 20 credits may be counted for arts and science degrees.

Except as otherwise specified, all students, including transfers, before receiving the bachelor's degree from the College of Arts and Science must have fulfilled the above requirements.

Junior and Senior Requirements

To accomplish the aims of the College, a candidate for the baccalaureate degree must:

1. Select courses totaling not less than 40 credits in courses numbered above 300.
2. Complete the requirements listed under *Prescribed Courses* pages 68, 69.
3. Complete requirements for a field of concentration* of 50 credits in a program representing a unity of aim. The particular grouping of courses will depend on the particular aim of the student but must be in accord with either Plan I or Plan II as outlined below.

Plan I. The major interest of the student is confined to a single subject. The 50 credits shall include not less than 26 nor more than 36 credits in the major interest subject, the remainder being chosen from related subjects as outlined below, and approved by the chairman of the major interest department.

Plan II. The major interest of the student involves two or more subjects. The 50 credits shall represent a specified objective and form a unified program acceptable to the departments involved.

It is advisable that students should plan their work for their junior and senior years as early as the sophomore year, in order that the studies then elected may fit in with their work later. At the beginning of the junior year, each student must give the Dean a written notice of his selection of a field of concentration; such selection shall bear the approval of the chairman of the department sponsoring the field of concentration.

The remaining credits necessary to make a total of 126 may be freely elected from any department, or, subject to the limit of 20, from the other colleges of the University.

Candidates for graduation should make written application to the Dean of the College of Arts and Science at the beginning of their senior year.

Graduate Study

The College offers courses carrying graduate credit in each of its departments. Graduate programs leading to the degrees of Master of Arts or Master of Science may be had in the following departments: biology, botany, chemistry, English, foreign languages, history, mathematics, physical education, physics, political science, psychology, and zoology.

*By action of the faculty, requirements for prescribed courses and for a field of concentration were changed in 1949. Students entering the University for the first time in September 1949, or thereafter, will follow the rules for graduation outlined in this catalogue. Students entering the University before September 1949 may elect to follow either the rules prescribed in this catalogue or the rules in effect at the time they entered the University.

Fields of Concentration and Professional Curricula

Specific requirements for fields of concentration in various departments and specific curricula for professional courses and special degrees are listed below in alphabetical order by departments and subjects.

Art

Major-interest subject (26 credits)—Art 101, 102 (4 credits); 251, 252 (6 credits); 257, 258 (6 credits); 359, 360 (4 credits); 355, 356 or 363, 364 (6 credits). *Related subjects* (20 credits)—Courses in at least two of the following subjects to be chosen with the approval of the adviser: biology, English, foreign languages, history, philosophy, and psychology. Courses especially recommended are Zoology 101, 103, 104, 223, 224; English courses numbered above 102; foreign languages above arts and science requirements; History 309, 371–372, 376, and courses numbered above 400; Philosophy 101, 351, 352, 455; and Psychology 121, 201, 205, 221, 361. *Additional credits* (4 credits)—Additional credits in the major-interest subject or related subjects to be chosen with the approval of the adviser.

Biology

Biology

Major-interest subject (37 credits)—Botany 103 (3 credits), 104 (2 credits), 105 (2 credits), 495 or 496 (1 credit), and at least 8 additional credits in botany or biology of which at least 4 must be in courses numbered above 300. Zoology 103 (2 credits), 104 (2 credits), 309 (5 credits), and 9 additional credits in zoology or biology of which at least 4 credits must be in courses numbered above 300. Biology 350 (3 credits). *Related subjects* (13 credits)—Chemistry 101, 102, 242 (10 credits); and 3 additional credits to be assigned by the adviser.

Botany

Major-interest subject (36 credits)—Botany 103 (3 credits), 104 (2 credits), 105 (2 credits), 222 (4 credits), 231 (4 credits), 495–496 (2 credits), and at least 12 additional credits in botany or biology. Biology 350 (3 credits), 355 (4 credits). *Related subjects* (14 credits)—Chemistry 101, 102, 242 (10 credits); Zoology 103 (2 credits), 104 (2 credits).

Zoology

Major-interest subject (31 credits)—Zoology 103 (2 credits), 104 (2 credits), 309 (5 credits), 359 (2 credits), 360 (2 credits), 364 (4 credits), 446 (3 credits), and at least 8 additional credits in zoology or biology. Biology 350 (3 credits). *Related subjects* (17 credits)—Botany 103 (3 credits); Chemistry 101, 102, 242 (10 credits); and 4 additional credits to be assigned by the adviser.

Preforestry

Students planning to take a preforestry course should consult the Chairman of the Department of Biology.

Premortuary

The first two years of the wildlife management curriculum will satisfy the premortuary requirements for students interested in mortuary science. For further information, see the Chairman of the Department of Biology.

Wildlife Management

The four-year course outlined below aims to give both a liberal education and a foundation for work in the fields of State Fish and Game Management, the Federal Fish and Wildlife Service, and other Federal branches such as the National Parks Service and the Geological Survey which do biological work. Graduate study may be necessary to qualify for certain positions. Electives are to be chosen to satisfy the arts and science requirements for the bachelor's degree. This course will satisfy the requirements for a field of concentration in zoology.

Freshman Year

		1st Sem.	*2d Sem.*
Chemistry 101, 102	General Inorganic Chemistry	4	2
English 101-102	Composition and Rhetoric	3	3
Botany 103	General Botany	3	--
Zoology 103	General Zoology	--	2
Zoology 104	General Zoology Laboratory	--	2
Mathematics 101 or 110, and 102	Algebra and Trigonometry	2	3
Military and Physical Education		1½	1½
Elective (chosen from arts and science humanities and social science requirements)			
		15½	15½

Sophomore Year

Foreign Language	First Year	5	5
Zoology 309	Comparative Anatomy	5	--
Zoology 322	Parasitology	3	--
Botany 222	Taxonomy	--	4
Chemistry 242	Introductory Organic	--	4
Military and Physical Education		1½	1½
Elective (chosen from arts and science humanities and social science requirements)			
		15½	15½

Junior Year

		1st Sem.	2d Sem.
Foreign Language	Second Year	3	3
Zoology 359	General Entomology	2	..
Zoology 360	General Entomology Laboratory	2	..
Zoology 337	Mammalogy	..	3
Botany 315 or 317	Dendrology or Agrostology	..	3
Botany 491	Special problems in wildlife food plants	3	..
Geology 101	Physical Geology	3	..
Political Science 201-202	Constitutions of the U. S. and Nevada	1	1
Zoology 333	Fishes, Amphibians, and Reptiles	..	2
Zoology 334	Fishes, Amphibians, and Reptiles Laboratory	..	1
Elective		2	3
		16	16

Senior Year

Zoology 335	Ornithology	..	3
Range Management 359	Principles of Range and Pasture Management (for game management students)		
or			
Civil Engineering 364	Hydrology (for fisheries management students)	3	..
Zoology 463	Game Management	3	..
Zoology 470	Fish Hatchery Management	..	3
Biology 350	Genetics	..	3
Biology 420	Limnology	..	3
Botany 380	Plant Ecology	3	..
Zoology 381, 382	Animal Ecology	2	2
Zoology 384	Animal Ecology Laboratory	..	1
Elective		5	1
		16	16

Quantitative chemistry is strongly recommended.

Suggested electives are: Range Management 366; Biology 355; Economics 201, 202; English 131, 132; Psychology 201; Speech 111, 112.

Botany, See Biology

Business Administration, See Economics, Business, and Sociology

Chemistry

Major-interest subject (31 credits)—Chemistry 101, 102, 122 (9 credits); 233-234 (8 credits); 341-342 (8 credits); 353-354 (4 credits); and 387-388 (2 credits). *Related subjects* (16 credits)—Mathematics 102, 110, 140 (8 credits); Physics 151-152, 153-154 (8 credits). *Additional credits* (3 credits)—Additional credits in major interest subject or related subjects to be chosen with the approval of the adviser.

Chemistry or Chemical Technology Curricula

The following courses of study are designed for students looking toward the field of chemistry or of chemical engineering as a profession. They are intended to fit students to enter directly into industrial work or to prepare them for more advanced study in chemistry or in chemical engineering. On completion of either of these curricula, in each of which a total of 130 credits is required, the student will receive the degree of Bachelor of Science in Chemistry or Bachelor of Science in Chemical Technology.

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 chairman of the department, and should be chosen in consultation with him.

Freshman Year

First semester	*Credits* Chem.[1]	Chem. Tech.[2]	*Second semester*	*Credits* Chem.[1]	Chem. Tech.[2]
Chemistry 101	4	4	Chemistry 102, 122	5	5
English 101	3	3	English 102	3	3
Mathematics[3] 102, 110	5	5	Mathematics[3] 140	3	3
Military and Physical Education	1½	1½	Military and Physical Education	1½	1½
Mechanical Engineering 105	..	2	Mechanical Arts 203	..	2
Art 107	..	1	Elective[5]	4	2
Elective[5]	3	..			
	16½	16½		16½	16½

Sophomore Year

First semester	*Credits* Chem.[1]	Chem. Tech.[2]	*Second semester*	*Credits* Chem.[1]	Chem. Tech.[2]
Chemistry 233	4	4	Chemistry 234	4	4
Mathematics 231	3	3	Mathematics 232	3	3
Physics[4] 151, 153	4	4	Physics[4] 152, 154	4	4
Business Administration 241	..	3	Psychology 201	..	3
Military and Physical Education	1½	1½	Military and Physical Education	1½	1½
Political Science 201	1	1	Political Science 202	1	1
Elective[5]	3	..	Elective[5]	3	..
	16½	16½		16½	16½

[1]Refers to requirements for Bachelor of Science in Chemistry.
[2]Refers to requirements for Bachelor of Science in Chemical Technology.
[3]Mathematics 151–152 may be substituted with the consent of the Chemistry Department.
[4]Physics 203, 204, 205, 206 may be substituted with the consent of the Chemistry Department.
[5]Candidates for the B.S. degree in Chemistry will choose electives which will satisfy the social science and humanities requirements of the College of Arts and Science. Nine credit hours of electives shall be selected from chemistry courses numbered 300 or above from three of the four branches of chemistry, namely: inorganic, analytical, organic, and physical. Candidates for the B.S. degree in Chemical Technology will select all electives in social science and humanities in consultation with their advisers.

Junior Year

First semester	Credits Chem.[1]	Credits Chem. Tech.[2]	Second semester	Credits Chem.[1]	Credits Chem. Tech.[2]
Chemistry 341	4	4	Chemistry 342	4	4
German 101	5	5	German 102	5	5
Chemistry 353	2	2	Chemistry 354	2	2
Chemistry 387	1	..	Chemistry 388	1	..
Electrical Engineering 323	..	2	Business Administration 366	..	3
Mathematics 341	..	3	Elective[5]	4	2
Elective[5]	4	..			
	16	16		16	16

Senior Year

First semester	Credits Chem.[1]	Credits Chem. Tech.[2]	Second semester	Credits Chem.[1]	Credits Chem. Tech.[2]
German 103	3	3	German 104	3	3
Chemistry 461	..	3	Chemistry 462	..	2
Chemistry 387	..	1	Chemistry 388	..	1
Chemistry 497	2	..	Chemistry 498	2	..
Chemistry 455, 457	4	4	Mechanical Engineering 462	..	2
Mechanical Engineering 353	..	3	Civil Engineering 372	..	3
Elective[5]	7	2	Elective[5]	11	5
	16	16		16	16

Drama, See English and Speech

Economics, Business, and Sociology

Economics

Major-interest subject (30 credits)—*Economics* 201, 202, 351, 353, 357, 361, 365, 492 (24 credits) and 6 additional credits in courses in economics numbered above 300. *Related subjects* (20 credits)—Business Administration 243, 244 (6 credits) and 14 additional credits selected with the approval of the department from the following subjects: philosophy, psychology, mathematics, political science.

Business Administration

Students completing the requirements of this field will be granted the degree of Bachelor of Science in Business Administration.

Major-interest subject (33 credits)—Business Administration 243, 244, 355, 356, 365, 366, 368, 373, 374 (27 credits) and 6 additional credits in courses in business administration numbered above 300. *Related subjects* (18 credits)—Economics 201, 202, 353, 361, 373 (15 credits) and 3 additional credits in courses in economics numbered above 300.

The selection of electives should be in accord with the individual needs of the student. For students who expect to enter

[1]Refers to requirements for Bachelor of Science in Chemistry.
[2]Refers to requirements for Bachelor of Science in Chemical Technology.
[5]See footnote 5 on page 76.

a business career, courses in mathematics or psychology are recommended; for those expecting to teach commercial subjects, courses in education are recommended.

It is strongly advised that electives include Mathematics 210 and Psychology 201, 381, 382, 391.

Sociology

Major-interest subject (27 credits)—Sociology 201, 350, 352, 357, 371, 379, 380, 383, 492 (22 credits) and 5 additional credits in sociology. *Related subjects* (23 credits)—Economics 201, 202 (6 credits); Psychology 201, 205, 361 (8 credits); and 9 credits selected with the approval of the department from philosophy or political science.

Social Work

Students who plan to engage in social work will find it advantageous to pursue an undergraduate course designed for this particular purpose. Some branches of the services provided for under the terms of the Social Security Act require that workers shall have had training in a recognized school of social work; others do not. This makes it desirable that the undergraduate work be planned to meet the entrance requirements of schools of social work. The field of concentration in sociology is organized for this purpose. Electives should include Political Science 418, 431, and 432; Psychology 241 and 441; and Speech 111 and 112.

English and Speech

Students will normally be expected to elect courses in accordance with at least one of the approved options which follow.

Liberal Arts

Major-interest subject (32 credits)—English 281, 291 (6 credits), 441, 451, 463, 465, 473, 485, 493 (18 credits), courses selected from 442, 452, 464, 466, 474, 486 (8 credits). *Related subjects* (18 credits)—Each student should choose one of the four groups and select 18 credits from the courses listed in it. a. *Artistic:* History 393–394 (6 credits); Philosophy 455 (2 credits); 10 credits, with at least one course from each of the departments designated, selected from Art 115, 261, 362; Speech 221–222, 321–322, 323–324, 425–426; Music 203, 204, 304. b. *Language:* First and second year courses in a language other than that by which the student has fulfilled his arts and science requirements (16 credits); 2 credits selected from Speech 221–222, 321–322; History 371–372, 393–394; Philosophy 455; courses in foreign languages numbered above 300. c. *Social studies:* History 305, 306, or 341–342 (6 credits), 393–394 (6 credits); 6 credits selected from Economics 201, 363; Speech 315, 317–318, 321–322, 425–426; History 376, 427–428, 429–430; Philosophy 455; Psychology 361; Sociology 371, 380. d. *Special interest:* For students having special interests not well reflected in one of the three groups above, 18 credits to be chosen in consultation with the adviser.

General Literature

Major-interest subject (36 credits in Departments of English and Foreign Languages)—Courses in foundations of language and literature regularly taken sophomore year, English 281, 291 (6 credits); broad courses selected from English 333, 337, 339; Latin 331; Spanish 373-374 (6 credits); courses in either or both departments intended to introduce the student to comparative methodology and practice selected from French 351–352, 371–372; German 351–352, 371–372; Italian 351–352; Spanish 351–352, 369–370; English 451, 463, 465, 473, 485 (6 credits). Remaining courses are to be distributed roughly equally among two or more bodies of literature, normally a part of the literature of two nations or peoples. Courses acceptable include those in foreign languages numbered above 300 and those in English numbered above 400. This division of the concentration must include one course, given in either the Department of Foreign Languages or the Department of English which is in the main an undergraduate thesis of a scholarly or critical nature, concerned with relationships and characteristics of the two bodies of literature in which the student is professing interest. (Such courses are not numbered in the current catalogue) (18 credits). *Related subjects* (14 credits)—To be selected according to one of the following plans: a. Courses in one foreign language other than those selected for concentration in the major subject (14 credits). b. Courses in social sciences and the humanities to be selected in consultation with the adviser (14 credits). c. *Special interest:* For students having special interests not well reflected in one of the two groups above, 14 credits to be chosen in consultation with the adviser.

Literary Writing

Major-interest subject (29-33 credits)—English 201-202 (4 credits); 281, 291 (6 credits); 305-306, 405-406 (4-8 credits); and five courses to be selected from 337, 339, and courses numbered above 400 (15 credits). *Related subjects* (17-21 credits)—The student shall select 17-21 credits from one of the four groups of related subjects listed for the Liberal Arts Option above.

Speech, Public Speaking, Argumentation

Major-interest subject (30 credits)—Speech 111-112 (4 credits); 217-218 (4 credits); 221-222 (4 credits); 311 (3 credits); 315 (3 credits); 317-318 (4 credits); 411 (2 credits); 412 (2 credits); 415-416 (4 credits). Students doing outstanding work in speech courses may sometimes, with the consent of the department, substitute an equal number of credits in related subjects for certain credits in the major subject. *Related subjects* (22 credits)—22 credits to be selected from the following courses, at least 6 credits of which shall be in psychology: English 281, 291, 441–442, 443, 465, 485; History 303, 305, 306, 312, 393–394; Philosophy 107, 221; Psychology 201, 205, 361, 362.

Speech, Theater, and Interpretation

Major-interest subject (28 credits)—4 credits selected from Speech 111-112, 311; 4 credits selected from 217-218, 315; 411, 412 (4 credits); 12 credits selected from 121-122, 221-222, 321-322, 323-324; 425-426 (4 credits). Students doing outstanding work in speech courses may sometimes, with the consent of the department, substitute an equal number of credits in related subjects for certain credits in the major subject.

Related subjects (23 credits)—23 credits selected from the following courses, at least 14 credits of which shall be in English literature; Art 101, 115; English 291, 337, 355, 356, 441, 442, 443, 465, 466, 485; History 341-342, 371-372, 376, 393-394, 395; Latin 331-332; Philosophy 221, 455; Psychology 201, 221, 231, 301, 361, 441.

Foreign Languages

Requirements for a major-interest subject in the Department of Foreign Languages: With no admission units, courses 101-102 (10 credits), 103-104 (6 credits), and 12 credits in courses numbered 300 or above as required for the respective language, making a total of 28 credits; with two admission units, courses 103-104 (6 credits), and 20 credits in the courses numbered 300 or above as required for the respective language, making a total of 26 college credits. *Related subjects* (22-24 credits), including courses in the Departments of History, English, and Foreign Languages and electives to be selected in consultation with the adviser.

French, German, Italian, Spanish

Major-interest subject (26-28 credits) in one of the following languages: French, German, Italian, Spanish. In the respective language, courses 101-102 (10 credits), 103-104 (6 credits), four credits in composition and conversation numbered above 300, and eight credits in literature numbered above 300.

NOTE—As a major-interest subject Italian may be taken only by students without high school admission units in this language.

Romance Languages

Major-interest subject (42 credits) in Romance languages. Forty-two credits in two of the following languages: French, Italian, Latin, Spanish. This major-interest subject may be chosen only by students who have had at least two years of one Romance language in high school. Such students must continue with 103-104 (6 credits) in the same language and complete 101-102, 103-104 (16 credits) in a second Romance language. The remaining 20 credits are to be divided as follows: 4 credits of composition in one language; 16 credits in literature, with a minimum of 4 credits in one language.

French, See Foreign Languages

General Literature, See English and Speech

Geography, See Geology-Geography

Geology-Geography

Major-interest subjects (Geology 25 credits and Geography 8 credits)—Geology 101 (4 credits), 102, 211, 212, 322, 331, 461 and 3 credits electives in geology. Geography 101 or 106, 103 and 2 credits electives in geography. *Related subjects* (23 or 24 credits)—Botany 103 (3 credits); Chemistry 101, 102 (6 credits); Mathematics 101 or 110, 102 (4 or 5 credits); Physics 101, 102, 103, 104 (6 credits); and Zoology 103, 104 (4 credits). *Suggested electives*—Economics 107; Mechanical Engineering 105; Physics 117-118; and Sociology 357.

German, See Foreign Languages

Health, Physical Education, and Athletics

Physical Education (for men)

Major-interest subject (33 credits)—Physical Education 101–102, 201–202 (2 credits), 112 (2 credits), 170 or 171 (1 credit), 180 (2 credits), 205 (3 credits), 210 (3 credits), 301 (1 credit), 323 (3 credits), 341 (2 credits), 353 (2 credits), 390 (3 credits), 452 (3 credits), and 6 additional credits in courses numbered above 300. *Related subjects* (17 credits)—Physics 101 or 102 (2 credits); Zoology 103 and 104 (3 credits), 223 (4 credits), 224 (3 credits); Psychology 201 (3 credits); Speech 111 or 112 (2 credits).

Physical Education (for women)

Major-interest subject (31–32 credits)—Physical Education 161–162, 201–202 (3 credits); 3 credits to be selected from 163, 164, 263, 264, 361, 362, 461, 462; 112 or 295 (2 credits); 180 (2 credits); 210 (3 credits); 281 or 440 (2 or 3 credits); 390 (3 credits); 452 (3 credits); and 9–10 credits selected in consultation with adviser according to whether major interest is health, recreation, occupational therapy, or physiotherapy. *Related subjects* (18–19 credits)—Zoology 101 or 103, 223 (6 credits); Psychology 201 (3 credits); Physics 101 (2 credits); 7–8 credits selected in consultation with adviser.

History and Political Science

History

Major-interest subject (30 credits)—History 101-102 (6 credits), 105-106 (6 credits), and 18 additional credits to be selected from courses in history numbered above 300 or political science courses 416 and 427. *Related subjects* (20 credits)—Courses to be selected in consultation with the adviser. Choice of one of the following: a. 20 credits in economics, excluding business administration; b. 20 credits in Art 115, 261, 362, 462; Music 203, 204, 303, 304; Psychology 201, 361, 362; Philosophy 101, 102, 351, 352; Geography 101, 106, 471, 486; Journalism 353; c. 20 credits in political science, 101–102 (6 credits), 105–106 (4 credits), and 10 additional credits in courses numbered above 300; d. 20 credits in American, English, and European literature, Speech 415, 416; e. 20 credits in foreign language literature in courses numbered 300 and above; f. 20 credits in psychology; g. 20 credits in sociology. Certain deviations may be allowed in exceptional cases.

Political Science

Major-interest subject (30 credits)—Political Science 101-102 (6 credits), 105-106 (4 credits) and 20 additional credits to be selected from courses in political science numbered above 300, or history courses 341-342, 395, 408, 451-452. *Related subjects* (20 credits)—Courses to be selected in consultation with the adviser. Choice of one of the following: a. 20 credits in economics, excluding business administration; b. 20 credits in history, 101-102 (6 credits), 105-106 (6 credits), and 8 additional credits in courses numbered above 300; c. 20 credits from Geography 101, 106, 471, 486; Philosophy 101, 102, 107, 351, 352, 354; Psychology 201, 361, 362, 411, 412; d. 20 credits in psychology; e. 20 credits in sociology. Certain deviations may be allowed in exceptional cases.

Italian, See Foreign Languages

Journalism

Major-interest subject (36 credits)—Journalism 101-102 (6 credits), 221-222 (6 credits), 351-352 (4 credits), 353 (3 credits), 367 (3 credits), 372 (2 credits), 379 (2 or 3 credits), 481–482 (4 credits), and 5 or 6 additional credits chosen with the approval of the adviser from among journalism courses numbered 300 and above. *Related subjects* (14 credits)—3 credits in English literature, 9 credits in the social studies, and 2 credits in the aesthetics, all chosen with the counsel of the adviser, from the recommended supplementary courses listed under the Professional Curriculum in Journalism described below.

Professional Curriculum in Journalism

In its four-year professional Course in Journalism, the University of Nevada offers approved preparation for the journalistic vocations leading to the degree Bachelor of Arts in Journalism. Students intending to practice journalism should, whenever possible, elect this curriculum in preference to the field of contentration in journalism.

Based on the principle that a well-rounded education coupled with training in journalism is the best foundation for the profession, the Course in Journalism provides study in language, literature, the natural sciences, the social studies, and the aesthetics, as well as in journalism.

To complete the Course in Journalism, the student must present among the 126 units required for graduation:

Group A—*Journalism*—Thirty-six credits in journalism including Journalism 101-102 (6 credits), 221-222 (6 credits), 351-352 (4 credits), 353 (3 credits), 367 (3 credits), 372 (2 credits), 379 (2 or 3 credits), 481–482 (4 credits), and 5 or 6 additional credits chosen with the counsel of the department chairman from among journalism courses numbered 300 and above.

Group B—*English Literature*—Nine credits in English literature.

Group C—*Social Studies*—Twenty-five credits in the social studies (history, political science, economics, business administration, sociology, philosophy, psychology and geography—except courses 103 and 222), selected so that they represent at least five of these subjects.

Group D—*Aesthetics*—Four credits in the fine arts (Art 101-102, 105, 115, 257-258, 261, 355-356, 362, 462; Music 203, 204, 303, 304; Philosophy 455).

The general requirements of the College of Arts and Science.

Subjects required of all candidates for graduation from the University of Nevada.

In choosing subjects to meet the group requirements, the student will be guided by the Chairman of the Department of Journalism.

In each group the following courses will be found to help furnish the student with a comprehensive background: *English (Literature)* 131, 132, 145, 171, 172, 231, 232, 247, 248, 337, 441, 442, 465, 466, 485, 486; *History* 101, 102, 105, 106, 303, 304, 305, 306, 312, 314, 393, 394, 408, 441, 442, 451, 452; *Political Science* 101, 102, 105, 106, 369, 416, 427; *Economics* 107, 164, 201, 202, 203, 351, 354, 357, 365, 492; *Business Administration* 241,

368, 371, 373; *Sociology* 201, 352, 357, 370, 379, 380, 492; *Philosophy* 101, 102, 107, 201, 351, 352, 455, 461; *Psychology* 201, 231, 233, 361, 362, 371, 375, 381; *Geography* 101, 106, 222, 471.

Specific journalism courses required for the completion of the Course in Journalism or a field of concentration in journalism are designed to give each student a sound foundation in the principles and skills basic to *all* fields in journalism.

Students interested chiefly in the *news and editorial phases of newspaper and press association work* will wish to elect, in addition to the required journalism courses, *Journalism* 354, 365, 368, 375.

Students interested chiefly in *community newspaper work* will wish to elect, in addition to the required courses in journalism, *Journalism* 354, 356, 357, 365, 366, 368, 373, 374, 375; *Business Administration* 241, 243, 244, 368, 371.

Students interested primarily in *radio journalism* will wish to elect, in addition to the required courses in journalism, *Journalism* 354, 356, 357, 368, and 386. Several courses in public speaking are advised.

Students preparing for a *career in advertising* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 356, 357, 365, 366, 368, 373, 374, 375, 386; *Business Administration* 241, 368, 371; *Psychology* 361, 362, 381; *Art* 105 or 115, 355, 356, 381.

Students interested chiefly in *public relations and publicity* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 356, 357, 365, 366, 373, 374, 375, 386; *Speech* 111, 112, 121, 122; *Psychology* 361, 362, 381; *Art* 105 or 115, 355, 356, 381.

Demand is great for young people trained both in technical fields and in journalism to serve as writers and editors of publications and news and feature services in these fields. The Department of Journalism is prepared to work out special study programs in cooperation with students whose subject-matter interest is in engineering, home economics, social service, agriculture, business, chemical technology, education, mining, and similar fields looking toward publications employment in them.

Through a suitable combination of courses, a student may organize his studies in preparation for the teaching of journalism in high school, for magazine article free lancing, or for publications management.

To complete the field of concentration in journalism or the four-year professional Course in Journalism, a student must earn an average of *at least* two grade points in his courses in journalism.

Mathematics and Mechanics

Mathematics

Major-interest subject (27-35 credits)—Mathematics 102, 110, 140, 231-232, 325, and 11 to 19 credits in courses selected from the following and including at least one course in each of two of the three branches:

Algebra: 371, 372.
Analysis: 351, 352, 425, 451, 501, 502.
Geometry: 381.

Mathematics 151-152 may be substituted for Mathematics 102, 110 and 140, and Mathematics 251-252 may be substituted for Mathematics 231-232 and 325. *Related subjects* (15-23 credits)—Courses to be selected in consultation with the adviser. Especially recommended are Physics 203-204, 205-206 and any upper-division courses in physics. Beginning and intermediate courses in French or German or both are recommended for those who do not have a reading knowledge of those languages.

Applied Mathematics

Major-interest subject (28-31 credits)—Mathematics 151-152, 251-252, 341-342, 351, 425, and one of the following: 352, 451, 501, or 502. Mathematics 102, 110, and 140 may be substituted for Mathematics 151-152. *Related subjects* (19-22 credits)—Physics 203-204, 205-206 and 7 to 10 additional credits in courses selected in consultation with the adviser. The comments regarding languages appearing under the field described above apply equally here.

Philosophy

Major-interest subject (30 credits)—Philosophy 101 (3 credits), 107 (3 credits), 351 and 352 (6 credits), and 18 additional credits in the department approved by the chairman of the department. *Related subjects* (20 credits)—To be selected in consultation with the chairman of the department. Especially recommended are: Art 115, 261, 362, 462; Biology 355; Economics 164, 201, 202, 301, 354, 357, 363, 491, 492; English 131, 132, 231, 232, 281, 291, 337; History 303, 304, 305, 306, 309, 341, 342; Journalism 353; Mathematics 371, 502; Music 203, 204, 303, 304; Physics 365, 366; Political Science 101, 102, 369; Psychology 201, 301, 361, 404, 408; Sociology 201, 371, 380, 491, 492, 498; Speech 217, 218.

Physics

A student who is looking forward to a scientific career including research and university teaching should choose the first option. The second option provides good preparation for secondary school teaching and certain Civil Service positions.

Research and University Teaching

Major-interest subject (27 credits)—Physics 203-204, 205-206 (12 credits), 471-472 (4 credits); and 11 additional credits in physics courses numbered above 300. *Related subjects* (32 credits)—Chemistry 101, 102, 122 (9 credits), Mathematics 151-152 (10 credits), 251-252 (8 credits), 341, 351 (5 credits). It is also recommended that German be used to fulfill the requirements in foreign languages.

General Training and Secondary Teaching

Major-interest subject (27 credits)—Physics 151-152, 153-154 (8 credits), 357 (2 credits), 471-472 (4 credits), and 13 additional credits in physics, of which 9 must be courses numbered above 300. *Related subjects* (23 credits)—Chemistry 101, 102, 122 (9 credits); Mathematics 102, 110, 140 (8 credits), 231-232 (6 credits).

Suggested outline of courses for the first year:

Option 1

	1st Sem.	2d Sem.
Military 101-102	1	1
Physical Educ. 101-102	½	½
English 101-102	3	3
Mathematics 151-152	5	5
Chemistry 101, 102, 122	4	5
Social Science	2	1
	15½	15½

Option 2

	1st Sem.	2d Sem.
Military 101-102	1	1
Physical Educ. 101-102	½	½
English 101-102	3	3
Mathematics 102	2	..
Mathematics 110	3	..
Mathematics 140	..	3
Chemistry 101, 102, 122	4	5
Social Science	2	3
	15½	15½

Political Science, See History and Political Science

Predental Curriculum, See Premedical and Predental

Prelegal Curriculum

According to the Committee on Prelegal Education of the Association of American Law Schools, it is expected that entering students shall have developed competence in understanding, in the capacity to think for themselves, and in the ability to express their thoughts with clarity and force. Accordingly, they have prescribed a curriculum that will provide:

1. *Education for comprehension and expression in words.* The purpose here is to gain perception and skill in the English language, the great working tool of the lawyer.

2. *Education for critical understanding of human institutions and values.* The purpose here is to develop insight into, rather than merely information about, the institutions and values with which man is concerned. This calls for training in basic physical and social sciences in order that one may understand the physical world in which man lives and the nature of man and his institutions.

3. *Education for creative power in thinking.* The purpose here is to develop a power to think clearly, carefully, and independently. This calls for training in research, in the organization and management of masses of complex materials, in the various types of reasoning and the fallacies that occur therein.

Your adviser will supply you with printed materials outlining a suggested curriculum. He will also provide you with continuous guidance in developing the skills and capacities outlined above.

Professors Griffin, Monson, and Hume are designated advisers of prelegal students.

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 and Predental Curriculum

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.. The majority of the medical colleges prescribe much 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 many and advised by others. Plane trigonometry and college algebra are required by a few schools and strongly advised to insure an adequate foundation for biophysical and biochemical studies in the medical school.

Recommended Courses

To permit the inclusion of all the essential premedical subjects and to satisfy the University requirements for the B.A or B.S. degree, the following arrangement of the course of study has proved a desirable one:

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
English 101	3	English 102	3
Chemistry 101	4	Chemistry 102, 122	5
Botany 103	3	Zoology 103, 104	4
Military and Physical Education	½–1½	Mathematics 102	2
Mathematics 101 or 110	3	Military and Physical Education	½–1½
Elective		Elective	
	15½		15½

As electives the student should choose either the continuance

of French or German if he has some entrance credits in these languages or he may elect a social science, preferably psychology in the second semester.

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
German or French 101	5	German or French 102	5
Chemistry 233	4	Chemistry 234	4
Zoology 309	5	Military and Physical Education	1½
Military and Physical Education	1½	Biology 350	3
		Elective	
	15½		15½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
German or French 103	3	German or French 104	3
Physics 151, 153	4	Physics 152, 154	4
Chemistry 341	4	Chemistry 342	4
Political Science 201	1	Zoology 364	4
Elective	4	Political Science 202	1
	16		16

Senior Year

Elective or approved credential from professional school.

Completion of the above curriculum plus Chemistry 387–388 will satisfy a combined chemistry and zoology field of concentration.

The University will confer the degree of Bachelor of Arts or Bachelor of Science 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.

Predental students are advised to take the above premedical course with possible minor modifications. Such students may then become eligible for the degree of Bachelor of Arts or Bachelor of Science from this University following a comparable procedure to that outlined for medical students above.

For further advice relative to premedical work, the student is referred to the premedical advisers, Professors Jones and Ryser.

Premedical-Technologist Curriculum

Medical Technologist or Clinical Laboratory Technician training is available at many hospital laboratories of the country. The following three-year curriculum includes the uniformly required and strongly advised courses for admission to such training schools, as well as certain electives and courses required for graduation. Electives must satisfy graduation requirements of the College of Arts and Science.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
English 101	3	English 102	3
Chemistry 101	4	Chemistry 102, 122	5
Botany 103	3	Zoology 103, 104	4
Physical Education	1	Mathematics 101 or 102	2
Elective		Physical Education	1
		Elective	
	16		16

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Chemistry 231	3	Chemistry 242	4
Zoology 223	4	Zoology 224, 226	4
Psychology 201	3	Sociology 202	3
Physical Education	½	Biology 350	3
Elective		Physical Education	½
		Elective	
	15½		15½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Physics 151, 153	4	Physics 152, 154	4
Biology 351	4	Political Science 202	1
Biology 370	3	Elective (Courses 300 or above)	11
Political Science 201	1		
Zoology 368*	2		
Elective (Courses 300 or above)	2		
	16		16

Completion of the above curriculum (including Zoology 368) plus 5 credits of additional botany course-work, will satisfy requirements for a field of concentration in biology.

A student completing the three-year premedical-technologist course in residence at this University may be granted a Bachelor of Arts or a Bachelor of Science degree from the University of Nevada when he or she has, in addition, completed the 12 to 18 months' technologist training course, has received a certificate or diploma from the laboratory where the training was taken, and

*Recommended, but not required.

has passed the national registry examination of the American Society of Clinical Pathologists. A testimonial similar to that described under the premedical course may be presented from the director of the medical technology school. The only type of laboratory training acceptable will be that obtained from a medical technology school approved by the Council of Medical Education and Hospitals of the American Medical Association. The laboratories of Dr. Lawrence Parsons at St. Mary's Hospital in Reno are approved for the training of clinical laboratory technicians.

Prenursing Curriculum

A student completing the three-year prenursing course in residence at this University, who has satisfied the general requirements of the College of Arts and Science, may be granted a Bachelor of Arts or a Bachelor of Science degree from the University of Nevada when she has in addition, completed 32 units of acceptable academic work in a recognized school of nursing.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Botany 103	3	Zoology 103, 104	4
English 101	3	English 102	3
Chemistry 101	4	Chemistry 102, 242	6
History 101	3	Physical Education	1
Physical Education	1	Elective	
Elective			
	16		16

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Foreign Language	5	Foreign Language	5
Sociology 201	3	Sociology 202	3
Psychology 201	3	Zoology 224, 226	4
Zoology 223	4	Physical Education	½
Physical Education	½	Elective	
	15½		15½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Biology 351	4	Biology 350	3
English or Foreign Language	3	Home Economics 250	3
Political Science 201	1	English or Foreign Language	3
Elective (Courses 300 or above)	8	Political Science 202	1
		Elective (Courses 300 or above)	6
	16		16

Psychology

Students interested in psychology as a field of concentration may choose either of two plans. Plan 1 is for prospective professional psychologists and for those interested in a systematic and representative study of psychology as a science. Plan 2 is for those students who do not expect to become psychologists. It emphasizes fields of application. Plan 2 might be undertaken by either of two groups of students, (1) those interested in personal and cultural values in psychology, useful, for example, in homemaking and community living, and (2) those who would find practical uses for psychology in related occupations such as personnel management, business, teaching, law, counseling and guidance, social work, medicine, nursing, writing, journalism, public relations, government and politics, home economics, and any other field in which human behavior is of significance.

Professional

Major-interest subject (30 credits)—Psychology 201 (3 credits), 301 (3 credits), 310 (3 credits), 361 (3 credits), 404 or 408 (2 credits), 411 (3 credits), 441 (3 credits), and 10 credits in psychology to be chosen in consultation with the adviser. *Related subjects* (20 credits)—To be selected in consultation with the adviser, 15 from one of the 3 departments of zoology, sociology, or philosophy, and 5 credits from either or both of the other two.

General

Major-interest subject (30 credits)—Psychology 201 (3 credits), 301 (3 credits), 361 (3 credits), 411 (3 credits), and 18 credits in psychology to be chosen in consultation with the adviser. *Related subjects* (20 credits)—To be selected in consultation with the adviser, 15 from one of the departments listed below and 5 from one of the other departments listed. The related departments are home economics, sociology, philosophy, zoology, art, history and political science, English and speech, journalism, economics and business administration, mathematics, education, military, music, and physical education.

Romance Languages, See Foreign Languages

Social Work, See Economics, Business, and Sociology

Sociology, See Economics, Business, and Sociology

Spanish, See Foreign Languages

Speech, See English and Speech

Wildlife Management, See Biology

Zoology, See Biology

College of Education

History, Organization and Administration

On February 7, 1887, the Legislature of the State of Nevada passed an Act which provided for the establishment at the University of Nevada of "a school for the instruction of teachers." The Act specified that those students "worthily completing the course or a prescribed part of it" should be granted teachers' certificates by the State Board of Education. In accordance with this Act the University established a program for the training of teachers with the opening of the fall term of 1887. Programs preparing teachers have been conducted continuously on the elementary and secondary levels with both curricula and degrees listed in the College of Arts and Science.

By official action of the Board of Regents in the fall of 1953, the School of Education was changed to the College of Education, effective July 1, 1954. The existing curricula for the education of teachers were evaluated and new curricula established for students enrolling in the new College of Education. New policies and procedures were also adopted and placed in effect.

The College of Education consists of the following departments: General Education, Elementary Education, Secondary Education, School Administration and Supervision, and Teacher Education. Representation from service departments in the other colleges and schools on the campus providing major, minor, general requirement, and elective courses for the various curricula is also included in planning and advisement. Departments are administered by a chairman, and the College of Education is administered by the Dean. The departmental services of the college are centered in the Education Building, erected in 1920.

General Statement of Professional Objectives

The College of Education through the cooperation of the various colleges and schools on the campus seeks to achieve the aim of adequate preparation of professional school personnel for the State of Nevada and other states in the region. This objective includes the education of both elementary and secondary teachers at the undergraduate level and school administrators, supervisors, and classroom teachers at the graduate level.

The College of Education provides numerous educational services for schools and communities throughout the State and region. The services of its faculty are available for consultant purposes, workshops, civic groups, school surveys, school and

community meetings, in-service education conferences, and demonstration work in the departmental specialties.

For the welfare of the State the College of Education aims to provide well-trained teachers for the schools and to stimulate in the teaching and administering personnel and the public a deeper interest in the promotion of good teaching practices and sound educational policies.

The various curricula under the supervision of the College of Education are designed to:

1. Encourage students who practice desirable and effective citizenship and who have both character and personality qualifications suitable for work with children and youth to prepare for the profession of teaching.
2. Select and retain the most promising candidates in teacher education.
3. Provide a background of general academic education for effective participation in American citizenship.
4. Stimulate the student to secure adequate mastery of the fields and subjects which he desires to teach.
5. Develop proficient skills in the professional techniques and attain knowledge for effective teaching.
6. Enable the development of an understanding of the role of the school and the teacher in a democratic society.
7. Help the prospective teacher to obtain an understanding of the characteristics of the child and the nature of his educational growth.
8. Develop an abiding interest in professional growth and in the teaching profession.
9. Provide specialized education on an advanced level for teaching and for administrative leadership in the schools and colleges.

Teaching offers excellent professional opportunities in both the elementary and the secondary schools for students with keen, alert minds and the desire, ability, and energies to be successful in one of the oldest and most respected professions—teaching. Both young men and young women are needed critically in order to supply the large demand for new teachers who will be needed each year during the next decade.

Guidance and Counseling

Candidates for admission to the College of Education are requested to report to the Dean of the College for general advisement as early as possible. The primary purposes of this early advisement are to plan carefully for the specific needs of each student and to enable better understanding of the requirements for the curriculum selected. In addition, it is necessary for the

College of Education to become well acquainted with the prospective student teacher and to provide for appropriate arrangements for later required laboratory experiences in observation and supervised teaching.

Entering freshman are given placement tests in general college aptitude, English, health, hearing, speech, and reading. Other tests helpful for counseling purposes may be given. All students will be provided with continuous personal and professional guidance and counseling appropriate to the problems presented. Group meetings for orientation to the University and to the profession of teaching are provided early in the freshman year.

In addition, there will be a personal interview with each candidate to determine satisfactory qualifications to do professional work in teacher education. These qualifications pertain to personality, character, scholarship, health, and other factors which contribute to teaching success.

Each student is assigned a committee of three, including the College of Education adviser, and advisers from the major and minor teaching fields. He should report to the chairman of his committee regularly.

State Regulations Governing Certification

By law no person may teach in any public school in Nevada unless he holds an appropriate certificate. *These certificates are issued by the State Department of Public Instruction, Carson City,* Nevada, in accordance with specific regulations.

Certificates for Teaching in the Elementary School

The most satisfactory course for elementary teaching will require four years and will entitle the student to a bachelor's degree. Students entering the University with definite intent to remain four years and to enter teaching upon graduation should recognize that the opportunities in teaching are much more numerous in the elementary than in the secondary field. They should plan, therefore, from the first to follow a curriculum through the four years that will thoroughly equip them for an elementary position. Early consultation with the Dean of the College of Education is urgently recommended to such students.

Based on Four Years of Study

A first grade elementary certificate, valid for four years, is issued by the State Department to graduates of the University if they have completed the four-year curriculum in elementary education or kindergarten-primary education.

Certificates for Teaching in the High School

For advice concerning courses in secondary education fields consult the Dean of the College of Education or the advisers of the major and minor teaching field curricula. Junior and senior high school teaching certificates, valid for four years, may be granted to candidates completing work satisfactorily in selected teaching fields.

Certificates for Teaching Vocational Agriculture and Vocational Home Economics

Vocational certificates are issued by the State Board for Vocational Education for teachers of vocational agriculture and vocational home economics. Prospective teachers of these subjects should consult the material under *Agricultural Education* or under *Home Economics Education* as outlined in the section of this catalogue entitled *Max C. Fleischmann College of Agriculture*. Those who complete these courses at the University of Nevada also become eligible for the certificate for teaching in the high school. The professional courses in education required for these vocational certificates are offered in the College of Education.

Baccalaureate Degrees in Education

A student may select either a curriculum leading to the professional degree of Bachelor of Science in Education or the professional degree of Bachelor of Arts in Education, depending upon the teaching field selected and the specific requirements in science or foreign languages in the curriculum completed. Details are available in the Dean's office.

Requirements for Graduation with Baccalaureate Degree in Education

1. General Requirements

Candidates for recommendation for the baccalaureate degrees in the College of Education must have, *first*, satisfied the requirements for admission to regular standing; and *second*, earned credits in prescribed and elective courses aggregating 126 credits, of which at least 40 must be in courses numbered 300 or above. The student must have earned at least two grade points for each credit for which he has been registered at the University of Nevada, except in cases of W and WF, and have at least a C or 2.0 average in his major teaching field.

Each graduate is required to meet all general University requirements for graduation.

IIa. General Academic Education Requirements for Elementary Teaching Curricula—(Kindergarten-Primary, Intermediate, Upper Grades)

	Minimum Credits
Communication Skills	8
*Freshman English	6
*Speech	2
Humanities	6
*English literature	3
*American literature	3
Social Studies	20
*Political Science 201–202 (or equivalent)	2
*European history	6
*United States history	6
Geography (physical, regional, cultural, or economic)	6
Science	10
*Biological science	4–6
*Physical science	5–6
Psychology	10
*Introductory psychology	2
*General psychology	3
*Educational psychology	3
*Child psychology	2
**Health and Physical Education*	4–5
**Military Science* (men)	4
**Mathematics* (general)	2
**Music* (fundamentals)	2
**Art* (fundamentals)	2

or IIb. General Academic Education Requirements for Secondary Teaching Curricula

The principal purpose of the general education requirement, basic to all teacher education curricula, is to provide for the subject matter course experiences necessary for effective citizenship, a satisfactory personal life, and a general cultural background, regardless of the vocational or professional specialization of the individual student.

Students are required to meet all general academic education course requirements approved by the University and by the College of Education. Course work should be distributed in at least four or five broad subject matter areas, inclusive of the major teaching field. General psychology is required of all students who expect to enroll in professional education courses.

Advisers and the Dean of the College of Education will counsel with students and help them to plan this phase of their programs. Approximately 50 credits in general academic education courses are recommended as follows:

*Required

	Minimum Credits
Communication Skills	8
*Freshman English	6
*Speech	2
Humanities	7
English or American literature	3
Art, music, philosophy, or speech	4
Social Studies	10
*Political Science 201–202 (or equivalent)	2
*History	3
Economics, geography, journalism, or sociology	5
Psychology	6
*General psychology	3
*Educational psychology	3
**Health and Physical Education*	2–3
**Military Science* (men)	4
For B.A. Degree in Education—	
Foreign languages (see arts and science requirements)	16
or	
For B.S. Degree in Education—	
Biological and physical sciences in two fields (mathematics may be counted up to 5 credits)	10

III. Teaching Field (or Fields) (Secondary)

The suggested curricula for major and minor teaching fields are available in the Office of the Dean of the College of Education. Curricula for the following teaching fields are available to qualified students:

GENERAL MAJOR TEACHING FIELDS

(Consult Individual Curriculum for Details)

Agriculture—general and vocational
Art—elementary and secondary
Business education—including distributive education
English—drama, journalism, library, speech
Foreign languages—French, German, Latin, Spanish, etc.
Home Economics—general and vocational
Mathematics
Music—instrumental and vocal—elementary and secondary
Natural sciences—biological sciences, biology, botany, zoology
Physical sciences—chemistry, geography, geology, physics, etc.
Physical education and coaching for men
Physical education for women
Social studies—economics, history, political science, sociology, etc.
Special subjects—see Dean for details

*Required

SPECIAL MAJOR TEACHING FIELDS

(Minimum of 24–30 Credits)

Biology
Chemistry
Geography
Geology
History
Journalism
Music
Physics
Political science
Speech

MINOR TEACHING AND SUPPORTING FIELDS

(Minimum of 16–18 Credits in Single Fields and 20–24 Credits in Composite Fields)

Art
Biology
Business education
Chemistry
Economics
Elementary education
English
French
Geography
Geology
German
Health education
History
Italian
Journalism
Latin
Library education
Mathematics
Music
Physical education, men
Physical education, women
Political science
Psychology
Science
Social studies
Spanish
Special education
Speech

Each student should consult with the Dean and his advisers concerning the best recommended combination of major and minor teaching fields for his probable future employment. The majors and minors listed include practically all of the fields and subjects for which the University is expected to supply teachers and school administrators.

Each four-year graduate from the secondary education curricula is required to have completed satisfactorily one teaching major and at least one teaching minor or supporting minor as specified by the curriculum selected. Two teaching minors are recommended.

IV. Professional Education Foundation Areas and Courses

Five Foundations for Teaching Areas provide the framework for the professional education requirements for supervised teaching, certification and graduation: Satisfactory completion of the basic requirements in each prior Foundation Area is required for admission to supervised teaching.

Certification requirements in Nevada and surrounding states are generally met in the following pattern of 19 credits of course

work for the secondary teaching fields or 40 credits for the elementary teaching fields.

FOUNDATIONS FOR TEACHING AREAS

		Minimum Credits
I.	*The Sociological Bases for Education* (elementary and secondary curricula)	4
	A. Orientation to Professional Education (General Education 101)	1
	B. Introduction to Education: School Law, Organization, and Social Foundations (General Education 201)	3
II.	*Human Growth and Development*	2
	A. Human Growth and Development (elementary curricula)—(Elementary Education 320)	2
or	B. Psychology of Adolescence (secondary curricula)—(Psychology 231)	2
III.	*Evaluation and Guidance*	3
	A. Educational Psychology (elementary curricula)—(Psychology 221)	3
or	B. Introduction to Guidance and Counseling (secondary curricula)—(Secondary Education 340)	3
IVa.	*General Principles, Methods, and Materials for Elementary Education* (elementary curricula)	22
	A. Language Arts (including language, reading, spelling, and writing)—(Elementary Education 323)	5
	B. Children's Literature (Elementary Education 432)	2
	C. Social Studies (Elementary Education 424)	3
	D. Elementary Science (Elementary Education 325)	2
	E. Arithmetic (Elementary Education 322)	2
	F. Music (Elementary Education 324)	3
	G. Art (Elementary Education 326)	2
	H. Audio-Visual (General Education 401)	3
or		
IVb.	*General Principles, Methods, and Materials for Secondary Education* (secondary curricula)	5
	A. General Principles, Materials, and Methods of Secondary Education (Secondary Education 341)	3
	B. Special Methods (teaching field)	2
Va.	*Supervised Teaching in Elementary Education*	9
	A. Supervised Teaching in the Elementary Grades (Elementary Education 427)	8
	B. Professional Problems in Supervised Teaching (General Education 417)	1
or		
Vb.	*Supervised Teaching in Secondary Education*	5
	A. Supervised Teaching in the Secondary School (Major and/or Minor Field(s))—(Secondary Education 457)	4
	B. Professional Problems in Supervised Teaching (General Education 417)	1

Supervised Teaching

All supervised teaching facilities are provided in the public schools of Reno and Sparks through the courtesy of the school authorities in these two cities. By this arrangement students meet

typical school problems and secure training for teaching under the most favorable conditions. In every instance the student is assigned to one of the regular teachers in the school system, designated as a cooperating teacher, who assigns to the student the material for teaching, checks his lesson plans, observes his teaching, and gives suggestions for improvement.

Each regular staff member of the College of Education is likewise responsible for the supervision of a group of student teachers, making regular visits to observe the student's teaching, and holding conferences with the student and his cooperating teacher concerning the teaching. There is always a close cooperation between the department and the cooperating teacher.

Prerequisites for Supervised Teaching

To protect the interests of the public school children, great care is exercised in according the privileges of supervised teaching to students. Only those students who have shown by their previous record a satisfactory ability in scholarship, dependability and earnestness, and a real interest in the problems of education, are accepted for teaching. The failure on the part of the student teacher to meet any requirement imposed may result in the immediate forfeiture of his teaching privilege. No person can be accepted for supervised teaching in the elementary grades unless he has completed 15 credits at the University of Nevada, including 6 credits in appropriate courses in education; four of these credits must be in appropriate methods courses. Candidates for supervised teaching in the high school must have completed 15 credits at the University of Nevada, including 6 credits of secondary education, with at least one appropriate methods course and must have adequate preparation in the subject-matter fields to be taught.

Admission to supervised teaching is secured through the Offices of the Dean of the College of Education and the Director of Supervised Teaching for either the elementary or secondary teaching fields. Application should be made for supervised teaching at least three months before the teaching is to be taken.

The Teacher Placement Service

For the purpose of bringing school authorities who are looking for competent teachers into touch with promising candidates, the College of Education has maintained a Teacher Placement Service since 1923.

Only those candidates are accepted for enrollment with the placement service whose ability and character are well known to the College of Education. For those enrolled the placement office secures all data possible, both personal and academic, and

recommendations from persons in official positions competent to speak of the character or teaching ability of the candidate. This material is kept on file, and on request is sent to interested school authorities.

The only fee charged for the service rendered is $5 to be paid by the candidates at the time of enrollment to cover the necessary costs of postage, printing, and stenographic help.

Electives

After meeting the requirements of the general academic education area, major and minor teaching fields, and the professional education courses, the student devotes the remainder of the 126 credits to free electives. He is advised to select courses which will help him prepare for the varied responsibilities. Further depth of subject matter in his teaching field is especially critical. Extra-curricula activities should be considered, also.

Suggested Curriculum for Field of Concentration or Major in Elementary Education

Note to Students and Adviser: The following *suggested curriculum* is submitted for guidance in the general advisement of the student who wishes to do a field of concentration in elementary education. Even though certain courses are listed, there is a possibility of *substitution of courses designated as equivalent* by the adviser and the Dean of the College of Education. A minimum of 126 credits is required for this curriculum, including general academic, professional and elective courses. Each student must secure approval for his program from his adviser and the Dean of the College of Education.

Freshman Year

Course	Number	1st Sem.		2d Sem.
Freshman English	English 101–102	3		3
History	History 101–102 or 105–106	3		3
Biological Science	Zoology 101, Botany 103	2		3
Geography or Physical Science	Geography 101, 103, 106 Physics 101, 102, 107, 117, 118, 119, 151, 152; Geology 101, 102; Chemistry 101, 102	3		3
Mathematics	Mathematics 105	2	or	2
Physical Education	Physical Education	½–1		½–1
Military Science	Military 101–102	1		1
Human Nature	Psychology 121	2	or	2
Foundations for Teaching I	General Education 101	1	or	1

Sophomore Year

History	History 101–102 or 105–106	3		3
Speech	Speech	2	or	2
General Psychology	Psychology 201	3		--
Art		2		--
Music		--		2
Geography or Physical Science	Approved courses found under Freshman year	3		3
Foundations for Teaching I	General Education 201	3	or	3
Foundations for Teaching III	Psychology 221	--		3
Physical Education	Physical Education	½		½
Military Science	Military 201–202	1		1
Elective	(See adviser)			

Junior Year

Health Education	Physical Education	2	or	2
Child Psychology	Psychology 233	2		--
*Methods in Teaching Elementary Science	Elementary Education 325	2		--
Foundations for Teaching II	Elementary Education 320	2	or	2
*Methods in Teaching Arithmetic	Elementary Education 322	--		2
*Methods in Teaching Language Arts	Elementary Education 323	--		5
*Methods in Teaching Art	Elementary Education 326	--		2
English Literature	English 235 or 236	3	or	3
Political Science	Political Science 201–202	1		1
**Kindergarten Education	Elementary Education 334	2		--
Elective	(See adviser)			

Senior Year

*Audio-Visual Methods	General Education 401	3		--
*Methods of Teaching Social Studies	Elementary Education 424	3		--
*Methods of Teaching Music	Elementary Education 324	3		--
*Children's Literature	Elementary Education 432	2	or	2
Foundations for Teaching V	Elementary Education 427	4–8		4–8
Foundations for Teaching V	General Education 417	1	or	1
American Literature	English 441 or 442	3	or	3
Elective	(See adviser)			

*Foundations for Teaching IVa courses.
**For students preparing to teach in the kindergarten.

Suggested Curricula for Elementary and High School Teachers

Suggested curricula for each of the major and minor teaching fields in both *elementary* and *secondary* education *for undergraduate and graduate students* are available from advisers and the Office of the Dean of the College of Education. Specific information is available on request. Students interested in teaching, supervision, or administration should see the Dean as soon as possible for suggestions and guidance.

Graduate Programs in Education

Requirements concerning the graduate degrees of Master of Arts and Master of Education with majors or minors in education are described in the next section. Details concerning procedure to follow are listed in the section of this catalogue entitled *Graduate Study.* Students who wish to become candidates for these degrees should consult that section and must make application for admission to do graduate work with the Office of Admissions. Counsel is available from the Dean of the College of Education, the adviser for the major field or area of concentration, and the Dean of the Graduate School.

Graduate students may specialize in kindergarten education, elementary education, elementary principalship, secondary principalship, secondary education, school administration, supervision, teacher education, guidance services, educational research, special education, audio-visual education, and in other similar fields in professional education. The specific requirements for the curriculum to be followed and the thesis problem to be undertaken are adapted to the professional needs of the student. Students should not enroll in any course for graduate credit without first securing the approval of the department head that such course or courses are acceptable toward a major or minor. Approval for graduate credit for each course must be secured from the Dean of the Graduate School at the time of registration for the course.

General improvement courses for in-service education on the graduate level should also be considered by the student. These courses will also be offered in extension or branch centers, workshops, short conferences, evening schools, and individual problem courses by appropriate arrangement. Inquiries are encouraged.

Requirements for Graduate Degrees

The Master of Arts degree requires 24 credits of approved course work with a major in education and a 6-credit thesis.

High standards of research work are required. Specific programs with emphases on either teaching or administration and supervision are available on request. All candidates for this degree are required to take a course in methods of research to prepare them to carry on research investigations.

The Master of Education degree requires 32 credits of acceptable graduate course work with a major consisting of at least 16 credits in one of the fields of education, 8 credits in a minor field, and 8 credits in cognate courses or education electives.

No thesis is required, but the candidate must prepare a professional paper or report which represents the equivalent of a 2-credit individual research course (Elementary Education 528, Secondary Education 558, School Administration Education 588, or Teacher Education 598). This paper must be completed and approved before the student may take the final examination for the degree. It should represent an investigation of current practices, research literature, or a creative project in the candidate's major graduate field. Two copies must be filed with the Dean of the College of Education, one for the Dean's official records and one for the chairman of the candidate's committee.

Each candidate for the Master of Education degree must have completed a minimum of two academic years of satisfactory teaching or administrative experience, or equivalent.

Other requirements for these master's degrees are listed in the section of this catalogue entitled *Graduate Study.*

College of Engineering

The School of Mechanical Engineering.
The School of Electrical Engineering.
The School of Civil Engineering.

Aim

The aim of the College of Engineering is to give young men a knowledge of those subjects which form the bases of the 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.

Requirements for a Baccalaureate Degree in Engineering

The degree of Bachelor of Science in (a) Mechanical Engineering, (b) Electrical Engineering, and (c) Civil Engineering is conferred upon students who have satisfactorily completed the full course in the Schools of (a) Mechanical Engineering, (b) Electrical Engineering, and (c) Civil Engineering, aggregating 144 credits in each case.

Curricula in Engineering

Uniform Freshman Year

The following first-year program is specified for all students in the College of Engineering.

First Semester

		LAB.	LEC.
English 101	Composition and Rhetoric	..	3
Chemistry 101	General Inorganic Chemistry	2	2
Mathematics 151	Mathematical Analysis	..	5
Mechanical Eng. 105	Engineering Drawing	2	..
Military 101	First Year Basic	..	1
Physical Education 101	Freshman Activities	½	..
*Elective			2 or 3
			17½ or 18½

*Electives in the freshman and sophomore years are to be chosen from the humanistic social studies with the approval of the adviser. Electives in the junior and senior years should be chosen preferably so as to be a part of a well-integrated program of professional development, e. g., business administration, economics, and psychology for those who intend to enter business; mathematics and physics for those who intend to enter research; education for those who expect to teach. etc.

Uniform Freshman Year—Second Semester

		LAB.	LEC.
English 102	Composition and Rhetoric	..	3
Chemistry 102	Metals	..	2
Chemistry 124	Qualitative Analysis	1	1
Mathematics 152	Mathematical Analysis	..	5
Mechanical Eng. 106	Descriptive Geometry	2	..
Military 102	First Year Basic	..	1
Physical Education 102	Freshman Activities	½	..
*Elective			2 or 3
			17½ or 18½

Mechanical Engineering

Uniform Freshman Year (see pages 104, 105)

Sophomore Year—First Semester

		LAB.	LEC.
Physics 203	General Physics for Engineers	..	4
Physics 205	Physical Measurements	2	..
Civil Engineering 241	Plane Surveying	1	2
Mathematics 251	Engineering Calculus	..	4
Speech 111	Public Speaking	..	2
Military 201	Second Year Basic	..	1
Physical Education 201	Sophomore Activities	½	..
*Elective		..	2
			18½

Sophomore Year—Second Semester

Physics 204	General Physics for Engineers	..	4
Physics 206	Physical Measurements	2	..
Mathematics 252	Engineering Calculus	..	4
Metallurgy 206	Engineering Metallurgy	..	2
Mechanic Arts 226	Manufacturing Processes	1	..
Military 202	Second Year Basic	..	1
Physical Education 202	Sophomore Activities	½	..
*Elective		..	3
			17½

Junior Year—First Semester

Mathematics 341	Analytic Mechanics	..	3
Electrical Engineering 351	Direct Current Machinery	..	3
Electrical Engineering 353	Direct Current Machinery Laboratory	2	..
		1	2
Mechanical Eng. 351	Kinematics	..	3
Mechanical Eng. 355	Thermodynamics	..	2
Mathematics 351	Differential Equations	..	2
*Elective			18

*See footnote, page 104

Junior Year—Second Semester

		LAB.	LEC.
Mathematics 342	Analytic Mechanics	..	2
Civil Engineering 376	Mechanics of Materials	1	3
Civil Engineering 374	Metals Testing Laboratory	1	..
Electrical Engineering 352	Alternating Current Machinery	..	3
Electrical Engineering 354	Alternating Current Machinery Laboratory	2	..
Mechanical Eng. 356	Applied Thermodynamics	..	3
*Elective		..	3
			18

Senior Year—First Semester

Mechanical Eng. 457	Machine Design	1	2
Mechanical Eng. 461	Heat Transfer	..	3
Mechanical Eng. 464	Mechanical Engineering Laboratory	2	..
Mechanical Eng. 471	Heat-Power Engineering	..	2
Civil Engineering 367	Elementary Fluid Mechanics	1	3
Civil Engineering 368	Fluid Mechanics Laboratory	1	..
Political Science 201	Constitution of the United States	..	1
*Elective		..	2
			18

Senior Year—Second Semester

Mechanical Eng. 458	Machine Design	2	1
Mechanical Eng. 465	Mechanical Engineering Laboratory	2	..
Mechanical Eng. 472	Air Conditioning and Refrigeration	..	3
Mechanical Eng. 476	Mechanical Vibrations	1	2
Mechanical Eng. 477	Internal Combustion Engines	..	3
Political Science 202	Constitution of Nevada	..	1
*Elective		..	3
			18

Electrical Engineering

Uniform Freshman Year (see pages 104, 105)
Sophomore Year—First Semester

		LAB.	LEC.
Physics 203	General Physics for Engineers	..	4
Physics 205	Physical Measurements	2	..
Mathematics 251	Calculus for Engineers	..	4
Civil Engineering 241	Plane Surveying	1	2
Speech 111	Public Speaking	..	2
Military 201	Second Year Basic	..	1
Physical Education 201	Sophomore Activities	½	..
*Elective		..	2
			18½

*See footnote, page 104

Sophomore Year—Second Semester

		LAB.	LEC.
Physics 204	General Physics for Engineers	..	4
Physics 206	Physical Measurements	2	..
Mathematics 252	Calculus for Engineers	..	4
Metallurgy 206	Engineering Materials and Processes	..	2
Mechanic Arts 226	Manufacturing Processes	1	..
Military 202	Second Year Basic	..	1
Physical Education 202	Sophomore Activities	½	..
*Elective		..	3
			17½

Junior Year—First Semester

Electrical Engineering 351	Direct Current Machinery	..	3
Electrical Engineering 353	Direct Current Machinery Lab.	2	..
Electrical Engineering 355	Introduction to Electric Circuits	..	2
Mathematics 341	Analytic Mechanics	..	3
Business Adm. 241	Business Organization	..	3
Mathematics 351	Differential Equations	..	2
*Elective		..	3
			18

Junior Year—Second Semester

Electrical Engineering 352	Alternating Current Machinery	..	3
Electrical Engineering 354	Alternating Current Machinery Laboratory	2	..
Electrical Engineering 356	Alternating Current Circuits	..	2
Electrical Engineering 368	Introduction to Electronics	1	2
Civil Engineering 372	Strength of Materials	..	3
Mathematics 342	Analytic Mechanics	..	2
*Elective		..	3
			18

Senior Year—First Semester

Electrical Engineering 461	Advanced Alternating Current Machinery	..	3
Electrical Engineering 463	Advanced Alternating Current Laboratory	3	..
Electrical Engineering 457	Advanced Electrical Circuits	..	2
Electrical Engineering 481	Advanced Electronics	..	3
Electrical Engineering 483	Advanced Electronics Laboratory	1	..
Mechanical Eng. 457	Machine Design	1	2
Political Science 201	Constitution of the United States	..	1
*Elective		..	2
			18

*See footnote, page 104

Senior Year—Second Semester

		LAB.	LEC.
Electrical Engineering 462	Electrical Design	1	2
Electrical Engineering 464	Advanced Alternating Current Laboratory	3	..
Electrical Engineering 466	Generation and Distribution of Power	..	3
or			
Electrical Engineering 482	Electrical Communication	..	3
and			
Electrical Engineering 484	Communication Laboratory	1	..
Electrical Engineering 488	Seminar	..	1
Mechanical Eng. 353	Fundamentals of Thermodynamics	..	3
Mechanical Eng. 462	Mechanical Laboratory	2	..
Political Science 202	Constitution of Nevada	..	1
*Elective		..	1 or 2
			18

Civil Engineering

Uniform Freshman Year (see pages 104, 105)

Sophomore Year—First Semester

		LAB.	LEC.
Mathematics 251	Engineering Calculus	..	4
Physics 203	General Physics for Engineers	..	4
Physics 205	Physical Measurements	2	..
Civil Engineering 241	Plane Surveying	1	2
Civil Engineering 245	Engineering Problems	1	1
Speech 111	Public Speaking	..	2
Military 201	Second Year Basic	..	1
Physical Education 201	Sophomore Activities	½	..
			18½

Sophomore Year—Second Semester

Mathematics 252	Engineering Calculus	..	4
Physics 204	General Physics for Engineers	..	4
Physics 206	Physical Measurements	2	..
Civil Engineering 242	Plane Surveying	2	2
Civil Engineering 246	Construction Materials	..	3
Military 202	Second Year Basic	..	1
Physical Education 202	Sophomore Activities	½	..
			18½

Junior Year—First Semester

Mathematics 341	Analytic Mechanics	..	3
Civil Engineering 363	Curves and Earthwork	1	2
Civil Engineering 367	Elementary Fluid Mechanics	1	3
Civil Engineering 369	Nonmetallic Testing Laboratory	1	..
Economics 203	Survey of Economics	..	3
Political Science 201	Constitution of United States	..	1
*Elective		..	2
			17

*See footnote, page 104

Junior Year—Second Semester

		LAB.	LEC.
Mathematics 342	Analytic Mechanics	..	2
Civil Engineering 366	Roads and Pavements	..	4
Civil Engineering 368	Fluid Mechanics Laboratory	1	..
Civil Engineering 374	Metals Testing Laboratory	1	..
Civil Engineering 376	Mechanics of Materials	1	3
Civil Engineering 491	Contracts and Specifications	..	2
Political Science 202	Constitution of Nevada	..	1
*Elective		..	3
			18

Senior Year—First Semester

Civil Engineering 481	Framed Structures	2	3
Civil Engineering 485	Mechanics of Reinforced Concrete	1	3
Civil Engineering 489	Sanitary Engineering	..	3
Mechanical Eng. 353	Fundamentals of Thermodynamics	..	3
*Elective		..	3
			18

Senior Year—Second Semester

Civil Engineering 484	Structural Design	2	2
Civil Engineering 486	Reinforced Concrete Design	1	1
Civil Engineering 488	Engineering Economy	..	2
Civil Engineering 490	Sanitary Engineering	..	3
Civil Engineering 492	Foundations and Soil Mechanics	1	3
*Elective		..	3
			18

*See footnote, page 104

Mackay School of Mines

Geology-Geography.
Metallurgy.
Mining.

Aim

The purpose of the Mackay School of Mines is to give the student professional training in the mineral technologies and sciences and to provide a general education that will fit him to become a worthy citizen of his country and a leader among his people.

Advantages of Location

The School is located in a region of important historic and present mining activity. Within a radius of a few hundred miles are the historic gold fields of California and the Comstock Lode of Nevada; large scale open-pit copper mines at Ely, Nevada, and Bingham Canyon, Utah; the newly developed copper deposit at Yerington, Nevada; lead and zinc mines at Pioche, Nevada; oil and gas fields in southern California and western Utah; magnesite and brucite mines at Gabbs, Nevada; tungsten and iron mines at many places in Nevada; mineral operations involving gold, silver, talc, limestone, fluorite, gypsum, silica sand, perlite, diatomite, mercury, and many other materials throughout Nevada and the adjacent portions of California, Oregon, Idaho, and Utah.

Excellent relationships exist between the School and the mining companies of the region, and with many companies in foreign areas. The student, therefore, has no difficulty in obtaining summertime mining employment, and this he is expected to do to gain practical experience. The School has been very successful in placing its graduates in good positions.

Associated State and Federal Organizations

Associated with the Mackay School of Mines are several State and Federal organizations, whose offices are in the Mines Building or in nearby buildings on the campus. The Nevada Bureau of Mines has offices in the Mines Building and its library is combined with that of the School. The Nevada Mining Analytical Laboratory, which assays ores and identifies geologic material for Nevada citizens, also has offices and laboratories in the Mines Building. It is operated by faculty personnel jointly employed

by the School and the Laboratory. The metallurgical and mining branches of the U. S. Bureau of Mines maintain stations on the University campus. The U. S. Geological Survey generally conducts some geological investigation within the State; frequently with headquarters at the School.

Friendly and cooperative relationships are maintained with these organizations and by special permission their apparatus and libraries are available to the students and faculty of the School. Often these organizations seek part-time or summer help, and students welcome such work as an additional means of employment and of gaining valuable experience. Association with the staff members of these organizations is valuable for students.

Scholarship Requirements

Students who enter the Mackay School of Mines should possess a serious purpose, willingness to do consistently hard work, and demonstrated ability and interest in scientific subjects. If the above qualifications and aptitudes are lacking it is not advisable for the student to undertake the study of any of the curricula offered in the School. The student is expected to apply himself diligently; for scholarship requirements are high and competition is keen.

Requirements for a Baccalaureate Degree in the Mackay School of Mines

The student is permitted to graduate in any of the curricula offered by the Mackay School of Mines as listed at the time of his entrance or at the time of his graduation. The student's choice of electives must meet the approval of his department and, in general, electives should be chosen to broaden his education in humanities and social studies or fields of study related to his major subject, rather than to increase his specialization in it. Elective credits make it possible for a student to elect advanced military courses in his junior and senior years in order to qualify for a reserve commission from the R.O.T.C. at the time of graduation.

The curricula, of 144 semester credits each, leading to the degrees of Bachelor of Science in Geology, Geological Engineering, Metallurgical Engineering, or Mining Engineering are outlined as follows:

Curricula in Mackay School of Mines

Uniform Freshman Year for all Options

The following first-year program is specified for all students in the Mackay School of Mines.

First semester	*Credits*	*Second semester*	*Credits*
Chem. 101, Gen. Inorganic Chem.	4	Chem. 102, Gen. Chem. Metals	2
Eng. 101, Comp. and Rhetoric	3	Chem. 124, Qualitative Analysis	2
Math. 151, Elem. Math. Analysis	5	Eng. 102, Comp. and Rhetoric	3
M.E. 105, Engineering Drawing	2	Geol. 101, Physical Geology	4
Min. 101, Mineral Industry Lectures	1	Math. 152, Elem. Math. Analysis	5
Mil. 101, First Year Basic	1	M.E. 106, Descript. Geometry	2
P.E. 101, Freshman Activities	½	Mil. 102, First Year Basic	1
		P.E. 102, Freshman Activities	½
	16½		19½

Summer Work

[1]Min. A., Practical Mining; Two months. No credit.

Geology

The curriculum leading to the degree of Bachelor of Science in Geology is offered primarily for those students who plan to take post-graduate work in geology or who want to obtain a broad education in geology and the related basic sciences, as well as an introduction to social studies and humanities. Those students who plan to enter the field of applied geology upon completion of their undergraduate study should take the Curriculum in Geological Engineering.

Some of the elective credits are restricted as noted below:

BIOLOGY: An additional laboratory course of three or more credits is required.

FOREIGN LANGUAGE: A student must present either: (1) two years of German or French in college, or (2) one year of German or French in college plus two or more years of one modern foreign language in high school. If the student can demonstrate a satisfactory reading knowledge of German or French as a result of high school or one year of college language work, he will be permitted to take the elementary course in the other language; otherwise he must take the other year in the same language.

GEOLOGY: The student may not offer more than 45 credits in geology.

SOCIAL STUDIES AND HUMANITIES: 9 credits are required in addition to those listed in the curriculum below. They should be chosen

[1]Not required in Curriculum in Geology or Geological Engineering.

from: "College of Arts and Science, Requirements for a Baccalaureate Degree in Arts and Science, Prescribed Courses, 3 and 4 (Groups 2 and 3)."

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Geol. 211, Mineralogy	3	Geol. 102, Historical Geol.	3
German (or French), First Year	5	Geol. 212, Mineralogy	3
Phys. 151, General Physics	3	German (or French), First Year	5
Phys. 153, Gen. Phys. Lab.	1	Phys. 152, General Phys.	3
Mil. 201, Second Year Basic	1	Phys. 154, Gen. Phys. Lab.	1
P.E. 201, Sophomore Activities	½	Mil. 202, Second Year Basic	1
Elective (Social Studies)	3	P.E. 202, Sophomore Activities	½
	16½		16½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 241, Plane Surveying	3	Geol. 326, Optical Min. and Petrology	4
Eng. 201, Adv. Composition	2	Geol. 450, Field Methods	1
Geol. 325, Optical Min. and Petrology	4	Math. 220, Mathematical Statistics	3
Geol. 331, Struct. Geology	3	Zool. 103, Gen. Zoology Lect.	2
Elective	6	Zool. 104, Gen. Zoology Lab.	2
		Elective	5
	18		17

Summer Camp

[2]Geol. 451, Summer Field Geology.....6 credits

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Econ. 201, Prin. Economics	3	Geog. 222, Weather and Climate	3
Geol. 461, Invert. Paleontology	4	Geol. 468, Stratigraphy	3
Pol. Sci. 201, U. S. Const.	1	Pol. Sci. 202, Nevada Const.	1
Elective	9	Speech 112, Public Speaking	2
		Elective	8
	17		17

[2]In special cases, and with written consent of the student's adviser, department chairman, and dean, this course may be replaced by C.E. 242, or additional geology and/or other related courses.

Geological Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 231, Quant. Analysis	3	Chem. 232, Quant. Analysis	3
Geol. 211, Mineralogy	3	Geol. 102, Historical Geol.	3
Math. 251, Engr. Calculus	4	Geol. 212, Mineralogy	3
Phys. 203, Physics for Engrs.	4	Math. 254, Engr. Calculus	2
Phys. 205, Physical Measurements	2	Phys. 204, Phys. for Engrs.	4
Mil. 201, Second Year Basic	1	Phys. 206, Physical Measurements	2
P.E. 201, Sophomore Activities	½	Mil. 202, Second Year Basic	1
		P.E. 202, Sophomore Activities	½
	17½		18½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Art 107, Freehand Drawing	1	Geol. 326, Optical Min. and Petrology	4
C.E. 241, Plane Surveying	3	Geol. 450, Field Methods	1
Geol. 325, Optical Min. and Petrology	4	Geol. 484, Ground Water	3
Geol. 331, Struct. Geology	3	Met. 204, Intro. Metallurgy	3
Math. 341, Anal. Mechanics	3	Pol. Sci. 202, Nevada Const.	1
[3]Restricted Elective	3	[3]Restricted Elective	3
	17		15

Summer Camp

Geol. 451, Summer Field Geology.....6 credits.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Econ. 201, Prin. Economics	3	Econ. 202, Prin. Economics	3
Geol. 461, Invert. Paleontology	4	Geol. 468, Stratigraphy	3
Geol. 471, Ore Deposits	3	Min. 432, Mining Methods	3
Pol. Sci. 201, U. S. Const.	1	[3]Restricted Elective	3
[3]Restricted Elective	3	Elective	5
Elective	3		
	17		17

[3]Restricted electives must be taken in either advanced military or social studies and humanities. If in the latter, they should be chosen from "College of Arts and Science, Requirements for a Baccalaureate Degree in Arts and Science, Prescribed Courses, 3 and 4 (Groups 2 and 3)."

Metallurgical Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 231, Quant. Analysis	3	Chem. 232, Quant. Analysis	3
Geol. 211, Mineralogy	3	Geol. 212, Mineralogy	3
Math. 251, Engr. Calculus	4	Math. 254, Engr. Calculus	2
Phys. 203, Physics for Engrs.	4	Met. 204, Intro. Metallurgy	3
Phys. 205, Physical Measurements	2	Phys. 204, Physics for Engrs.	4
Mil. 201, Second Year Basic	1	Phys. 206, Physical Measurements	2
P.E. 201, Sophomore Activities	½	Mil. 202, Second Year Basic	1
		P.E. 202, Sophomore Activities	½
	17½		18½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
[4]Art 107, Freehand Drawing	1	Chem. 354, Phys. Chemistry	2
Chem. 353, Phys. Chemistry	2	C.E. 372, Strength Materials	3
C.E. 241, Plane Surveying	3	Met. 322, Mineral Dressing	4
Math. 341, Anal. Mechanics	3	Met. 450, Prin. Phys. Met.	3
Met. 311, Fire Assaying	3	Min. 312, Excavation	3
Met. 343, Ferrous Met.	2	[5]Restricted Elective	3
Pol. Sci. 201, U. S. Const.	1		
[5]Restricted Elective	3		
	18		18

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 361, Hydraulics	3	M.E. 353, Fund. Thermodynamics	3
Geol. 471, Ore Deposits	3	Met. 432, Pyrometallurgy	3
Met. 433, Hydrometallurgy	3	Met. 476, Met. Problems	2
Met. 435, Electrometallurgy	2	Met. 496, Met. Project	2
Met. 451, Physical Met.	3	Min. 432, Mining Methods	3
Met. 495, Met. Project	2	Pol. Sci. 202, Nevada Const.	1
Mil. 401 or Econ. 201	3	Mil. 402 or Econ. 202	3
	19		17

[4]May substitute other courses by permission of department chairman or dean.
[5]Restricted electives must be taken in either advanced military or social studies and humanities. If in the latter, they should be chosen from "College of Arts and Science, Requirements for a Baccalaureate Degree in Arts and Science, Prescribed Courses, 3 and 4 (Groups 2 and 3)."

Mining Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 231, Quant. Analysis	3	Chem. 232, Quant. Analysis	3
Geol. 211, Mineralogy	3	Geol. 212, Mineralogy	3
Math. 251, Engr. Calculus	4	Math. 254, Engr. Calculus	2
Phys. 203, Phys. for Engrs.	4	Min. 312, Excavation	3
Phys. 205, Physical Measurements	2	Phys. 204, Physics for Engrs.	4
Mil. 201, Second Year Basic	1	[e]Phys. 206, Physical Measurements	2
P.E. 201, Sophomore Activities	½	Mil. 202, Second Year Basic	1
		P.E. 202, Sophomore Activities	½
	17½		18½

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 241, Plane Surveying	3	C.E. 242, Plane Surveying	4
Math. 341, Anal. Mechanics	3	C.E. 372, Strength Materials	3
Met. 311, Fire Assaying	3	Geol. 322, Lithology	2
Min. 321, Mine Equipment	3	Met. 322, Mineral Dressing	4
Min. 451, Mine Safety and Ventilation	2	Min. 462, Mineral Indust. Economics	3
Pol. Sci. 201, U. S. Const.	1	[f]Restricted Elective	2
[f]Restricted Elective	3		
	18		18

Summer Camp

Min. 442, Mine Surveying.....2 credits.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 361, Hydraulics	3	Econ. 202, Prin. Economics	3
Econ. 201, Prin. Economics	3	Met. 432, Pyrometallurgy	3
Geol. 471, Ore Deposits	3	Min. 426, Mine Plant Design	2
Met. 433, Hydrometallurgy	3	Min. 432, Mining Methods	3
Min. 423, Mining Lab	2	Min. 466, Mine Sampling and Valuation	2
Restricted Elective	3	Pol. Sci. 202, Nevada Const.	1
		[f]Restricted Elective	3
	17		17

[e]May substitute other courses by permission of department chairman or dean.
[f]The 11 credits of restricted electives must be taken in either advanced military, or 6 credits in technical subjects, and 5 credits in free electives.

Graduate Study

Opportunity for Graduate Work

The University offers graduate work leading to the advanced degrees of Master of Arts, Master of Science, and Master of Education. In addition certain professional degrees are granted in the College of Engineering and the Mackay School of Mines. Most of the departments of the University will accept candidates for the master's degree. Specialization in any department, however, will be limited to the specialties of the department staff.

Professional engineering degrees are given on satisfactory completion of certain professional work and a thesis as described later in the section entitled *Professional Engineering Degrees.*

Although, in general, all work for the master's degree will be expected to be done in residence, certain departments, at their discretion, may allow a portion of the course work to be done at other recognized graduate schools. Whenever a student is accepted for graduate work leading to the master's degree, he may be assured that he will be given instruction of superior quality, and counseling that will be intimate and generous. Since these degrees are the only advanced degrees offered by the University, effort is made to keep the work exceptionally high in standard, and in value to the student.

Admission to Graduate Study

Admission to graduate study does not imply admission to candidacy for a higher degree. A student can acquire the right to such candidacy only by demonstrating that he has the requisite preparation and ability. He must make application to become a candidate and must be accepted by the department and the Dean of the Graduate School. Forms for making application to become a candidate will be supplied by the Registrar or the Dean of the Graduate School.

Undergraduate Prerequisite

Excepting the special case of senior undergraduates in residence at the University of Nevada (see *General Regulations* p. 123) no student will be accepted for graduate work unless he has earned the bachelor's degree from an accredited college or university.

A student, who is a candidate for a master's degree, must have completed such undergraduate work as the department concerned, with the approval of the Graduate Study Committee, may

require. The prerequisite for a graduate major normally amounts to an undergraduate major or its equivalent in the department, and in no case may this prerequisite be less than the requirements for an undergraduate minor or its equivalent. If a student is deficient in undergraduate prerequisites he must make up such deficiencies. In case of uncertainty as to the candidate's ability to undertake graduate work in the department, the chairman of the department may require the candidate to take a qualifying examination.

Every department reserves the right to determine what candidates it will accept for graduate work.

Graduate Courses

Graduate courses consist of those numbered 500 and above, and of any courses numbered 300(G) to 499(G) as the student's major department may accept for graduate credit. To be acceptable for graduate credit, these courses will require such additional and individual work as the instructor may deem necessary to demonstrate ability on the part of the student to do independent study and thinking. No such course will be acceptable for graduate credit if the student has already received undergraduate credit in it.

Status of Graduate Students

1. *Candidates for the Master's Degree*—
   Any student who has made proper application to become a candidate, as later described, and who has been accepted as a candidate for the master's degree by the Dean of the Graduate School and by the student's major department.
2. *Other Students Taking Graduate Courses*—
   a. A student (noncandidate for a degree) holding a baccalaureate degree from a recognized university or college, who has presented proof to the Office of Admissions of his graduation and who does not wish to work for an advanced degree at the University of Nevada.
   b. A person who is qualified to certify that he holds a baccalaureate degree from an accredited university or college, may, without presentation of credentials, register for 6 or fewer credits in graduate courses in any given semester or registration period.

A student who has taken graduate courses without being a candidate for a degree, and who wishes to become a candidate for a master's degree, must make proper application, as later described, and be approved by the Dean of the Graduate School and a major department. The graduate credit he has previously

received will be reviewed, and, if accepted by the major department, may be applied toward the requirements for the master's degree as later described.

Procedure for Becoming a Candidate for the Master's Degree

The candidate should receive an application blank for admission to candidacy from the Dean of the Graduate School or the Registrar, and in consultation with his major and minor professors, should indicate upon the blank the general program of studies that he is to pursue. The blank should be returned to the Graduate Study Committee before registration is begun.

Registration Procedure

1. Before registering for any graduate course, the student should receive an admission card from the Office of Admissions, University of Nevada, Reno, Nevada.
2. In order to receive an admission card, the student should submit to the Office of Admissions, considerably in advance of the registration date, an official transcript of record showing that he holds a baccalaureate degree from an accredited university or college.
3. Registration: At the date of registration, the graduate student will (a) secure his registration coupons from the Registrar, (b) secure the signature of the instructor for each course in which he wishes to enroll, (c) secure the signature of his dean and the Dean of the Graduate School, (d) make out his class cards, (e) present the registration card to the Registrar for computation of fees to be paid, and (f) present the card to the Comptroller and pay the fees.

Fees

Graduate students are required to pay the Matriculation fee, the Consolidated Graduate fee, Tuition, and Summer Sessions fees as specified (see *Financial Information* in the index). A fee of $8 is charged to cover the cost of the diploma. If the student does not desire to buy the master's hood, it is possible to rent one for the Commencement ceremony through the University for a nominal fee. Graduate students are not required to pay the A. S. U. N. and Health Service fees, but they may avail themselves of the services provided by payment of these fees.

Graduate Teaching, Research, and Curator Assistants or Fellows are exempt from laboratory and out-of-State tuition fees.

Requirements for the Masters' Degrees

The Master of Arts or Master of Science Degree—A candidate for the Master of Arts or Master of Science degree is required to complete a minimum of 24 credits of course work carrying graduate credit. He is also required to complete 6 credits of research thesis. For course requirements, see procedure I or II under *Course Requirements* which follows.

The Master of Education Degree—The requirements for the Master of Education degree are outlined in a later section. A thesis is not required.

Course Requirements

The candidate for the Master of Arts or Master of Science degree shall choose one of the two following procedures for the selection of graduate courses:

I. He shall select a department in which to pursue a major field of study to comprise at least 12 of the 24 graduate credits and he shall select a minor field of study to comprise at least 6 credits. The minor may be in a different department or it may be in a second division of the major department, when the major department consists of two or more separate divisions, frequently organized as departments. Subject to the approval of the Graduate Study Committee more than the minimum may be required for either the major or the minor as conditions may require. Whatever number of the necessary credits is not required for the major or minor may be elected in any department by the student with the approval of his adviser and the chairman of his major department; they will normally be chosen to support the candidate's thesis.

II. He shall select a department offering courses for a field of concentration. The department and the student will then arrange such a program of graduate courses as will best meet the needs and abilities of the student.

A student should not enroll in any course for graduate credit without first securing the approval of the chairman of his major department that such courses are acceptable toward a major or a minor. Not any 6 or 12 credits may be chosen, but only such as combine to make the design that the student may or should have in mind.

It should be emphasized, however, that, although there are these certain formal requirements expressed in a specified number of credits, the student should not think of graduate work as primarily the completion of a number of required courses. These

courses are intended to give the student a comprehensive understanding of his whole major field and of some segment of his minor field.

Residence Requirements

A thesis and a total of 24 credits in graduate courses (for definition see *Graduate Courses*) are required in residence at the University of Nevada or, by special arrangement, at other approved institutions as follows:

I. For graduates of the University of Nevada: 12 credits of graduate courses may be done in other accredited institutions, and be accepted toward the degree when such courses have been approved in advance by the major or minor department.

II. For graduates of other institutions: 8 credits of graduate courses in other institutions may be accepted under the conditions specified above.

Candidates for the master's degree must spend on the *main campus* sufficient time in graduate course study to earn not fewer than 10 credits, or one-third the total required for the degree.

Thesis Requirements

Graduate study at the University of Nevada is designed to lay the foundation for further graduate study and research. This objective of graduate study is sought in the thesis requirement.

As the thesis is considered the most distinctive characteristic of the Master of Arts or Master of Science degree, great importance is assigned to it in determining the eligibility of the candidate for the degree. Generally the thesis should demonstrate the ability of the student to select and delimit a specific problem or topic, to assemble the pertinent and necessary data, to make some original research or contribution, to organize ideas and data acceptably, and to prepare a written report in clear and effective English.

As the thesis usually requires close and constant supervision by the director in charge, the candidate should plan to develop the thesis while in residence. It is almost impossible to make satisfactory progress on the thesis wholly or largely in absentia. The candidate should not expect therefore to carry a full load of graduate courses in residence and do the thesis away from the campus. When considerable progress has been made while in residence in collecting data and in outlining the thesis, the candidate may be permitted to attempt the completion of the thesis away from the campus, under such arrangements as the supervisor of the thesis may specify.

Credits for the Thesis—When the candidate has been recommended by the Graduate Study Committee and approved by the

faculty for the Master of Arts or Master of Science degree, 6 credits will be recorded on his official scholarship record for the work completed on the thesis.

Date of Submission—The thesis must be completed in typed form, unbound, and approved by the thesis director, for submission to the examining committee not later than four weeks before the date of the Commencement at which the degree is to be conferred; this date precedes the final examination by one week. A copy of the thesis should be provided for each of the five members of the examining committee.

Format and Binding—The thesis should be typed on a good quality of bond paper, 8½ x 11 inches, with ample margin on the left to permit binding. Matters of form respecting capitalization, abbreviations, quotations, footnotes, bibliography, etc., should conform with the best usage as set forth in standard manuals on research writing*; on all such items the practice should be consistent throughout the thesis. A sample of the formal title page may be secured from the Dean of the Graduate School.

When the thesis has been approved by the examining committee at least three copies should be bound in accord with specifications prepared by the Graduate Study Committee.

Copies for Deposit—Three bound copies of the thesis, signed by the chairman of the major department and thesis director, must be submitted to the Graduate Study Committee; not all of these copies need be the first impression, but, if carbon copies are included, they should be distinct and easily legible. Two copies will be deposited in the University Library and one copy will be retained by the major department. Majors in the College of Education may submit an additional copy to be forwarded to the U. S. Office of Education, Washington, D. C., to be deposited there for cataloguing and for inter-library loan purposes.

The Final Examination

Not later than three weeks before the date of the Commencement at which the degree is to be conferred, a final examination will be held. This examination is usually oral, and is conducted by a committee of five, appointed by the Graduate Study Committee. In the examination the student should be able to demonstrate a comprehensive understanding of a broad field, and a somewhat more detailed understanding of a more limited field. The examination may cover also the contents of the thesis, and facts, principles, or theories related to or suggested by the thesis.

The examining committee consists of five members of the faculty: a representative of the major department, a representative of the minor department, a member of the Graduate Study

*Example—Campbell, W. G., "Form and Style in Thesis Writing," Houghton Mifflin Co.

Committee, some member to represent the faculty at large, and the professor directing the thesis.

Whenever the decision of the examining committee is not unanimously favorable on either the examination or the thesis, it shall be the responsibility of the Graduate Study Committee to give consideration to the merits of the case and to make final determination.

General Regulations

1. Graduate credit will not be allowed in any course in which the grade received is less than B.

2. A candidate will not be recommended to the faculty for the master's degree unless he has been approved by the examining committee both on the thesis and on the final oral examination.

3. No graduate student may register for more than 14 credits of graduate work in any semester, nor for more than 6 in any five-week summer session. Candidates should not plan to enroll for the maximum number of credits in every session or they will not have adequate time for work on the thesis.

4. All the requirements for the master's degree must be satisfied within the period of 6 calendar years immediately preceding the granting of the degree.

5. The chairman of the major or minor department may require a reading knowledge of a foreign language (usually French or German).

6. Correspondence and extension courses will not be accepted for credit towards the master's degree.

7. A candidate for the master's degree may not at the same time be a candidate for any other degree.

8. An undergraduate at the University of Nevada who lacks less than 15 credits to complete the requirements for the bachelor's degree may enroll in approved courses for graduate credit, providing such credit is requested by the student and approved by the instructor at the time of enrollment.

9. A member of the University staff who is employed on full-time salary may not register for more than 6 credits during one semester.

10. A veteran must carry a minimum number of 9 credits of graduate work to be eligible for full veteran's benefits. A veteran actually carrying on his thesis preparation while in residence may register for as many credits of thesis work, to a maximum total of 6 for all semesters, as the chairman of the major department may approve; it must be understood that such thesis credits cannot be included in the 24 credits of required graduate course work, and that final credit for such registered courses will not be officially recorded until the candidate has been approved by the faculty for the master's degree.

11. At least three months before the expected date of the final examination, the candidate for the master's degree must report to the Dean of the Graduate School, with the approval of the professor directing his thesis, the date that he expects to be ready for the final examination.

Master of Education Degree

A candidate for this degree must meet all requirements of the Master of Arts degree, except as follows:

1. The candidate should have completed a minimum of two years of satisfactory teaching or administrative experience, or equivalent.

2. No thesis is required, but the candidate must prepare a professional paper which represents the equivalent of a 2-credit individual research course (Elementary Education 528, Secondary Education 558, School Administration Education 588, or Teacher Education 598). This paper should involve a practical problem based on an acceptable thesis. Two copies of the paper must be filed with the Dean of the College of Education.

3. The candidate must complete a minimum of 32 credits of acceptable graduate course work with a major consisting of at least 16 credits and a minor consisting of at least 8 credits. Of the 16 credits in professional education graduate courses, at least 2 credits in research methods must be earned. The remaining 8 credits may be in academic cognate courses or education electives, depending upon the minor the candidate elects.

Professional Engineering Degrees

The professional engineering degrees—Engineer of Mines (E.M.), Geological Engineer (Geol.E.), Metallurgical Engineer (Met.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), and Mechanical Engineer (M.E.)—may be conferred upon graduates who have taken corresponding courses in the Mackay School of Mines or 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. Theses will not be considered when they are merely investigations in literature, compilations of routine laboratory tests, or presentation of the work of others.

The professional engineering degrees may also be conferred

upon graduates of the College of Engineering or of the Mackay School of Mines 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 or the Mackay School of Mines of the University of Nevada, but whose equivalents were lacking in their undergraduate courses.

Formal application for a professional 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 faculty of the College of Engineering or of the Mackay School of Mines and by the Graduate Study 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 master'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 faculty of the College of Engineering or of the Mackay School of Mines and to the Graduate Study Committee at least eight weeks before the date set for conferring the degree. The diploma fee for a professional engineering degree is $8.

Military Science and Tactics

The Army Reserve Officers Training Corps at Nevada is organized under authority of the National Defense Act, primarily to qualify students for positions of military leadership in time of national emergency. The local unit offers required courses in a branch general curriculum and training leading to a reserve commission as 2d Lieutenant in the Army of the United States.

Requirements for Commission

To obtain a commission as 2d Lieutenant, Army of the United States, the student must satisfactorily complete the following requirements:

1. Academic courses:
   Freshman Year—First-Year Basic Military 101, 102.
   Sophomore Year—Second-Year Basic Military 201, 202.
   Junior Year—First-Year Advanced Military 301, 302, Summer Camp 303.
   Senior Year—Second-Year Advanced Military 401, 402.
2. Obtain a degree.
3. Receive the approval of the President of the University, and of the PMS&T.
4. Satisfactorily pass physical examination prescribed by Army regulations.

Entrance Into Advanced Courses

Students desiring to enter in the advanced course Senior Division ROTC must meet the following requirements:

1. Be selected by the PMS&T and the President of the University, within quota limitations assigned by Department of the Army.
2. Have completed the basic course Senior Division ROTC or have received credit in lieu thereof as prescribed.
3. Successfully complete such survey and general screening tests as may be prescribed.
4. Execute a written agreement with the Government as prescribed by Army regulations.
5. Must not have reached 27 years of age at the time of initial enrollment.
6. Must pass the physical examination prescribed by Army regulations.

Commissions

Commissions in all branches (Arms and Services) of the Army

may be obtained subject to quota limitations as prescribed by the Department of the Army. The requirements are:

1. Pursuit of technical or scientific field of study applicable to the branch desired.
2. Successful completion of both basic and advanced courses ROTC and successful completion of an ROTC Summer Camp.
3. Receive the approbation of the PMS&T and the President of the University.

Commissions in Regular Army

Selected students from the advanced courses, upon recommendation of the President of the University and the PMS&T, are authorized to compete nation-wide for appointment as 2d Lieutenant in the United States Army (Regular Army).

Deferment From Induction

Under the provisions of the Universal Military Training and Service Act of 1951 (Public Law 51, 82d Congress) male students *within quota limitations allotted by Department of the Army* who meet the following conditions will be recommended to their local Selective Service Boards for deferment:

1. Students must enroll in the Senior Division ROTC courses.
2. Students must be recommended by the University Deferment Board as prescribed by Special Regulations 145-90-5.
3. Students must receive the approbation of the PMS&T.
4. Students must remain in good standing in both academic and military courses.
5. Students must demonstrate a proper and sufficient aptitude to indicate that further instruction will qualify them for a commission in the Army of the United States.
6. Students must maintain a continuous attendance except for periods of nonattendance which must be approved by the PMS&T.
7. Advanced course students must execute a deferment agreement.

Supplies and Equipment

Students of the basic courses are furnished uniforms, texts, and instructional equipment at the expense of the Government.

Students in the advanced course, in addition to receiving texts and instructional equipment at the expense of the Government, are also granted an allowance for the purchase of one uniform. This allowance accrues over a period of eighteen months, and in the event the student fails to complete the course, or accept his commission if tendered, the student will be required to reimburse the Government in an amount determined by dividing the number of months remaining in the

training period after the separation of the student, by the total number of months in the training period, and multiply the quotient by the commutation allowance received.

Deposit

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 $20 will be required from each basic student and an undetermined amount (*to be deposited after receipt of first commutation of subsistence check*) from each first-year advanced student when it becomes necessary to provide a guarantee.

Pay

1. Students taking the basic course do not receive pay or allowances.

2. Students enrolled in the advanced courses under contract with the Government will receive:

a. Commutation in lieu of uniforms at a rate prescribed by Department of the Army (this allowance is approximately $100 for 18 months' training period).

b. Commutation of subsistence at a rate prescribed by the Department of the Army (approximately $27 per month).

c. Pay during summer camp training period, at $75 per month.

3. Travel to and from summer camp is paid by the Government.

Credit by Virtue of Previous Service

Students who have earned wartime commissions through other channels than the University of Nevada ROTC may be granted advanced credit toward graduation in any college. Each case will be considered by the PMS&T, primary consideration being given to the type of commission, scope of military education which qualified the student for his commission, and the nature of duty as a commissioned officer.

Enlisted men who have served over one year may be given credits toward completion of basic course, but in no case will they be entitled to receive credit toward completion of the advanced course.

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.

Course Offerings

Course Numbers

The system of numbering courses for ready identification is discussed in the section of this catalogue entitled *University Regulations* (see *Course Numbering System* in the index).

Curricula

Requirements for fields of concentration, majors, and professional curricula are listed in the sections of this catalogue entitled *Max C. Fleischmann College of Agriculture, College of Arts and Science, College of Education, College of Engineering,* and *Mackay School of Mines.*

Fees

Tuition charges, fees, and deposits are listed in the section of this catalogue entitled *Financial Information.*

Agriculture

104. ORIENTATION IN AGRICULTURE. A course designed to acquaint the student with the history, functions, and services of the different divisions of the College of Agriculture, with the different State and Federal agencies serving agriculture in this State, and with the various fields of instruction in the College of Agriculture.
Freshman year. First semester. One credit. Staff.

350. GENETICS. (Same as Biology 350.) A study of the fundamental principles underlying the inheritance of structural and physiological characters in plants and animals.
Prerequisite: Botany 103 or Zoology 103, 104. *Second semester. Two lectures; one laboratory period. Three credits.* Kidwell.

357. METHODS IN AGRICULTURAL STATISTICS. Application of statistical methods to experimentation and research in agriculture.
First semester. Three credits.

401–402. AGRICULTURAL SEMINAR.
Prerequisite: Senior standing. *Each semester. One credit.* Staff.

Agricultural Economics

Professors TITUS, WITTWER (Chairman of Department); Assistant Professors SEUFFERLE, WOOD.

212. AGRICULTURAL ECONOMICS. An introduction to agricultural economics with emphasis on the application of economic principles to the solution of agricultural problems.
Prerequisite: Economics 201. *Second semester. Three credits.* Staff.

245. FARM ACCOUNTING. A study of various survey forms and types of record books, farm accounting methods, and the use of farm accounts in the organization and management of farms. Actual farm records will be used and the various factors which make for successful farming criticized and studied.
Prerequisite: Agricultural Economics 212. *First semester. Three credits.* Titus.

352. AGRICULTURAL ECONOMIC POLICY. A study of the agricultural economic policy in the United States. A review of past and present policies and an evaluation of these policies.
Prerequisite: Agricultural Economics 212. *Three credits.* Staff.

355. AGRICULTURAL FINANCE. Fundamental principles of credit and finance as applied to agriculture. Credit requirements of agriculture, existing agencies for supplying credit, and ways and means of utilizing them; strength and weakness of present credit system and proposals for reform.
Prerequisite: Agricultural Economics 212. *First semester. Two credits.* Wittwer.

356. LAND ECONOMICS. A study of the underlying principles pertaining to urban, agricultural, mineral, forest, range, and other types of land in their social setting. Attention is focused on land resources, their classification, valuation, and use, and related problems of finance, including taxation and rents.
Prerequisite: Agricultural Economics 212. *Second semester. Two credits.* Wittwer.

357(G). MARKETING OF AGRICULTURAL PRODUCTS. A study of the organizations, functions, and operations of the market structure and of marketing enterprises with special reference to the distribution of agricultural products.
Prerequisite: Agricultural Economics 212. *First semester. Three credits.* Wittwer.

464(G). COOPERATIVE ORGANIZATIONS. A study of the development of cooperation in agriculture in the United States and foreign countries. Analysis of principles and problems peculiar to cooperative associations. The organization, financing, and management of different types of cooperative marketing and purchasing associations.
Prerequisite: Agricultural Economics 212. *Second semester. Two credits.* Wittwer.

465(G). AGRICULTURAL PRICES. A study of prices of farm products in relation to agricultural and industrial conditions. Factors determining prices, price trends, adjustment of production to price changes, price stabilization, prices and market grades, price policies, and market quotations.
Prerequisite: Agricultural Economics 212. *First semester. Three credits.* Wittwer.

471(G). CURRENT ECONOMIC PROBLEMS OF AGRICULTURE. Business cycles and trends, foreign trade, taxation, farm labor problems, and other topics of special interest will be studied in their relation to agriculture.

Prerequisite: Agricultural Economics 212. *First semester. Two credits.* Staff.

476(G). FARM MANAGEMENT. Principles and problems involved in the organization and management of farms. Selecting a farm, size and diversity of the farm business, leases, farm layout, crop and livestock systems, capital requirements, efficient use of labor and equipment, and use of farm records.

Prerequisite: Agricultural Economics 212. *Second semester. Three credits.* Titus.

591. THESIS COURSE IN AGRICULTURAL ECONOMICS. *Each semester. Credit to be arranged.* Staff.

Agricultural Mechanics, See Soils and Plant Nutrition

Agronomy and Range Management

Associate Professor ROBERTSON (Chairman of Department); Assistant Professors CORDS, GOODWIN; Extension Agronomist SCHULZ.

Agronomy

102. ELEMENTS OF HORTICULTURE. A survey of the field of horticulture; fruit growing, vegetable gardening, floriculture, and ornamental gardening.

Second semester. Two lectures; one laboratory period. Three credits. Staff.

207. FIELD CROPS. Principles in the production of the common field crops. Crop adaptation and distribution, cultural practices, harvesting and storage; protection; improvement; identification of crops and their seeds. Field and laboratory work will emphasize locally grown forage crops.

Prerequisite: Botany 103. *First semester. Three lectures; one laboratory period. Four credits.* Cords.

346(G). WEEDS AND WEED CONTROL. Recognition and control of noxious and common competitive and poisonous weeds, their biological and economic effects on crops and livestock. Response of plants to herbicides in the laboratory and greenhouse. Practice in chemical methods of control on University Farm.

Prerequisite: Agronomy 207 and Chemistry 242. *Second semester.* (Offered in odd-numbered years.) *Two lectures; one laboratory period. Three credits.* Cords.

354(G). CEREAL CROPS. History, classification, morphological

characteristics, and varieties and strains of cereal crops. Practices and problems involved in production, judging, grading, and exhibition.

Prerequisite: Must be taken concurrently with or following Agronomy 207 and Agriculture 350. *Second semester.* (Offered in even-numbered years.) *Two lectures; one laboratory period. Three credits.* Cords.

Range Management

317(G). RANGE AGROSTOLOGY. (Same as Botany 317.) The study of grasses, and practice in identification. Particular emphasis is given to range grasses.

Prerequisite: Botany 222. *First semester. One lecture; two laboratory periods. Three credits.* Goodwin.

359. PRINCIPLES OF RANGE AND PASTURE MANAGEMENT. A basic course in the management of ranges and pastures. History of range use in relation to present condition; the indicator concept, range improvement, grazing by game animals.

Prerequisite: Agronomy 207 and Botany 222. *First semester. Two lectures; one laboratory period. Six to eight field trips. Three credits.* Robertson.

362(G). POISONOUS RANGE PLANTS. Recognition of the more troublesome poisonous and mechanically injurious range and pasture plants; ways of handling problems caused by these plants.

Prerequisite: Range Management 359. *Second semester. One lecture or laboratory period. One or two field trips. One credit.* Robertson.

364(G). RANGE AND PASTURE FIELD TRIP. A one-week trip to study range and pasture problems and practices in Nevada. Observations on progressive ranches and government ranges and experiment stations. Transportation furnished. One week immediately following sophomore or junior year. Register at end of second semester.

Prerequisite: Agronomy 207 and Botany 222. *Second semester. One or two credits.* Robertson.

366(G). RANGE CONDITION CLASSIFICATION AND IMPROVEMENT. Use of indicators to determine range and pasture condition, vegetation analysis, utilization measurement; range improvements including revegetation, site selection, ground preparation, costs and benefits of range seeding.

Prerequisite: Range Management 359. *Second semester. One lecture; one laboratory period. Field trips. Two credits.* Robertson.

468(G). ADVANCED RANGE MANAGEMENT. Administration and management of range land, range surveying and management planning practice in field techniques of range research.

Prerequisite: Range Management 366. *Second semester. Two lectures; one laboratory period. Three credits.* Robertson.

469(G). RANGE AND PASTURE LITERATURE. Two or five hours reading of selected original papers, classic and current. One hour weekly for discussion and reports.

Prerequisite: Must be taken concurrently with or following Agronomy 207 and Range Management 359. *First semester.* (Offered in odd-numbered years.) *One or two credits.* Robertson.

491(G)-492(G). SPECIAL PROBLEMS. An intensive study of a special problem in the field of agronomy and range management.

Prerequisite: Senior standing and grade point average 3.0. *Each semester. One or two credits.* Staff.

591. THESIS COURSE IN AGRONOMY AND RANGE MANAGEMENT. *Each semester. Credit to be arranged.*

Animal Husbandry

Associate Professor KIDWELL (Chairman of Department); Assistant Professors BOHMAN, WEETH; Extension Animal Husbandman MCCARTNEY; Lecturers HUNTER, WALKER; Research Associates MELENDY, TORELL; Laboratory Technician WADE.

101. ELEMENTS OF ANIMAL HUSBANDRY. A survey of the livestock industry including history, development and present status in the U. S. and Nevada; the relation of livestock to other phases of agriculture; the distribution of domestic animals and animal products in the U. S. and factors influencing this. Principles underlying the production and market requirements of various types, classes and grades of cattle, sheep, swine and horses.

First semester. Two lectures; one laboratory period. Three credits. Bohman.

201. LIVESTOCK JUDGING. The relation of form to function in farm animals. Visual appraisal of the live animals. All classes of commercial and purebred livestock are studied.

Second semester. Two laboratory periods. Two credits. Hunter.

202. POULTRY PRODUCTION. A survey of the poultry industry in the United States and Nevada, including history, development, and present status. An introductory study of the principles underlying production and market requirements of poultry in relation to flock management.

Prerequisite: Zoology 103, 104; Chemistry 101. *Second semester.* (Offered in odd-numbered years.) *Two lectures; one laboratory period. Three credits.* Kidwell.

203. FARM MEATS. Slaughtering of domestic and game animals. Wholesale and retail cuts of meat. Meat selection and preservation. Carcass grading and selection.

Prerequisite: Animal Husbandry 101. *First semester.* (Offered in even-numbered years.) *Two lectures. Two credits.* Kidwell.

301. ADVANCED LIVESTOCK JUDGING. A continuation of Animal Husbandry 201 with emphasis on grading.
Prerequisite: Animal Husbandry 101, 201. *First semester. Two laboratory periods. Two credits.* Hunter.

303. ANIMAL NUTRITION—FEEDS AND FEEDING. The basic principles of feeding farm animals; feeding standards; composition and nutritive value of feeds; compilation and preparation of rations.
Prerequisite: Animal Husbandry 101, Chemistry 242, Agronomy 207. *First semester. Three credits.* Bohman.

304. LIVESTOCK PRODUCTION AND SKILLS. A brief study of the application of the underlying sciences to livestock production and management. The several skills peculiar to livestock production will be demonstrated and practiced in the laboratory.
Prerequisite: Animal Husbandry 101. *Second semester. One lecture; two laboratory periods. Three credits.* Staff.

305. DAIRY PRODUCTION. A study of the application of the several sciences underlying dairy production to herd management.
Prerequisite: Animal Husbandry 303. *First semester. Three lectures; one laboratory period. Four credits.* Walker.

306(G). ADVANCED ANIMAL NUTRITION. The fundamental principles of nutrition including a study of metabolism and energy relations, maintenance, growth, and reproduction; chemistry and digestion of proteins, fats and carbohydrates; functions of minerals, vitamins, enzymes and water.
Prerequisite: Animal Husbandry 303, Zoology 309, Chemistry 271. *Second semester. Three credits.* Bohman.

307(G). PHYSIOLOGY OF THE DOMESTIC ANIMALS. The physiology of the neuromuscular, central nervous, circulatory, respiratory, digestive, endocrine, reproductive, and excretory systems with special reference to the anatomy and function of the domestic animals.
Prerequisite: Zoology 309, Chemistry 271, Physics 152. *First semester. Four lectures; one laboratory period. Five credits.* Weeth.

308. DISEASES AND PARASITES OF DOMESTIC ANIMALS. An introductory study of diseases and parasites of domestic animals with emphasis on those of importance to the livestock industry in Nevada.
Prerequisite: Zoology 309, Biology 351. *Second semester. Three credits.*

310(G). REPRODUCTION IN DOMESTIC ANIMALS. Reproductive organs and processes and their relation to insemination, gestation, parturition, and lactation.
Prerequisite: Zoology 309. *Second semester. Two lectures; one laboratory period. Three credits.*

405(G). ANIMAL BREEDING. The application of the principles of population genetics to animal improvement. A study of selection methods, selection indexes, systems of mating, relationship and inbreeding, heterosis, heritability, the formulation of breeding plans.

Prerequisite: Agriculture 350, 357. *First semester. Three credits.* Kidwell.

406. BEEF PRODUCTION. A study of the application of the several sciences underlying beef production to purebred and commercial herd management. Emphasis is given Nevada and Western conditions.

Prerequisite: Animal Husbandry 306, 307, 405; Range Management 359. *Second semester. Three lectures; one laboratory period. Several weekend field trips. Four credits.* Kidwell.

497–498. SPECIAL STUDY FOR ADVANCED UNDERGRADUATES. Independent research on some problem pertinent to animal husbandry.

Prerequisite: Senior standing with a grade average of 3.0. *One to three credits.* Staff.

591. GRADUATE RESEARCH IN ANIMAL HUSBANDRY, ANIMAL PHYSIOLOGY, ANIMAL NUTRITION, OR ANIMAL BREEDING.

Each semester. One to six credits. Staff.

Art

Associate Professor SHEPPARD (Chairman of Department); Assistant Professor YATES.

The Department of Art reserves the right to keep student drawings, paintings, and art work for the permanent collection of the University.

101–102. ELEMENTARY FREEHAND DRAWING. Principles of drawing, values and perspective, taught in the freehand drawing of models and still life in monochrome.

Two credits each semester.

105. DESIGN. Problems in using natural and historic motifs in both two and three dimensional design. Laboratory practice in the creative use of design, color, theory, and their application to crafts, architecture, and industry.

Two credits. Sheppard.

107. FREEHAND DRAWING. Designed for engineering students.

First semester. One credit.

115. ART APPRECIATION. Lectures and slides; course to illustrate the place of art in social and cultural life, past and present. Planned to give an intelligent appreciation of the visual arts by logical analysis and criticism of painting, sculpture, and architecture.

Two credits.

121–122. FREEHAND DRAWING. Evening Class. Sketching from models and still life.

One credit each semester. May be repeated for credit as Art 121-122a, b, and c. Sheppard.

251–252. WATER-COLOR PAINTING. The technique and handling of water color in still life and landscape.

Three credits each semester.

253–254. INTERMEDIATE DRAWING. Drawing from models and still life in several media, charcoal, conti, chalk, etc. A preparation for work in portrait and life classes. Also rapid figure sketching in different media.

Prerequisite: Four credits in drawing. *Three credits each semester.*

257–258. OIL PAINTING. The technique and handling of oil colors in still life, portrait, figure, and landscape.

Three credits each semester.

261. HISTORY OF ANCIENT AND CLASSICAL ART. Lecture and slides. The study of the related arts—painting, sculpture, and architecture, from prehistoric man through Egypt, Babylon, Assyria, Crete, Greek, and Roman periods.

Three credits.

271–272. BEGINNING CERAMIC DESIGN. Problems in hand-made pottery; the study of clay formation and the compounding of clay bodies. Introduction to glazing and glazing methods. Laboratory and lecture.

Three credits each semester.

277–278. FIGURE COMPOSITION. Portrait and figure painting in various media. Figure composition and anatomical construction, placing stress on space, form, and volume.

Two credits each semester.

283. CRAFTS. Laboratory problems in the various crafts, such as metal design, leather working, enameling, metal casting, and forming. Laboratory and lecture.

Two credits.

326. THE TEACHING OF ART IN THE ELEMENTARY SCHOOL. (Same as Elementary Education 326.) Techniques of handling art media—finger paint, clay, easel paint, chalk, water color, etc. Planned especially for students preparing to teach in the elementary schools.

Prerequisite: Art 101 or equivalent. *Two credits.* Staff.

346. METHODS AND MATERIALS IN TEACHING ART IN THE SECONDARY SCHOOL. (Same as Secondary Education 346.) Techniques in the handling of a variety of art media; drawing, design, commercial art, and group projects. Planned especially for students preparing to teach in the secondary schools.

Prerequisite: Art 101 or equivalent. *Two credits.* Staff.

351(G)–352(G). ADVANCED WATER-COLOR PAINTING. Comprehensive problems in the technique and application of aqueous media.

Prerequisite: Art 251-252. *Three credits each semester.*

353–354. ADVANCED DRAWING. Advanced figure drawing, stressing multiple figure composition; action and animal study, with emphasis on technique and rendering.

Prerequisite: Art 253-254. *Three credits each semester.*

355–356. COMMERCIAL ART. Practical modern methods of reproduction used in commercial art. Problems in color and black and white, in various media. Class is handled as much like an advertising agency as possible to give students actual working problems.

Prerequisite: Art 101-102, 251-252. *Each semester: lecture one credit; laboratory two credits.* Lecture may be taken separately, and without prerequisite.

357(G)–358(G). ADVANCED OIL PAINTING. Figure, portrait, and landscape problems in oil and mixed media.

Prerequisite: Art 257-258. *Three credits each semester.*

359–360. ART STRUCTURE AND PICTORIAL COMPOSITION. Lecture and laboratory course in creative structure and graphic expression. An analytical approach to composition created through movement, color, techniques, theories, and methods.

Two credits each semester.

362. HISTORY OF EUROPEAN ART. Lecture and slides. The study of the related arts, painting, sculpture, and architecture of western Europe from the Byzantine period to the French Revolution.

Three credits.

363–364. CLAY MODELING. An exploratory course in three dimensional form. Portrait, figure, and animals from life. Problems in the composition and design of form. Casting methods.

Three credits each semester.

371–372. INTERMEDIATE CERAMICS. Mold making, casting, and ceramic production methods. The study of glaze formulation. Problems in kiln firing and temperature control. Laboratory and lecture.

Three credits each semester.

381. GRAPHICS. Laboratory study of the various methods of graphic reproduction, such as lithography, etching, engraving, block printing, and serigraphy. Laboratory and lecture.

Two credits.

455–456. ADVANCED COMMERCIAL ART. Professional problems in commercial and industrial arts.

Prerequisite: Art 355-356. *Three credits each semester.*

462(G). History of Contemporary Art. A study of art history in the western world from the French Revolution to the present, to show the contributions which have influenced contemporary painting, sculpture, and architecture. Lecture and slides.

Three credits.

463(G)–464(G). Sculpture. Advanced problems in three dimensional form and composition, working in various sculpture media.

Prerequisite: Art 363–364. *Three credits each semester.*

471. Ceramic Seminar. Advanced study in ceramic design, glaze formulation, clay structures, production methods, and kiln firing.

Prerequisite: Art 371–372. *Each semester. One credit.* May be repeated for credit as Art 471a, b, and c.

Astronomy, See Physics 107

Biology

Associate Professors La Rivers (Chairman of Department), Richardson; Assistant Professors Cooney, Jones, Miller, Ryser.

Biology

350(G). Genetics. (Same as Agriculture 350.) A study of the fundamental principles underlying the inheritance of structural and physiological characters in plants and animals.

Prerequisite: Botany 103 or Zoology 103, 104. *Second semester. Two lectures; one laboratory period. Three credits.* Staff.

351(G). Bacteriology. The study of bacteria and related microorganisms. Morphology, physiology, classification, economic, and medical importance will be considered. Can be used for either botany or zoology credit.

Prerequisite: Zoology 103, 104 or Botany 103. *First semester. Two lectures; two laboratory periods. Four credits.* Jones.

355(G). Evolution. The study of organic evolution, the fields of evidence for it, and explanations of just how it has taken and may be taking place. Modern species concepts are considered.

Prerequisite: One year of college biology. *First semester.* (Alternates with Zoology 463.) *Two credits.* Ryser.

370(G). Microtechnique. An introduction to the practical laboratory methods of preparing plant and animal materials for microscopic examination; micrometry; principles of photomicrography.

Prerequisite: Junior standing and at least six credits in biology courses (Botany 103 and 231 recommended), or consent of instructor.

First semester. One lecture; two laboratory periods. Three credits. Miller.

420(G). LIMNOLOGY. Designed to acquaint the advanced wildlife student with the biologic, chemical and physical characteristics of the aquatic environment, with particular emphasis on the application of limnologic principles to fisheries biology.

Prerequisite: Chemistry 101, 102; Zoology 333, 359. A course in qualitative chemical analysis (Chemistry 122 or 124) is recommended. *Second semester.* (Alternates with Zoology 333, 334.) *Two lectures; one laboratory period. Three credits.* La Rivers.

480(G). BIOLOGICAL SURVEY TECHNIQUES. Designed to provide training in the collecting of museum and herbarium specimens, in the observation of animals and plants in the field, and practice in organizing ecological surveys of given areas. Transportation will be provided.

Prerequisite: Certification by Biology Staff of ability to handle a zoological or botanical specialty in the field. *Two weeks immediately following Commencement Exercises in June of each year. Two credits.* May be repeated for credit as Biology 480a, 480b, 480c. La Rivers.

Botany

103. GENERAL BOTANY. An introduction to the classification, structure and physiology of the flowering plants.

Each semester. Two lectures; one laboratory period. Three credits. Cooney and Staff.

104. SURVEY OF THE PLANT KINGDOM. The structure and life cycles of representative types of algae, fungi, mosses, ferns, gymnosperms, and angiosperms.

Second semester. Two credits. Cooney.

105. SURVEY OF THE PLANT KINGDOM LABORATORY. An optional laboratory course to accompany Botany 104.

Second semester. Two credits. Cooney.

222. SYSTEMATIC BOTANY OF FLOWERING PLANTS. An introduction to the characters and relationships of the principal plant orders, families, and genera; principles of taxonomy; collection and identification of plants by means of keys.

Prerequisite: Botany 103. *Second semester. Two lectures; two laboratory periods or field trips. Four credits.* Miller.

231. PLANT ANATOMY. A study of the origin, growth, and structure of plant cells, tissues, and organs; comparative anatomy of roots, stems and leaves.

Prerequisite: Botany 103. *First semester. Two lectures; two laboratory periods. Four credits.* Miller.

307(G). ECONOMIC BOTANY. The history, structure, and occurrence of the principal plants used for drugs, fibers, oils, foods, and industrial uses. Importance of exploration for new plant sources.

Prerequisite: Botany 103 and Botany 222 or Botany 231. *First semester. Two credits.* Staff.

315(G). DENDROLOGY. The intensive study of the taxonomy, silvics, and practical identification of the important North American forest trees.

Prerequisite: Botany 222. *Second semester.* (Alternates with Botany 317.) *One lecture; two laboratory periods. Three credits.* Staff.

317(G). RANGE AGROSTOLOGY. (Same as Range Management 317). The study of grasses, and practice in identification. Particular emphasis is given to range grasses.

Prerequisite: Botany 222. *First semester.* (Alternates with Botany 315.) *One lecture; two laboratory periods. Three credits.*

355(G). PLANT PHYSIOLOGY. An introduction to the basic physiological processes in plants; nutrition, metabolism, growth and development.

Prerequisite: Botany 103 and Chemistry 101 (Chemistry 242 recommended). *First semester. Three lectures; one laboratory period. Four credits.* Miller.

364(G). MYCOLOGY. The study of molds, mushrooms, yeasts, rusts, and other fungi. Emphasis on fungi active as plant disease organisms, spoilage organisms, and those forms used in commercial processes.

Prerequisite: Botany 103. *First semester. Two lectures; two laboratory periods. Four credits.* Cooney.

380(G). INTRODUCTION TO PLANT ECOLOGY. A study of the major factors regarding plants and plant communities in relation to their environment, and methods of measuring these factors and those which govern their distribution.

Prerequisite: Botany 222. *Second semester. Two lectures; one laboratory period or field trip. Three credits.* Miller.

491(G)–492(G)–493(G)–494(G). BOTANICAL PROBLEMS. Special problems in some field of botany.

Prerequisite: The equivalent of two years of botany and the consent of the instructor. *One to three credits each semester.* Student is limited to a total of eight credits. Staff.

495(G)–496(G). SEMINAR IN BOTANY. Student presentation and discussion of topics of a botanical nature.

Prerequisite: Consent of the instructor. *One credit each semester.* Course may be repeated for credit. Staff.

591. THESIS COURSE FOR GRADUATE STUDENTS.
Credit to be arranged. Staff.

Zoology

101. SURVEY OF ZOOLOGY. A nontechnical audio-visual lecture and demonstration presentation of the subject matter of zoology.
First semester. Two credits. La Rivers.

103. GENERAL ZOOLOGY. An introductory lecture course dealing with the general principles of animal biology.
Second semester. Two credits. La Rivers.

104. GENERAL ZOOLOGY LABORATORY. An optional laboratory course to accompany Zoology 103.
Second semester. One or two credits. La Rivers, Richardson, Ryser.

220. ARCHAEOLOGY. A survey course dealing with the broader aspects of prehistoric and historic human cultures as developed by archaeological methods.
Prerequisite: Sophomore standing. *First semester. Two credits.* La Rivers.

223. HUMAN ANATOMY AND PHYSIOLOGY. Part I. The structure and function of the skeletal, articular, muscular, nervous, and sensory systems.
Prerequisite: A semester of college zoology, including laboratory, or the consent of the instructor. Some college chemistry is recommended. *First semester. Two lectures; two laboratory periods. Four credits.* Jones.

224. HUMAN ANATOMY AND PHYSIOLOGY. Part II. The structure and function of the digestive, respiratory, circulatory, excretory, genital, and endocrine systems.
Prerequisite: The same as for Zoology 223. Zoology 224 can be taken before Zoology 223. *Second semester. Two lectures; one laboratory period. Three credits.* Jones.

226. SUPPLEMENTARY PHYSIOLOGY LABORATORY. Work on blood, urine, etc. For students preparing for medical technology or nursing.
Prerequisite: Must be taken concurrently with or following Zoology 224. *Second semester. One laboratory period. One credit.* Jones.

309(G). COMPARATIVE ANATOMY OF VERTEBRATES. Lectures on the adult anatomy, embryology, and evolution of structural systems in back-boned animals. Laboratory dissection of the dog-fish, salamander, and a mammal.
Prerequisite: Zoology 103, 104. *First semester. Three lectures; two laboratory periods. Five credits.* Ryser.

322(G). PARASITOLOGY. An introductory study of disease-producing animals of medical, veterinary, and wildlife importance.
First semester. Two lectures; one laboratory period. Three credits. Richardson.

333(G). FISHES, AMPHIBIANS, AND REPTILES. A lecture course especially designed for naturalists, field workers, and teachers.
Prerequisite: Zoology 101 or 103. *Second semester.* (Alternates with Biology 420.) *Two credits.* La Rivers.

334(G). FISHES, AMPHIBIANS, AND REPTILES LABORATORY. An optional laboratory course to accompany Zoology 333.
Second semester. One credit. La Rivers.

335(G). ORNITHOLOGY. A course especially designed for field workers, teachers, and naturalists.
Prerequisite: Zoology 101 or 103. *Second semester.* (Alternates with Zoology 337.) *Two lectures; one laboratory period. Three credits.* Ryser.

337(G). MAMMALOGY. A study especially of Nevada mammals, including big game, fur bearing, and predatory species.
Prerequisite: Zoology 101 or 103. *Second semester.* (Alternates with Zoology 335.) *Two lectures; one laboratory period. Three credits.* Ryser.

359(G). ENTOMOLOGY. An introduction to the principles of insect biology.
Prerequisite: Zoology 101 or 103. *First semester. Two credits.* La Rivers.

360(G). ENTOMOLOGY LABORATORY. An optional laboratory course to accompany Zoology 359.
First semester. One or two credits. La Rivers.

364(G). EMBRYOLOGY. The development of vertebrates, with laboratory work on the frog, chick, pig, and human embryos.
Prerequisite: Zoology 103, 104. Zoology 309 is recommended. *Second semester. Two lectures; two laboratory periods. Four credits.* Richardson.

368(G). HISTOLOGY. A brief survey of the microscopic structure of animal tissues and organs, most of the material being from man and other mammals.
Prerequisite: Zoology 103, 104; 223 or 309. *First semester. One lecture; one laboratory period. Two credits.* Jones.

381(G). ANIMAL ECOLOGY. Part I. A lecture course designed to study the mutual influences of environment and animals upon each other.
Prerequisite: Zoology 101 or 103. *First semester. Two credits.* Ryser.

382(G). ANIMAL ECOLOGY. Part II. A lecture course designed to study animal communities.
Prerequisite: Zoology 381 or consent of the instructor. *Second semester. Two credits.* Ryser.

384(G). ANIMAL ECOLOGY LABORATORY. An optional laboratory and field course to accompany Zoology 381 and/or 382.
Second semester. One credit. Ryser.

446(G). GENERAL AND COMPARATIVE PHYSIOLOGY. The emphasis in this course is on the functioning of protoplasms, cells, and animal tissues, with some topics in comparative animal physiology. Designed primarily for students majoring in biology or taking premedical and predental curricula.
Prerequisite: At least two years of chemistry and two years of biology are recommended. *Second semester. Two lectures; one laboratory period. Three credits.* Jones.

463(G). GAME MANAGEMENT. Conservation or regulated use as applied to game birds and mammals. Field trips and laboratory studies on observation and identification of western game species, and on application of management principles.

Prerequisite: Zoology 335, 337, and Botany 222. *First semester.* (Alternates with Zoology 355.) *Two lectures; one laboratory period. Three credits.* Ryser.

470(G). FISH HATCHERY MANAGEMENT. Laboratory work to familiarize the wildlife management student with the plan and operation of the Verdi State Fish Hatchery of the Nevada Fish and Game Commission.

Prerequisite: Consent of the instructor. *Second semester. Three credits.* La Rivers.

485(G)–486(G). MUSEUM TECHNOLOGY. A laboratory course to acquaint the advanced biology student with the techniques and problems of museum work.

Prerequisite: Consent of the instructor. *One or two credits each semester.* La Rivers.

491(G)–492(G)–493(G)–494(G). ADVANCED ZOOLOGY. Special zoological problems for investigation and report.

One or two credits each semester. The student is limited to a total of eight credits. Staff.

496(G). ZOOLOGY SEMINAR. The presentation by students of reviews and discussion of assigned reports of research in zoological literature.

Prerequisite: Nine credits of zoology and consent of the instructor. *Second semester. One meeting per week. One or two credits.* Staff.

591. THESIS COURSE FOR GRADUATE STUDENTS.
Credit to be arranged. Staff.

Business Administration, See Economics, Business, and Sociology

Chemistry

Professors DEMING, MOOSE (Chairman of Department), WILLIAMS; Assistant Professors MORRIS, SEIM; Mr. FALK.

101. GENERAL INORGANIC CHEMISTRY. A lecture and laboratory course dealing with the fundamental principles of chemistry and the properties and uses of the common nonmetallic elements.

First semester. Three lectures; two laboratory periods. Four credits. Staff.

102. GENERAL CHEMISTRY OF THE METALS. A lecture course dealing with the properties and uses of the common metals.

Prerequisite: Chemistry 101. *Second semester. Two credits.* Staff.

122. QUALITATIVE ANALYSIS. A lecture and laboratory course dealing with the principles and techniques of the semimicro-method of systematic qualitative analysis.

Prerequisite: Must be taken concurrently with or following Chemistry 102. *Second semester. One lecture; two laboratory periods. Three credits.* Staff.

124. QUALITATIVE ANALYSIS. Similar to Chemistry 122 but designed for students in the College of Engineering and the Mackay School of Mines.

Prerequisite: Must be taken concurrently with or following Chemistry 102. *Second semester. One lecture; one laboratory period. Two credits.* Staff.

231. QUANTITATIVE ANALYSIS. A lecture and laboratory course dealing with the fundamental principles and techniques of accurate volumetric and gravimetric methods of analysis. Special emphasis placed on calculations needed for quantitative determinations.

Prerequisite: Chemistry 122 or 124. *First semester. One lecture; two laboratory periods. Three credits.* Seim.

232. QUANTITATIVE ANALYSIS. A lecture and laboratory course dealing with the application of quantitative principles to the analysis of ores. Designed for students in the Mackay School of Mines.

Prerequisite: Chemistry 231. *Second semester. One lecture; two laboratory periods. Three credits.* Seim.

233. QUANTITATIVE ANALYSIS. A lecture and laboratory course dealing with the fundamental principles and techniques of accurate volumetric and gravimetric methods of analysis. Special emphasis placed on calculations needed for quantitative determinations.

Prerequisite: Chemistry 122 or 124. *First semester. Two lectures; two laboratory periods. Four credits.* Williams.

234. QUANTITATIVE ANALYSIS. A lecture and laboratory course dealing with the application of quantitative principles to the analysis of common ores and biological materials.

Prerequisite: Chemistry 231 or 233. *Second semester. Two lectures; two laboratory periods. Four credits.* Williams.

242. INTRODUCTORY ORGANIC CHEMISTRY. A lecture and laboratory course designed to acquaint students with some of the fundamental principles of carbon chemistry.

Prerequisite: Must be taken concurrently with or following Chemistry 102. *Second semester. Three lectures; one laboratory period. Four credits.* Morris.

271. PHYSIOLOGICAL CHEMISTRY. A lecture course dealing primarily with the compounds of carbon that are essential to physiological processes.

Prerequisite: Chemistry 242. *First semester. Three credits.* Morris.

341(G)–342(G). ORGANIC CHEMISTRY. A lecture and laboratory course dealing with the fundamental principles of the chemistry of carbon and carbon compounds.

Prerequisite: Chemistry 232 or 234. *Two lectures; two laboratory periods. Four credits each semester.* Morris.

353(G)–354(G). INTRODUCTION TO PHYSICAL CHEMISTRY. A lecture course dealing with the applications of physical methods to chemical problems. This course is designed especially for students who desire an introductory course concerned with the qualitative aspects of the field of physical chemistry.

Prerequisite: Chemistry 231 or 233. *Two credits each semester.* Deming.

NOTE: The combination of lecture courses 353-354, 455 and the laboratory course 457, constitutes the standard "year" of physical chemistry, required for the chemistry and chemical technology curricula.

387–388. CURRENT CHEMICAL LITERATURE. A seminar course designed to help the student to become more familiar with the various sources of chemical information and afford him practice in summarizing such information for discussion.

Prerequisite: Two years college chemistry. *One credit each semester.* Staff.

391(G). SPECIAL PROBLEMS. A laboratory or lecture course designed to give the student training in a special field not covered in regularly scheduled courses. To be arranged by consultation with the chairman of the department.

Prerequisite: Chemistry 232 or 234. *Each semester. Two credits.* Staff.

415(G). THE PERIODIC LAW. A lecture and seminar course dealing with the critical study of the periodic law and the more important periodic tables. Use is made of recent developments in atomic structure to correlate the properties of the elements.

Prerequisite: Three years of college chemistry. *First semester. Three credits.* Williams.

443(G). QUALITATIVE ORGANIC ANALYSIS. A study of the methods available for the detection and identification of organic compounds.

Prerequisite: Chemistry 342. *First semester. Two lectures; two laboratory periods. Four credits.* Moose.

455(G). INTRODUCTION TO CHEMICAL THERMODYNAMICS. A lecture course designed to apply the methods of calculus and the laws of thermodynamics to the subjects discussed in Chemistry 353–354.

Prerequisite: Chemistry 354. One year of college physics and one year of calculus. *First semester. Two credits.* Deming.

457(G). PHYSICAL CHEMISTRY LABORATORY. A laboratory course designed to accompany Chemistry 455.

Prerequisite: Same as for Chemistry 455. Must be taken concurrently with or following Chemistry 455. *First semester. Two credits.* Deming.

461. THE CHEMICAL TECHNOLOGY OF UNIT OPERATIONS. A lecture and recitation course dealing with the application of chemical and physical fundamentals to unit processes and the manufacture of industrial chemicals.

Prerequisite: Chemistry 342. *First semester. Three credits.* Moose.

462(G). INDUSTRIAL CHEMICAL TECHNOLOGY. A lecture and recitation course dealing with industrial process calculations. Calculations dealing with a cross-section of chemical manufacturing processes. Material and energy balances. Raw materials and production costs.

Prerequisite: Chemistry 342, 354. *Second semester. Two credits.* Moose.

497–498. SENIOR PROBLEMS. A laboratory and library course based on a special topic chosen from inorganic, analytical, organic or physical chemistry. To be arranged by consultation with the instructors.

Prerequisite: Three years of college chemistry. *Two credits each semester.* Staff.

513. CHEMISTRY OF THE LESS FAMILIAR ELEMENTS. A laboratory course designed to cover the chemistry of the less familiar elements not included in other inorganic chemistry courses.

First semester. Two credits. (Open to seniors with the consent of the instructor.) Williams.

516. ADVANCED INORGANIC TOPICS. A lecture course designed to cover advanced topics and recent developments in inorganic chemistry.

Second semester. (Not given concurrently with Chemistry 532.) *Two credits.* (Open to seniors with the consent of the instructor.) Seim.

532. INSTRUMENTAL ANALYSIS. A lecture and laboratory course dealing with the theory and use of instruments in chemical analysis.

Prerequisite: Chemistry 455, 457. *Second semester.* (Not given concurrently with Chemistry 516.) *One lecture; two laboratory periods. Three credits.* (Open to seniors with the consent of the instructor.) Seim.

544. ADVANCED ORGANIC CHEMISTRY. A lecture course on advanced topics in organic chemistry. Modern theories on structure and reaction mechanisms. Special assignments.

Prerequisite: Chemistry 342. *Second semester. Two credits.* (Open to seniors with the consent of the instructor.) Morris.

552. SPECIAL TOPICS IN ELECTROCHEMISTRY.

Prerequisite: Chemistry 455, 457. *Second semester.* (Not given concurrently with Chemistry 556.) *Two discussion periods. Two credits.* (Open to seniors with the consent of the instructor.) Deming.

554. SPECIAL TOPICS IN THE PHASE RULE.

Prerequisite: Chemistry 455, 457. *Second semester. One discussion*

period; two laboratory periods. Three credits. (Open to seniors with the consent of the instructor.) Deming.

556. CHEMICAL THERMODYNAMICS. A lecture course dealing with the thermodynamical functions and their partial derivatives. Emphasis is placed upon the application of laws of thermodynamics to chemistry.

Prerequisite: Chemistry 455. *Second semester. Three credits.* (Open to seniors with the consent of the instructor.) Deming.

587–588. SEMINAR. A course designed to give practical experience in the organization and presentation of reports on selected chemical topics.

Prerequisite: Chemistry 388. *One-half credit each semester.* (Open to seniors with the consent of the instructor.) Staff.

591. THESIS COURSE FOR GRADUATE STUDENTS. Special problems for research chosen in consultation with some member of the department and carried on under his direction.

Prerequisite: Four years of chemistry and graduation from an approved college. *Each semester. Maximum of six credits.* Staff.

Civil Engineering

Professor BLODGETT (Chairman of Department); Associate Professor BONELL; Assistant Professor POOLMAN.

241. PLANE SURVEYING. An introductory course designed to acquaint the student with the fundamental principles of plane surveying and the instruments used in ordinary plane surveying operations.

Prerequisite: Mathematics 152. *Two classroom periods; one field period. Three credits.*

242. PLANE SURVEYING. A continuation of Civil Engineering 241 leading to a detailed study of topographical surveying methods, field astronomy, and other problems usually encountered in civil engineering practice.

Prerequisite: Civil Engineering 241. *Two classroom periods; two field or drawing room periods. Four credits.*

245. ENGINEERING PROBLEMS. The systematic solution of typical problems encountered in engineering practice. The use of the slide rule and other computational aids is contemplated.

Prerequisite: Mathematics 152. *One classroom period; one drawing room period. Two credits.*

246. CONSTRUCTION MATERIALS. A detailed study of the source, manufacture, and use of the materials ordinarily used in construction and machines.

Prerequisite: Sophomore standing in engineering. *Three credits.*

361. HYDRAULICS. A course designed to give a sound working knowledge of the laws concerning the flow of water through open

and closed conduits and metering devices. Hydrostatic problems are also considered.

Prerequisite: Mathematics 252 or 254. Civil and Mechanical Engineering students enroll for Civil Engineering 367. *Three credits.*

363. CURVES AND EARTHWORK. A study of the factors involved in the location of routes and the computation of quantities of earthwork for highways, canals, railways, and similar routes.

Prerequisite: Civil Engineering 242. *Two classroom periods; one field or drawing room period. Three credits.*

364(G). HYDROLOGY. The fundamental principles of hydrology and its related problems of climatology, stream-flow, runoff, underground water and snow surveys. An elective course.

Three credits.

366. ROADS AND PAVEMENTS. A study of the various types of street and highway construction with consideration of the natural and economic factors which influence the selection and location of streets and highways.

Prerequisite: Civil Engineering 242. *Four credits.*

367. ELEMENTARY FLUID MECHANICS. This course devotes considerable time to the study of fluids, including water, at rest and in motion. A sound understanding of practical hydraulics is not overlooked.

Prerequisite: Mathematics 252. *Three classroom periods; one laboratory or computation period. Four credits.*

368. FLUID MECHANICS LABORATORY. A laboratory course designed to exemplify the principles studied in Civil Engineering 367.

Prerequisite: Civil Engineering 367. *One credit.*

369. NONMETALLIC TESTING LABORATORY. A laboratory course affording a study of the physical properties of the nonmetallic materials used in construction, including soils, hydraulic cements, concrete, stone, brick, tile, timber, and bituminous materials.

Prerequisite: Mathematics 252 and Civil Engineering 246. *One credit.*

372. STRENGTH OF MATERIALS. The application of the principles of mathematics and mechanics to engineering problems involving beams, columns, shafts, and other structural units or machine parts. A consideration of the physical properties of the usual materials from which these units and parts are made.

Prerequisite: Mathematics 341. Civil engineering students enroll in Civil Engineering 376. *Three credits.*

374. METALS TESTING LABORATORY. A laboratory course giving an opportunity for the detailed study of the physical properties of the metals generally used in engineering operations.

This course is coordinated with, and supplements Civil Engineering 376.

Prerequisite: Mathematics 341. *One credit.*

376. MECHANICS OF MATERIALS. A more extensive course than Civil Engineering 372.

Prerequisite: Mathematics 341. *Three classroom periods; one laboratory or computation period. Four credits.*

481. FRAMED STRUCTURES. An introductory presentation of the classification and analysis of simple (statically determinate) structural frames. Algebraic and graphical methods are presented. Loadings are fully considered.

Prerequisite: Mathematics 341 and Civil Engineering 376. *Three classroom periods; two drawing room periods. Five credits.*

484. STRUCTURAL DESIGN. Comprehensive and total problems in the structural design of typical engineering structures.

Prerequisite: Civil Engineering 481. *Two classroom periods; two drawing room periods. Four credits.*

485. MECHANICS OF REINFORCED CONCRETE. The design and analysis of structural members and units constructed from reinforced concrete. An introduction to the stress analysis of rigid and continuous frames.

Prerequisite: Civil Engineering 376. *Three classroom periods; one drawing room period. Four credits.*

486. REINFORCED CONCRETE DESIGN. A continuation of Civil Engineering 485 with emphasis upon the total design of typical engineering structures wherein the use of reinforced concrete predominates.

Prerequisite: Civil Engineering 485. *One classroom period; one drawing room period. Two credits.*

487(G). HIGHWAY ENGINEERING. A continued and more detailed study of topics introduced in Civil Engineering 366, with supplementary information abstracted from current Road Builders publications and periodicals. An elective course.

Prerequisite: Civil Engineering 363, 366. *Three credits.*

488. ENGINEERING ECONOMY. The principles of cost comparison and the selection of the most economical arrangement of the component parts of engineering structures.

Prerequisite: Senior standing in engineering. *Two credits.*

489. SANITARY ENGINEERING. The collection, treatment, and distribution of potable water supplies. The Public Health aspects are contemplated.

Prerequisite: Civil Engineering 367. *Three credits.*

490. SANITARY ENGINEERING. The collection, treatment, and disposal of storm and domestic sewage and industrial wastes. The Public Health aspects are contemplated.

Prerequisite: Civil Engineering 489. *Three credits.*

491. CONTRACTS AND SPECIFICATIONS. An elementary presentation of the basic legal and ethical principles of importance to the engineer engaged in preparing specifications and letting contracts for public or private construction.
Prerequisite: Junior standing in engineering. *Two credits.*

492. FOUNDATIONS AND SOIL MECHANICS. An introduction to the principles of soil mechanics and the application of these principles, and the principles of reinforced concrete, to the design and construction of foundations for engineering structures.
Prerequisite: Civil Engineering 376, 485. *Three classroom periods; one laboratory period. Four credits.*

494(G). IRRIGATION ENGINEERING. A study is made of the collection, storage, and distribution of water for irrigation, with emphasis on the engineering aspects of these problems. An elective course.
Prerequisite: Civil Engineering 364, 367, 481, 485. *Three credits.*

510. HYDRAULICS OF OPEN CHANNELS. An advanced study of the flow of water through open channels. An elective course.
Prerequisite: Civil Engineering 367. *Two credits.*

511. HYDRAULIC MACHINERY. The theory, construction, operation, and characteristics of hydraulic turbines, pumps, and other hydraulic machinery. An elective course.
Prerequisite: Civil Engineering 367. *Two credits.*

514. ADVANCED HYDRAULIC PROBLEMS. Offers an opportunity for the superior student to undertake detailed studies in the field of hydraulics not dealt with in other courses. An elective course.
Prerequisite: Civil Engineering 367. *Credit to be arranged.*

520. ADVANCED STRUCTURAL DESIGN. This course affords the interested student an opportunity for more extensive studies in the field of structural design and stress analysis than is possible in previous courses. An elective course.
Prerequisite: Civil Engineering 484, 486. *Three credits.*

521. ADVANCED STRUCTURAL DESIGN. A continuation of Civil Engineering 520 affording the superior student an opportunity for specialized study in the field of structural design and stress analysis. An elective course.
Prerequisite: Civil Engineering 520. *Credit to be arranged.*

524–525. SPECIAL ENGINEERING PROBLEMS. Specialized study in any of the subjects pertaining to civil engineering. The subject matter and credit may be arranged after conference with the staff members and administrative officers concerned. An elective course.

591. GRADUATE RESEARCH OR THESIS. Advanced study in specialized fields and is expected to include the writing of a suitable report or thesis. The subject matter and credit may be

arranged after conference with the staff members and administrative officers concerned.

Economics, Business, and Sociology

Associate Professors JACOBSON, PALMER (Chairman of Department), PLUMLEY; Assistant Professor HOYT; Mr. CLAUNCH, Mr. REED.

Economics

107. ECONOMIC GEOGRAPHY. Resources and industries of the world with special reference to their bearing on geographic specialization and international trade.
Each semester. Two credits. Staff.

164. ECONOMIC HISTORY OF THE UNITED STATES. The economic background of American national development.
Second semester. Two credits.

201–202. PRINCIPLES OF ECONOMICS. An introduction to economic theory. A discussion of economic problems together with economic principles applicable to their solutions.
Prerequisite: Sophomore standing. *Each semester. Three credits each semester.* Staff.

203. SURVEY OF ECONOMICS. A short course in the principles of economic analysis. Not open to students taking fields of concentration in this department.
First semester. Three credits.

301(G). COMPARATIVE ECONOMIC SYSTEMS. An analysis of the economic institutions of capitalism and other economic systems.
Prerequisite: Any introductory course in the social sciences or philosophy. *First semester. Three credits.*

318(G). ECONOMICS OF CONSUMPTION. Economic principles applied to consumption. Living standards, living costs, consumer surveys, evaluation of consumer buying guides, consumer legislation.
Prerequisite: Economics 201-202 or 203. *Second semester. Three credits.*

351(G). PUBLIC FINANCE. Taxation and other public revenues, government expenditures, the growth and significance of public debt; the use of government financial activities in promoting economic stability.
Prerequisite: Economics 201-202. *First semester. Three credits.*

353(G). MONEY AND BANKING. Nature and functions of money; the banking system; and the relationship of money and bank credit to the economy.
Prerequisite: Economics 201-202. *First semester. Three credits.*

354(G). BUSINESS AND PUBLIC POLICY. A study of business organization as it affects the public interest; the regulation of business by government.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

357(G). ECONOMIC THEORY. An advanced course in the problems and techniques of economic analysis. Includes the economic methodology; economic aspects of individual choice; market behavior under competitive and monopolistic conditions; the problem of economic fluctuations.
Prerequisite: Economics 201-202. *First semester. Three credits.*

358(G). INTERNATIONAL TRADE. Theory of international trade. Tariffs and tariff history.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

361(G). STATISTICAL METHODS. Elementary statistical methods as used in business and in the social sciences.
Each semester. Two lectures; one laboratory period. Three credits.

362(G). TRANSPORTATION. The growth and development of transportation in the United States with emphasis on bases of rate structures and regulation.
Prerequisite: Economics 201-202. *Second semester.* (Offered in odd-numbered years.) *Two credits.*

363(G). ECONOMIC HISTORY OF EUROPE. The economic background of European national and international development with emphasis upon the modern period.
Second semester. Two credits.

365(G). LABOR ECONOMICS. A study of the wage earner, his compensation and problems of insecurity together with industrial and governmental solutions.
Prerequisite: Economics 201-202. *First semester. Three credits.*

366(G). SPECIAL LABOR PROBLEMS. Employer-employee relationships, unemployment compensation.
Prerequisite: Economics 365. *Second semester. Three credits.*

373(G). BUSINESS CYCLES. Analysis of factors involved in business fluctuations. Examination of the various theories of the causes for recurring periods of business prosperity, crises, and depression; and proposed methods of controlling the cycle. Discussion of current problems.
Prerequisite: Economics 201-202. *First semester. Three credits.*

491(G). EARLY ECONOMIC THOUGHT. (Same as Sociology 491.) Development of economic and social ideas to the period of the English and French Enlightenment.
Prerequisite: Economics 201-202. *First semester. Three credits.*

492(G). HISTORY OF ECONOMIC THOUGHT. Development of

economic ideas from the time of Adam Smith to the present day.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

498(G). SEMINAR IN SOCIAL ORGANIZATION. (Same as Sociology 498.) An analysis of inter-related topics in economic and social behavior. Choice of semester topic to be determined by student interest and need.
Prerequisite: Senior standing in economics or sociology, or consent of instructor. *Second semester. Two credits.*

Business Administration

241. FUNDAMENTALS OF BUSINESS ORGANIZATION. An introductory survey of problems and methods of business administration.
Prerequisite: Sophomore standing. *Each semester. Three credits.*

243–244. ELEMENTARY ACCOUNTING. Accounting cycle, journalizing, posting, adjustments, statements, closing; proprietorships, partnerships, and corporations.
Prerequisite: Sophomore standing. *Two lectures; one laboratory period. Three credits each semester.*

355(G)–356(G). ADVANCED ACCOUNTING. Study of the theory of accounting and its application to the valuation and statement presentation of assets, liabilities, net worth, income, and expense accounts of business enterprises in operation and dissolution. Consolidated balance sheets.
Prerequisite: Business Administration 243-244. *Three credits each semester.*

365(G). CORPORATION FINANCE. Problems of corporate formation, financing, and operation; failure and reorganization.
First semester. Three credits.

366(G). INDUSTRIAL MANAGEMENT. Internal organization and control of different forms of business enterprises.
Second semester. Three credits.

367(G). PERSONNEL MANAGEMENT. Selection, placement, and efficiency of personnel. Employer-employee relationships.
First semester. Three credits.

368(G). MARKETING. A study of distribution methods and costs together with advertising and sales promotion methods.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

369(G). PRINCIPLES OF INSURANCE. Nature of risks and uncertainty, the insurance mechanism, legal problems, various types of contracts, purchase of insurance by the individual.
Prerequisite: Economics 201-202. *Second semester.* (Offered in even-numbered years.) *Two credits.*

370(G). INVESTMENTS. Selection, appraisal, and shifting of capital investments.
Prerequisite: Business Administration 365, Economics 201-202. *Second semester. Three credits.*

371(G). MERCHANDISING. Operation of retail stores treating specifically store organization, lay-out, and principles of salesmanship and customer service.
First semester. Two credits.

373~~-378~~(G). BUSINESS LAW. A comprehensive study of the forms and procedure with respect to law of contracts, negotiable instruments and general commercial practice.
First semester. Three credits.

374(G). ADVANCED BUSINESS LAW. An advanced course in business law for those who are specializing in a preparation for business.
Prerequisite: Business Administration 373. *Second semester. Three credits.*

385(G)–386(G). COST ACCOUNTING. First part is a study of labor, materials, overhead, job order costing, process costing, and flexible budgets. Second part is on standard costs for manufacturing.
Prerequisite: Business Administration 243-244. *Three credits each semester.*

387(G). FEDERAL TAX ACCOUNTING. Emphasis is laid on the current law and the preparation of income tax returns for individuals, partnerships, corporations, estates, and trusts.
Prerequisite: Business Administration 243-244. *First semester. Two credits.*

388(G). FEDERAL TAX ACCOUNTING. A continuation of Business Administration 387.
Prerequisite: Business Administration 243-244. *Second semester. Two credits.*

390(G). BUSINESS RESEARCH. (Same as Sociology 390.) Theory and technique of research in the social sciences with application to business problems.
Second semester. Three credits.

492(G). AUDITING. The principles and practice of auditing. Practice problems.
Prerequisite: Business Administration 243-244. *Second semester. Three credits.* Staff.

494(G). SEMINAR IN ACCOUNTING. Primarily for students specializing in accounting. Content to fit individual needs.
Prerequisite: Consent of instructor. Given upon sufficient demand. *Three credits.*

Secretarial Science

101–102. TYPEWRITING. Touch typing. Rhythm drills; dictation exercises; arrangement of business letters. Students with one year of high school typing may not take Secretarial Science 101 for credit. Students may enter Secretarial Science 102 who have had one semester of typing, or a thorough knowledge of keyboard. Credit allowed only upon attainment of prescribed production requirements.
Two credits each semester. Staff.

111–112. STENOGRAPHY. Gregg Shorthand. Students must also take Secretarial Science 101–102, unless they have had equivalent training. Students with no experience in shorthand enroll for Secretarial Science 111; students with one semester of shorthand enroll for Secretarial Science 112.
Two credits each semester. Staff.

211–212. ADVANCED STENOGRAPHY. Speed and accuracy development in Gregg Shorthand. Study of stenographic duties and techniques essential for business employment.
Prerequisite: Secretarial Science 111–112. *Two credits each semester.* Staff.

Sociology

201. PRINCIPLES OF SOCIOLOGY. Sociological principles underlying the development, structure and function of culture, society, human groups, personality formation and social change.
Prerequisite: Sophomore standing. *Each semester. Three credits.*

202. SOCIAL DISORGANIZATION. The processes of social disorganization and the resulting major problems with proposed solutions.
Prerequisite: Sophomore standing. *Second semester. Three credits.*

350(G). HUMAN ECOLOGY. Sociological processes underlying urban and rural life, ecological processes in urban and rural growth and contemporary relationships between urban and rural areas.
Prerequisite: Sociology 201. *Second semester. Three credits.*

352(G). JUVENILE DELINQUENCY. Causes, conditions and prevention of juvenile crime.
Second semester. Two credits.

357(G). CULTURAL ANTHROPOLOGY. Primitive cultures as a basis for modern social organization.
First semester. Two credits.

370(G). SOCIAL CONTROL. The social processes providing control of behavior.
Second semester. Three credits.

371(G). SOCIAL ORGANIZATION. The structure, forms, functions and development of major social groups and institutions.
First semester. Three credits.

375(G). RESEARCH ORIENTATION. An introduction to the scope and methods of sociology as a science, with emphasis upon the philosophy of science and the limitations of existing methodological techniques and practices. Basic assumptions, theories, and methods of current research articles will be examined.
Prerequisite: Elementary sociology or consent of instructor. *First semester. Three credits.*

379(G). MINORITY PROBLEMS. Conditions arising from the presence of racial, cultural and other minorities within the population and the accompanying problems.
First semester. Two credits.

380(G). THE FAMILY. Forms and functions of the family as a social institution. Emphasis on present trends.
Second semester. Two credits.

381(G). PUBLIC WELFARE. Emphasis on welfare of children.
First semester. Two credits.

383(G). POPULATION. The social and economic significance of numbers and quality of population. Migration.
First semester. Two credits.

386(G). METHODS OF SOCIAL WORK. Principles and methods in applied sociology.
Prerequisite: Sociology 201 and 202. *Second semester. Two credits.*

390(G). SOCIAL RESEARCH. (Same as Business Administration 390.) Theory and technique of research in the social sciences.
Second semester. Three credits.

491(G). HISTORY OF SOCIAL THOUGHT. (Same as Economics 491.) Development of social and economic thought from prehistoric times to the period of the English and French Enlightenment.
Prerequisite: Sociology 201. *First semester. Three credits.*

492(G). CONTEMPORARY SOCIAL THEORY. Development of social theory from the Enlightenment to the present day. Emphasis on recent developments in theory.
Prerequisite: Sociology 201. *Second semester. Three credits.*

498(G). SEMINAR IN SOCIAL ORGANIZATION. (Same as Economics 498.)
Second semester. Two credits.

Education

Professors BROWN, HOLSTINE (Chairman of Department), IRWIN, TITUS: Associate Professors CARROLL, RUSSELL, SCRANTON; Assistant Professors BAKER, HICKMAN, LANGFORD, MEAD, NEWBRY, H. RICHARDSON, YATES; Lecturers CARLSON and others; Mr. BRADSHAW; Assistants in Reno and Sparks affiliated schools.

Note to Students and Advisers: Enrollment in all *Foundations for Teaching* courses must be made with the approval of the Dean of the College of Education. For further details, see the section of this catalogue entitled *College of Education.*

General Education

101. (New) ORIENTATION TO PROFESSIONAL EDUCATION. Required of all freshman students in the College of Education; the qualifications, job opportunities, supply and demand, tenure, salaries, responsibilities, prestige, community responsibilities, code of ethics, and other pertinent information used by teachers; staff will participate.
One credit. Mead.

111. PRINCIPLES OF ELEMENTARY EDUCATION. A discussion of objectives, curricular organization, and recommended procedures in the good elementary school and the problems and suggestions for improved instruction by the elementary school teacher.
Two credits. Mead.

190. STATE SCHOOL ORGANIZATION AND SCHOOL LAW. Principles of good state school organization, study of the School Code of Nevada, and practical applications of basic principles of school law in Nevada. This course is designed to meet all certification requirements concerning School Law for Nevada.
Two credits. Brown.

201. (190) INTRODUCTION TO EDUCATION: SCHOOL LAW, ORGANIZATION, AND SOCIAL FOUNDATIONS. A general introductory course treating the social and cultural background of educational development in Nevada and the United States. Includes selected elements of history and philosophy of education. Meets Nevada State Board of Education requirements for certification.
Three credits. Brown.

221. EDUCATIONAL PSYCHOLOGY. (Same as Psychology 221.) Applications of psychology to such educational problems as learning in general, discipline, development of desirable social, emotional, intellectual, aesthetic, moral and other traits, principles and practices of certain educational and psychological tests and measurements.
Prerequisite: Psychology 201. *Three credits.* Irwin.

302(G). Book Selection for Children. This course is designed to prepare teacher-librarians and administrators to evaluate and select books and other library materials for children in the elementary and junior high grades. The course deals with children's reading interests, book selection, use of books, and other related materials as sources of learning.
Three credits. Staff.

303(G). Reference Material Selections for Children. This course has been arranged as Part II of General Education 302 and deals primarily with reference materials for children in the grades listed.
Two credits. Staff.

304(G). Book Selection for Young People. The purpose of this course is to prepare teacher-librarians and administrators for the evaluation and selection of books and other library materials for pupils in the high school age groups. Reading interests of the adolescent and young adult, book selection for high schools, utilization of books in the high school are among selected units.
Three credits. Staff.

305(G). Reference Materials for Adolescents. This course has been arranged as Part II of General Education 304 and deals primarily with reference materials for adolescents in the high school age groups and in high school libraries.
Two credits. Staff.

306(G). Organization and Classification of Library Materials. The course includes classification and cataloguing of library materials, utilization of printed catalogue cards, subject headings for pamphlet files, etc.
Two credits. Staff.

308(G). (S362) Workshop in School Library Problems. Specific problems pertaining to the administration and operation of a school library are discussed primarily from the point of view of the teacher-librarian. Students who have credit in Education S362, or equivalent, may repeat this course once as 308a.
Two credits. Staff.

401(G). (345, 348) Audio-Visual Methods in Teaching. Designed for both elementary and secondary students; a study of the operation and use of machines used in audio-visual education; and such laboratory work as making lantern slides, flannel boards, strip films, models, mockups, posters, and other teaching materials.
Two hours instruction; one hour laboratory. Three credits. Mead.

402(G). Administration of the School Library. This course includes the functions of the school library, relationship and

responsibility of the library to the school's total instructional program, preparation of the library budget, problems of purchasing, planning library facilities, giving library instruction, and use of assistants in the library.

Prerequisite: General Education 302 and 303 or 304 and 305, plus 306 or equivalent, or permission of instructor. *Four credits.* Staff.

407(G). Supervised Library Practice. This course provides opportunities for supervised library practice under the direction of a professionally trained librarian in a specific school situation.

Prerequisite: General Education 302 and 303 or 304 and 305, plus 306 or equivalent, or permission of instructor. *Four credits.* Staff.

417. (New) Professional Problems in Supervised Teaching. Required of all student teachers during the last semester of supervised teaching. This course is designed to orient beginning teachers to specific problems and standards of the teaching profession. Superintendents, principals, experienced classroom teachers, patrons, parents, pupils, and fellow student teachers will contribute to the discussion and demonstrations.

One credit. Holstine.

458(G). (New) Advanced Supervised Teaching. Designed for the student who desires further teaching experience under supervision.

Prerequisite: Elementary Education 427 or Secondary Education 457, and permission of Dean and adviser. *One to four credits.* Staff.

500. (New) Introduction to Graduate Study. This is a beginning course available for all graduate students majoring in education. First, students are introduced to the nature and responsibilities of advanced professional study. Second, they are made familiar with all the essential library materials and techniques which they shall need. Third, they are given considerable experience in locating and defining problems, doing the research, and writing up conclusions and recommendations. And, finally, students are given individual help in planning a long-term program of professional development.

Two credits. Langford.

501. (351) History of Education. General course. The development of educational thought and practice viewed as a phase of social progress.

Two credits. Brown.

502. (352) History of Education in the United States. A study of factors and conditions which have been influential in the shaping of educational thought, ideals, theories, and practices of current American education.

Two credits. Brown.

506. (New) AUDIO-VISUAL MATERIALS AND EQUIPMENT IN EDUCATION. Designed for both elementary and secondary education students; stress on application of audio-visual materials to subject areas. A study of the functions of audio-visual education, showing advantages, limitations, practical uses of sensory materials and equipment. Operational training provided.
Two credits. Mead.

507. (New) ADMINISTRATION OF THE INSTRUCTIONAL MATERIALS CENTER. An advanced graduate course designed to assist the faculty member in performing more efficiently the duties of the administrator of the audio-visual educational program, including such factors as survey, utilization, selection, preparation, production, and evaluation of audio-visual and other instructional materials: an analysis of the functions of the audio-visual materials program.
Prerequisite: General Education 506, or equivalent. *Two credits.* Holstine and Mead.

508. (New) PRODUCTION OF AUDIO-VISUAL MATERIALS. Designed to teach the student to produce certain types of educational materials, such as motion picture films, filmstrips, photographs, plastic materials, metal or wood devices, charts, pictorial publications, etc.
Prerequisite: General Education 401 or 506, or equivalent. *Two credits.* Staff.

510. (New) PHILOSOPHIES OF EDUCATION. An analysis of various philosophies of education in public, private, and parochial school systems.
Two credits. Brown.

511. (New) COMPARATIVE EDUCATION. A comparative study of national ideologies, philosophies, and systems of education in North and South America, Europe, and Japan.
Two credits. Brown.

512. (388) EDUCATIONAL TESTS AND EVALUATION. Study and discussion of modern testing, marking, reporting, and analysis procedures; with special stress placed upon the building of a testing program suited to individual schools.
Two credits. Staff.

513. (New) METHODS OF EDUCATIONAL RESEARCH. A course designed to provide a knowledge of the technique of instituting, carrying on, and reporting educational research; of value to students interested in scientific research in education.
Two credits. Staff.

515. (New) FUNDAMENTALS OF AVIATION EDUCATION. Designed

to prepare instructors for teaching in the high school air patrol cadet programs and/or the elementary teachers who wish to construct units for grades 1–8. Deals with the general science of aviation and the theory of flight, meteorology, navigation, air force, and commercial aviation, and basic demonstrations.
Two credits. Newbry.

516. (369) THE EDUCATION OF THE HANDICAPPED. Problems of teaching mentally retarded children and youth, the physically handicapped and the socially maladjusted. Basic course.
Two credits. Staff.

517. (New) PROBLEMS OF THE EDUCATION OF THE PHYSICALLY HANDICAPPED. Deals specifically with certain problems of the physically handicapped child, youth, and adult, crippled, hard of hearing, partially sighted, cardiacs, etc. The course will be adjusted to treat specific problems presented by the students.
Prerequisite: Permission of instructor. *Two credits.* Staff.

518. PROBLEMS OF THE EDUCATION OF THE MENTALLY RETARDED. Discusses nature and courses of retardation; physiological and psychological characteristics; observation in classrooms, visits to clinical facilities; demonstrations; studies of selected cases and problems.
Two credits. Staff.

519. (New) PROBLEMS IN THE EDUCATION OF THE GIFTED. Designed for the purpose of developing stimulating environments and procedures for the maximum development of the gifted or superior child, youth, or adult. Course is based on specific cases with demonstrations provided.
Two credits. Staff.

597. THESIS. (General Education.) See the Dean of the College of Education for details concerning procedure.
Credit to be arranged. Staff.

Elementary Education

233. CHILD PSYCHOLOGY. (Same as Psychology 233.) The development of behavior patterns in the normal child from conception to twelve years of age. Some consideration is given to the elimination of undesirable personality traits.
Prerequisite: Psychology 201. *Two credits.* Hiler.

320(G). (363) HUMAN GROWTH AND DEVELOPMENT. A study of the physical, mental, social, and emotional development from birth through adolescence with particular emphasis on the relationship between growth factors and achievement. Students may be expected to participate in an observation program.
Two or three credits. Langford.

322(G). (131) ARITHMETIC IN THE ELEMENTARY SCHOOL. Methods of teaching arithmetic; diagnostic and remedial treatment of pupil difficulties; readiness; objectives of arithmetic; recent trends.
Two or three credits. Mead.

323. (134, 135, 136) THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. A study of the language needs of children and the nature of the reading process, writing, speaking, and listening as revealed by recent research and modern practices with emphasis placed upon building a sound developmental program.
Three or five credits. Staff.

324. (149) THE TEACHING OF MUSIC IN THE ELEMENTARY SCHOOL. (Same as Music 324.) This course is designed for elementary teachers who teach their own music. Methods of presenting *rote* songs to primary grades and *note reading* to the intermediate grades will be practiced. The course includes a varied repertoire of songs and singing games, listening to music for rhythmic expression or creative effort, the use of rhythm instruments, practice in conducting and sight singing.
Prerequisite: Music 101, 107, and 113; or equivalent. Open to juniors and seniors. Open to sophomores by consent of instructor and Dean of Education. *First semester. Three credits.* Hickman.

325(G). (138) THE TEACHING OF ELEMENTARY SCIENCE. A course designed to give elementary teachers a working concept of the fundamental principles involved in teaching children science; demonstrations; experiments; projects; evaluation of curricula materials; directed observations.
Two or three credits. Mead.

326. THE TEACHING OF ART IN THE ELEMENTARY SCHOOL. (Same as Art 326.) Techniques of handling art media—finger paint, clay, easel paint, chalk, water color, etc. Planned especially for students preparing to teach in the elementary schools.
Prerequisite: Art 101 or equivalent. *Two credits.* Staff.

334(G). (117, 333) KINDERGARTEN EDUCATION. This course is designed to acquaint the student with the practical problem of organizing the kindergarten programs. Special emphasis is given to organization, methods, materials and the developmental aspects of learning. Includes observation in the public schools.
Two credits. Baker.

336(G). ORGANIZATION AND MANAGEMENT OF RURAL SCHOOLS. Problems adapted to small rural schools, including such topics as beautification of buildings and grounds, school health, classroom organization and control, grading and promotion of pupils.

the daily program, records and reports. Suggested for all students preparing for rural teaching.
Two credits. Staff.

424(G). (130) TEACHING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. The nature of social growth of children in a democratic culture. Instructional materials are arranged and developed around the developmental patterns of growth. Much time is devoted to the actual development of instructional materials used at the various grade levels.
Three credits. Langford.

426(G). (111) PRINCIPLES OF THE ELEMENTARY SCHOOL CURRICULUM. A knowledge of the organization and sequence of purposeful experiences in the elementary school curriculum as determined by the developmental tasks of children and the basic needs and values of our society.
Two or three credits. Baker.

427. (320, 321, 323) SUPERVISED TEACHING IN THE ELEMENTARY GRADES. This course provides supervised teaching in actual classroom situations. Directed observations, planning of teaching units, classroom management, supervised teaching, participation and direction of school activities, individual and group conferences, and other factors related to effective teaching are presented.
Prerequisite: Foundations for Teaching I, II, and III completed, and IVa completed or in progress, or equivalent. *Four to eight credits.* Staff.
Application for supervised teaching should be made through the Office of the Dean of the College of Education *three months prior* to the expected enrollment in the course. Early advisement is desirable.

432(G). (New) METHODS OF TEACHING CHILDREN'S LITERATURE. Children's stories and poetry as a background to literature with practical guidance in selection and teaching dramatizations and simple puppetry.
Two credits. Staff.

433(G). THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. This course is arranged for those students who need additional work in language arts and who have had teaching experience.
Prerequisite: Permission of instructor. *Two or three credits.* Staff.

434(G). READING IN THE ELEMENTARY SCHOOL. This course is arranged for those students who need additional work in reading methods and who have had teaching experience.
Prerequisite: Permission of instructor. *Two or three credits.* Staff.

520. (New) PROBLEMS IN CHILD DEVELOPMENT. Advanced problems are discussed as they are related to child development in the elementary school.
One or two credits. Langford.

522. (New) PROBLEMS IN TEACHING OF ARITHMETIC AND SCIENCE. Advanced study of the teaching procedures in elementary

arithmetic and science with consideration of defining and implementing objectives, selection of curriculum materials, developing basic skills, and preparing teacher-resource material. Research problems may be studied and prepared in this course.
Two or three credits. Mead.

523. (New) PROBLEMS OF TEACHING THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. An advanced study of teaching procedures used in developing skills in oral and written communication in the elementary school and an analysis of diagnostic, corrective, and remedial techniques.
Two or three credits. Baker.

524. (New) PROBLEMS OF TEACHING SOCIAL STUDIES. Advanced study of teaching procedures in elementary social studies with consideration of defining and implementing objectives, selection of curriculum materials, developing basic skills, and preparing teacher-resource material. Individual and group research problems may be approached in this course.
Two or three credits. Langford.

525. (369) TEACHING THE EXCEPTIONAL CHILD. The problems of teaching retarded, gifted, and the physically handicapped child with emphasis on psychology, methods, and evaluation.
Two or three credits. Langford.

527. (New) ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL. A consideration of general organization, curriculum organization, qualifications of teachers and principals, records, supplies, plant, and curricula materials.
Two credits. Mead.

528. (New) INDIVIDUAL RESEARCH IN ELEMENTARY EDUCATION. Designed for students who have completed basic courses in elementary education.
One to four credits. Staff.

529. (New) SEMINAR IN ELEMENTARY EDUCATION. Includes problems of organization, administration, curriculum, methodology, evaluation, public relations, and other basic areas of elementary education. A review of research procedures is followed by the selection of a problem to be studied in considerable detail. A master's thesis may be started in this course.
Prerequisite: Basic courses in elementary education. *One to four credits.* Staff.

537. (New) SUPERVISION OF ELEMENTARY SCHOOL INSTRUCTION. Considers the various problems of supervision of elementary instruction including human relations, methods and techniques, materials, objectives, and child development. The roles of the teacher, principal, and supervisor are thoroughly analyzed.
Two credits. Langford.

597. THESIS. (Elementary Education.) See the Dean of the College of Education for details concerning procedure.
Credit to be arranged. Staff.

Secondary Education

231. PSYCHOLOGY OF ADOLESCENCE. (Same as Psychology 231.) An intensive study of the characteristics dominant in the adolescent, with special emphasis upon applications to the work of the high school teacher.
Prerequisite: Psychology 201 and Foundations for Teaching I. *Two credits.* Richardson.

250. (New) PRINCIPLES OF SECONDARY EDUCATION. A study of the place secondary education has in our society. The function of the teacher in the secondary school in such matters as public relations, curriculum study, extracurricula activities, pupil personnel and evaluation.
Prerequisite: Foundations for Teaching I. *Three credits.* Newbry.

340(G). AN INTRODUCTION TO GUIDANCE AND COUNSELING. An introduction to the principles, procedures, and techniques of guidance and counseling. A study of source information, cumulative record, educational and vocational guidance, interest, and aptitudes.
Prerequisite: Foundations for Teaching I and II; and Psychology 221 or 231, or General Education 221 or Secondary Education 231. *Three credits.* Carlson.

341. (New) GENERAL PRINCIPLES, MATERIALS, AND METHODS OF SECONDARY EDUCATION. Designed as basic orientation and preparation for student teaching. Required as a prerequisite for admission to student teaching.
Prerequisite: Foundations for Teaching I, II, and III, or equivalent. *Three credits.* Newbry.

Arrangements for taking Education 342–360, courses dealing with special methods, materials, techniques, and directed observations in the teaching field selected must be made through the Office of the Dean of the College of Education.

Prerequisites for these courses are Foundations for Teaching I, II, III, and IVb, or equivalent, and the completion of at least one-half of the major teaching field requirements.

342(G). (330) METHODS AND MATERIALS IN TEACHING SOCIAL STUDIES.
Two or three credits. Brown.

343(G). (335) METHODS AND MATERIALS IN TEACHING ENGLISH.
Two or three credits. Newbry.

344(G). (338) METHODS AND MATERIALS IN TEACHING SCIENCE.
Two or three credits. Mead.

345(G). (331) METHODS AND MATERIALS IN TEACHING MATHEMATICS.
Two or three credits. Bradshaw.

346. METHODS AND MATERIALS IN TEACHING ART IN THE SECONDARY SCHOOL. (Same as Art 346.) Techniques in the handling of a variety of art media; drawing, design, commercial art, and group projects. Planned especially for students preparing to teach in the secondary schools.
Prerequisite: Art 101 or equivalent. *Two credits.* Staff.

352. (339, 340) METHODS AND MATERIALS IN TEACHING BUSINESS EDUCATION. The curriculum, methods of teaching, objectives, standards, and grading, in the teaching of bookkeeping, general clerical practice, and consumer education, typewriting, shorthand, office practice.
Two credits. Staff.

353(G). (341) METHODS AND MATERIALS IN TEACHING HEALTH AND PHYSICAL EDUCATION FOR MEN. (Same as Physical Education 353.) This is a study of the methods of teaching physical education with special emphasis on physical education activities, practice in conducting skill procedures using class and squad organization, and in planning of lessons for both health and physical activity classes.
First semester. Two credits. Scranton.

354(G). (347) ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION FOR WOMEN. (Same as Physical Education 354.) Objectives, methods and general principles including, first, a discussion of the biological, physiological, psychological, and sociological principles underlying those objectives, and second, a study of acceptable methods of administering a physical education program to achieve these objectives.
Prerequisite: Physical Education 180. *First semester.* (Offered in alternate years beginning in 1954–1955.) *Two credits.* Russell.

355. (349) METHODS AND MATERIALS IN TEACHING SECONDARY INSTRUMENTAL AND VOCAL MUSIC. (Same as Music 355.) Practical work in conducting vocal and instrumental groups. Practice given to sight-singing and score reading. Study given to the organizing of public school bands and choruses. This course is designed to follow Music 324 and acquaint students of music and prospective teachers with techniques and problems pertaining to junior and senior high school curricula.
Prerequisite: Music 101–102, active participation in band or chorus, or permission of the instructor. *Second semester. Two credits.* Hickman.

357. METHODS AND MATERIALS IN TEACHING FOREIGN LANGUAGES.
Two credits. Staff.

444. METHODS AND MATERIALS OF TEACHING FARM MECHANICS. (Same as Agricultural Mechanics 444.) A course designed for students preparing to meet the qualifications for agriculture and farm mechanics instructors in high schools. The organization and administration of a farm mechanics course, including objectives, course content, lesson planning, and teaching methods.
Second semester. Two credits. Titus.

446(G). PROBLEMS IN AGRICULTURAL EDUCATION. Selecting the subject matter for high school courses in agriculture and for farmers' 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 for the vocational agriculture certificate.
Second semester. Two credits. Staff.

447. METHODS IN TEACHING VOCATIONAL AGRICULTURE. Principles and techniques in course construction for all-day, young farmer, and adult farmer classes in vocational agriculture; preparation of teaching plans and job analysis; methods of conducting supervised farm training, including selection of the long-time program, aims and objectives, budgeting, preparation of job plans, keeping farm records and accounts, enterprise analysis and teachers' responsibility in supervision. Open to seniors who are preparing to meet the requirements for a high school vocational teaching certificate.
Second semester. Three credits. Staff.

448(G). PROBLEMS OF HOMEMAKING EDUCATION. Curricula, methods of teacher, and of making home contacts. 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 for vocational home economics certificate.
Second semester. Three credits. Staff.

449. METHODS AND MATERIALS IN TEACHING HOMEMAKING. Analysis of objectives, content, and experience for a comprehensive program of education for home living in secondary schools to include the following: Provision for food for the family; selection, care and construction of clothing; care and guidance of children; selection, furnishing and care of house; selection and use of home equipment; maintenance of help; home care of the sick; consumer-buying; management of all materials and human resources available to the home; maintenance of satisfactory family relationships; application of the arts and sciences to the home.
Second semester. Three credits. Staff.

456(G). (482) NONINSTRUCTIONAL RESPONSIBILITIES OF THE HIGH SCHOOL TEACHER. A study of those responsibilities which

lie outside the teacher's instructional field. Emphasis will be placed on growth and advancement in the profession, ethical responsibilities, satisfactory administration and professional relations, and extra-class activity responsibilities. To be taken in the senior year.

Second semester. Two credits. Newbry.

457. (420) SUPERVISED TEACHING IN THE SECONDARY SCHOOL. (MAJOR AND/OR MINOR TEACHING FIELD. This applies to all junior and senior high school teaching fields.) Student teaching provides opportunities, in the senior year, for actual teaching in a specific class situation. The course includes directed observation, planning of teaching units, classroom management, supervised teaching, participation and direction of school activities, individual and group conferences, and other factors related to effective teaching.

Prerequisite: Foundations for Teaching I, II, and III completed, and IVb completed or in progress, or equivalent. *One to six credits.* Arrangements are made by the Supervisor of Student Teaching.

Application for student teaching must be made through the Office of the Dean of the College of Education at least *three months prior* to the semester in which student teaching is to be done.

540. (New) EDUCATIONAL GUIDANCE. Organization, administration, and development of guidance services in the school system.

Two credits. Carlson and Newbry.

541. (New) INTEGRATED STUDIES FOR THE SECONDARY SCHOOL. Describes and discusses elements of the integrated studies approach to the organization and administration of the secondary school curriculum.

Two credits. Staff.

542. (New) OCCUPATIONAL AND VOCATIONAL INFORMATION. This course presents basic occupational and vocational facts for the educational counselor or guidance supervisor; describes procedures for organizing and presenting information in schools.

Prerequisite: Secondary Education 540, or equivalent. *Two credits.* Carlson.

546. (410) SECONDARY EDUCATION CURRICULUM. Study and discussion or the development, experimentation, and improvement of curriculum practices, with special stress upon working out procedures that seem to be suited to this area.

Two credits. Newbry.

547. (New) SECONDARY EDUCATION SUPERVISION. Study and discussion of the democratic and scientific ways and means of improving the effectiveness of secondary schools through democratic leadership and cooperation.

Two credits. Staff.

557. (New) SECONDARY EDUCATION ORGANIZATION AND ADMINISTRATION. Study and discussion of the organization and administration of business duties, staff management, student control and welfare, scheduling, public relations, curriculum, instruction, guidance, plant, and library.
Two credits. Staff.

558. (New) INDIVIDUAL RESEARCH IN SECONDARY EDUCATION. Designed for students who have completed basic courses in secondary education. Selected basic problem or problems related to the field of secondary education.
One to four credits. Staff.

559. (New) SEMINAR IN SECONDARY EDUCATION. Designed for students who have completed basic courses in secondary education.
One to four credits. Staff.

597. THESIS. (Secondary Education.) See the Dean of the College of Education for details concerning procedure.
Credit to be arranged. Staff.

School Administration and Supervision

570. (New) BASIC PRINCIPLES OF EDUCATIONAL ADMINISTRATION. This is a foundational course for graduate students interested in school administration and supervision, treating problems related to public education as a function of government, school district organization, school board control, administrator and teacher relationships, provision for organizational and facilitating services, and school-public relations, problems of budget, equipment, and staff will be discussed with practical solutions.
Three credits. Holstine.

573. (New) SCHOOL FINANCE. An advanced service for graduate majors and minors in school administration: business and supply management, school bonds, financial budgeting and accounting, inequalities in the financial ability and effort of school districts, control of income and defensible expenditures.
Two credits. Brown.

575. (New) THE EDUCATIONAL PLANT. Problems, readings, and field studies related to the adequacy of school buildings and grounds; planning, construction, and maintenance of the school plant; equipment; choice of architects; current plant surveys; and community surveys to determine plant needs.
Two credits. Holstine.

577. (New) PRINCIPLES AND PRACTICES IN SCHOOL LAW. This course presents the legal factors and principles for the basis of public education; the legal character of the public school corporation; the legal authority delegated to school boards, administrators, and teachers; and the legal aspects of child-school

relationships. Application is made specifically to school legislation in Nevada.

Two credits. Brown.

579. (New) PUBLIC RELATIONS FOR SCHOOLS. This is a course in systematic public relations principles and practices designed to help school personnel to work effectively with citizens in developing improved educational programs.

Two credits. Holstine.

583. (New) ADMINISTRATION OF PUPIL PERSONNEL PROGRAMS. The course presents factors pertaining to the responsibility for approved policies and practices dealing with pupil personnel, legal and regulatory procedures, school-home relations, making and utilizing pupil records in school systems, etc.

Prerequisite: Secondary Education 540. *Two credits.* Carlson.

588. (New) INDIVIDUAL RESEARCH IN SCHOOL ADMINISTRATION. Deals with the individual student's selected problem or problems related to the field of school administration.

Prerequisite: Permission of instructor. One to four credits. Staff.

589. (New) SEMINAR IN SCHOOL ADMINISTRATION. Deals with basic problems in the field of school administration on an advanced level.

Prerequisite: Permission of instructor. One to four credits. Staff.

597. THESIS. (School Administration and/or Supervision.) See the Dean of the College of Education for details concerning procedure.

Credit to be arranged. Staff.

Teacher Education

590. (New) SUPERVISION OF STUDENT TEACHING. Designed primarily for those public school teachers who are functioning as cooperating teachers in the student teaching program. Consideration of the place student teaching has in the teacher education program and of the methods, materials, and techniques required in working with student teachers. There will be development of materials to be used by teachers and students.

One or two credits. Newbry.

591. (590) SUPERVISION IN HOME ECONOMICS. Intended for supervisers of student teaching in home economics. Analysis of objectives, techniques, and experiences which promote student-teacher growth.

First semester. Two or three credits. Staff.

592. (New) THE JUNIOR AND COMMUNITY COLLEGE. Presents the principles, policies, and procedures for organizing and administering the junior and community college.

Two credits. Staff.

595. (New) PRESERVICE TEACHING IN TEACHER EDUCATION. Designed specifically for supervisors and directors of student teaching in colleges and cooperating schools: functions of student teaching, supervision of student teaching, provision for preservice laboratory teaching experiences, organization of teaching units, professional files, seminars in professional problems, etc.
Two credits. Holstine.

596. (New) CONTINUING EDUCATION FOR ADULTS. This course presents the general problems, principles, and procedures for adult education. Development of community adult leadership is also discussed.
Two credits. Staff.

597. THESIS. (Teacher Education.) See the Dean of the College of Education for details concerning procedure.
Credit to be arranged. Staff.

598. INDIVIDUAL RESEARCH IN TEACHER EDUCATION. Deals with selected basic problems related to the teacher education phases of higher education.
One to four credits. Staff.

599. (New) SEMINAR IN SUPERVISION IN TEACHER EDUCATION. This course will meet in regular schedule and includes problems of organization, administration, curriculum, methodology, evaluation, public relations, and other basic areas of higher education. Designed primarily for students interested in professional work in colleges and universities.
One to four credits. Staff.

Electrical Engineering

Professors PALMER (Chairman of Department), SANDORF; Associate Professor GARROTT.

231–232. ELECTRICAL ENGINEERING LABORATORY. This course offers the electrical engineering student an opportunity to undertake a project in his chosen field. The nature and scope depend upon background of student.
Open to freshmen and sophomores. *One or two credits each semester.*

251. ELECTRICAL ENGINEERING PROBLEMS. The course includes elementary electrical calculations and measurements, nomenclature, symbols, circuit diagrams, technical literature, electrical safety, and sources of electrical energy.
Prerequisite: Mathematics 151-152. *First semester. Lectures and laboratory. Two credits.*

323. ELEMENTS OF ELECTRICAL ENGINEERING. An elementary course in electric circuits, machinery, electronics, and measurements. Includes lectures and demonstrations. Intended par-

ticularly for students not taking electrical or mechanical engineering.

First semester. Two credits.

351. DIRECT CURRENT MACHINERY. A course for electrical and mechanical engineering students on the theory, characteristics, construction, and operation of direct current machines and circuits.

Prerequisite: Physics 204, Mathematics 252. *First semester. Three credits.*

352. ALTERNATING CURRENT MACHINERY. A continuation of Electrical Engineering 351 covering a similar study of alternating current machines and circuits.

Prerequisite: Electrical Engineering 351. *Second semester. Three credits.*

353. DIRECT CURRENT MACHINERY LABORATORY. This course is normally accompanied or preceded by Electrical Engineering 351 and has same prerequisite.

First semester. Two credits.

354. ALTERNATING CURRENT MACHINERY LABORATORY. This course is normally accompanied or preceded by Electrical Engineering 352.

Second semester. Two credits.

355. INTRODUCTION TO ELECTRIC CIRCUITS. The study of elementary electric and magnetic circuits and fields, steady state and transient response to alternating current and direct current of simple circuits.

Prerequisite: Physics 204, preceded or accompanied by Mathematics 351. *First semester. Two credits.*

356. ALTERNATING CURRENT CIRCUITS. A continuation of Electrical Engineering 355, including a study of series and parallel alternating current circuits, coupled circuits, and transmission lines. Complex quantities and vector notation are employed.

Prerequisite: Electrical Engineering 355, Mathematics 351. *Second semester. Two credits.*

367. ELECTRICAL ILLUMINATION. A study of the principles and practice of electrical illumination.

Prerequisite: College physics. *First semester. Two credits.*

368. INTRODUCTION TO ELECTRONICS. Theory and application of vacuum and gas-filled tubes and circuits.

Prerequisite: Electrical Engineering 355 or equivalent. Must be preceded or accompanied by 356. *Second semester. Lectures and laboratory. Three credits.*

373. ELEMENTARY ELECTRONIC CIRCUITS. An elementary course in the principles of electronics. Emphasis will be placed

upon the application of electronic tubes and circuits to industrial and biological instruments and processes. Lectures and demonstrations. Intended particularly for students not taking electrical or mechanical engineering.
First semester. Two credits.

375. ELECTRICITY IN MINING. The study of the theory and application of electrical equipment and circuits commonly used in mining and associated fields. The course will include lectures and laboratory demonstrations.
Second semester. Three credits.

391(G)–392(G)–393(G)–394(G). ELECTRICAL ENGINEERING PROJECT. The nature of the project depends upon the student's interest and ability. It must be in the field of electrical engineering. The student is expected to take the initiative in consulting periodicals and the instructional staff.
One or two credits.

457(G). ADVANCED ELECTRIC CIRCUITS. A continuation of Electrical Engineering 356 including filters, and other networks, and transients in linear systems.
Prerequisite: Electrical Engineering 356. *First semester. Two credits.*

461(G). ADVANCED ALTERNATING CURRENT MACHINERY. A continuation of Electrical Engineering 352.
Prerequisite: Electrical Engineering 352, 356. *First semester. Three credits.*

462(G). ELECTRICAL DESIGN. Study of the fundamental principles underlying the design of electrical equipment. Lectures and computation periods.
Prerequisite: Electrical Engineering 461. *Second semester. Three credits.*

463(G). ADVANCED ALTERNATING CURRENT LABORATORY. A continuation of Electrical Engineering 353 and 354, normally accompanied by Electrical Engineering 461.
First semester. Three credits.

464(G). ADVANCED ALTERNATING CURRENT LABORATORY. A continuation of Electrical Engineering 463.
Second semester. Three credits.

466(G). GENERATION AND DISTRIBUTION OF POWER. Study of the economic and technical factors underlying the location, design, construction, operation, and protection of generating, transmission, and distribution systems. A discussion of symmetrical components and stability is included.
Prerequisite: Electrical Engineering 461. *Second semester. Three credits.*

481. ADVANCED ELECTRONICS. A continuation of Electrical Engineering 368, including the study of amplifiers, oscillators, rectifiers, modulators, etc., as used in the power and communication fields.

Prerequisite: Electrical Engineering 356, 368. *First semester. Three credits.*

482(G). ELECTRICAL COMMUNICATION. The principles of communication by wire and radio, including microphones, loudspeakers, and microwave systems.

Prerequisite: Electrical Engineering 457, 481. *Second semester. Three credits.*

483. ADVANCED ELECTRONICS LABORATORY. A laboratory course normally accompanying Electrical Engineering 481, and having the same prerequisite as the latter.

First semester. One credit.

484(G). COMMUNICATION LABORATORY. A laboratory course normally accompanying Electrical Engineering 482.

Second semester. One credit.

487–488. SEMINAR. Discussion of technical articles appearing in current periodicals.

Prerequisite: Senior standing. *One credit.*

495(G)–496(G). THESIS. The subject and its scope must have the approval of the instructor.

One to three credits.

Elementary Education, See Education

English Language and Literature

Professors ELDRIDGE, GRIFFIN (Chairman of Department), HUME, LAIRD; Associate Professors BRINK, GORRELL, MILLER; Assistant Professor MORRISON; Mrs. LAWSON.

English

A. ELEMENTARY COMPOSITION. A noncredit course in the mechanics of composition required of those who are unable, in the placement examinations given all beginning students, to demonstrate the proficiency in expression normally expected of high school graduates.

Each semester. Three class periods. No credit, but counts as part of the student's regular load. Staff.

B. ELEMENTARY COMPOSITION FOR FOREIGN STUDENTS. Practice in idiomatic English for students learning English as a second language.

No credit. This course may be repeated as English Ba, Bb, Bc, etc. Staff.

101–102. COMPOSITION AND RHETORIC. The study of English as a means of self-expression, with special attention to the writing of exposition.
Three credits each semester. Staff.

NOTE—At the recommendation of the department, students may be allowed to substitute for either English 101 or 102, or both, certain prescribed courses within the department numbered to 300, provided that at least six units of work in English are completed. Any student whose course requires sophomore English cannot use a course substituted for English 101 or 102 to satisfy the sophomore requirement.

Any student who receives a failure in a course which he has substituted for English 102 will be required to register for English 102 the following semester.

Faculty rules specify that a student who is habitually delinquent in the use of English in connection with any course in the University curriculum may be remanded to the Department of English to take without credit such further work in composition as the chairman of the department thinks advisable.

131–132. APPRECIATION OF LITERATURE. The reading of recent and contemporary literature of various types, intended to cultivate sound literary taste.
Two credits each semester. Staff.

141. INTRODUCTION TO THE SHORT STORY. A study of significant short stories and of the short story as a form of literature.
Two credits. Staff.

145. THE MODERN AMERICAN NOVEL. A study of the American novel with stress on contemporary writers.
Two credits. Staff.

171–172. INTRODUCTION TO SHAKESPEARE. Shakespeare's principal plays read for their social interest and their literary excellence. Not intended for students selecting a field of concentration in English.
Two credits each semester. Staff.

201–202. ADVANCED COMPOSITION. Study of methods of composition with extensive practice adjusted to the interests and experience of the student.
Two credits each semester. Staff.

231–232. GREAT BOOKS. Masterpieces from many ages and from various great literatures of the world read in English for recreation and for general culture.
Three credits each semester. Staff.

235–236. SURVEY OF ENGLISH LITERATURE. A study of selected major writers designed to acquaint the general reader with the scope of English literature from Chaucer to the moderns.
Three credits each semester. Staff.

247–248. THE WORLD NOVEL. The reading of significant modern novels for recreation and for the appreciation of the novel as an integrated approach to life.
Two credits each semester. Staff.

281. INTRODUCTION TO LANGUAGE. A study of the nature of language with a sketch of the growth of the American language.
Three credits. Laird.

291. INTRODUCTION TO LITERARY STUDY. A critical examination of creative writing and a survey of basic methods of literary study.
Three credits. Gorrell and Hume.
NOTE—English 281 and 291 are required of students with fields of concentration in the department, except those electing speech options. The courses need not be taken in their numbered sequence.

305–306. ADVANCED TRAINING IN CREATIVE WRITING. The course is conducted as a writer's workshop. Required for the field of concentration in creative writing. Continued as English 405–406.
Prerequisite: The submission of a sample of superior creative work.
Two credits each semester. Staff.

333. FAR EASTERN LITERATURE. The study of Chinese and Japanese literature in translation, with special emphasis on its relations with Western cultures.
Two credits. Morrison.

337. THE BIBLE AS LITERATURE. The study of representative literary types found in the Old and New Testaments.
Three credits. Eldridge and Hume.

339. MYTHOLOGY AND FOLKLORE. An introduction to primitive literature as a revelation of the human mind, and some attention to folkloristic methodology.
Two credits. Laird.

355(G)–356(G). MODERN DRAMA. Representative English and American dramatists, since 1890.
Two credits each semester. Gorrell.

385. DESCRIPTIVE GRAMMAR. An objective description of modern English usage, with a sketch of grammar as it is conventionally taught. Designed primarily for prospective teachers.
Two credits. Laird and Eldridge.

405(G)–406(G). Continuation of English 305–306.
Two credits each semester.

441(G)–442(G). AMERICAN LITERATURE. English 441 is a survey of the development of American literature from the beginning to the present; English 442 is an intensive study of special problems in American literature.
Three credits each semester. Eldridge and Hume.

443(G). SURVEY OF AMERICAN LITERATURE. Intended for prospective teachers, this course emphasizes the American literary figures and trends most commonly dealt with in the secondary schools.
Three credits. Eldridge and Hume.

451(G)–452(G). THE HEROIC AND MEDIEVAL AGES. English 451 is a broad study of English literature from its sources in the Celtic, Germanic, Classical, and Christian traditions to 1500, with emphasis on Chaucer; English 452 is a study of special problems in the period.
Two credits each semester. Laird.

463(G)–464(G). THE RENAISSANCE AND THE AGE OF REASON. English 463 surveys English literature exclusive of the drama and relationships abroad during the early modern periods, 1500–1900; English 464 considers individual figures and special problems in some detail.
Three credits each semester. Gorrell and Hume.

465(G)–466(G). ELIZABETHAN DRAMA. English 465 surveys Elizabethan drama with emphasis upon Shakespeare's better known plays; English 466 considers some of the less commonly studied plays of Shakespeare and his contemporaries with special problems of Shakespeare study.
Three credits each semester. Gorrell and Laird.

473(G)–474(G). THE NINETEENTH CENTURY. English 473 surveys English literature and its foreign relations during the Romantic and Victorian periods; English 474 considers trends and writers during the period in some detail.
Three credits each semester. Laird and Morrison.

485(G)–486(G). MODERN LITERATURE. English 485 is a survey of modern writing with emphasis on contemporary American and British literature; English 486 is an intensive study of selected figures in modern literature.
Two credits each semester. Eldridge and Hume.

493(G). SUMMARY OF ENGLISH LITERATURE. A broad view of English and American literatures and their social and international relationships. Intended to encourage the student to integrate his four years of study, the course may be required of seniors specializing in the department. (See requirements for fields of concentration in English.)
Two credits. Gorrell, Hume, and Laird.

495(G)–496(G), 497(G)–498(G). INDEPENDENT STUDY.
Open to juniors and seniors specializing in English with permission of the instructor. *One credit each semester.* Staff.

501–502. SEMINAR.
Open only to graduate students. *Credit to be arranged.* Staff.

591–592. THESIS COURSE.
Open only to candidates for master's degree. Staff.

Speech

109. SPEECH IMPROVEMENT. A course especially designed for those students who desire or need concentrated work directed to the improvement of voice production. Attention will be given to voice drills and exercises both for individuals and for the class as a group.
(Offered both semesters in 1954-1955 and alternate years thereafter.) *One credit.* May be repeated without credit. Staff.

111–112. 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.
Two credits each semester. Staff.

121–122. THEATER PRACTICE. An introduction to the several aspects of play production, excluding acting and directing. Through work backstage in University and Reno Little Theater productions, the student is oriented to practical theater.
(Offered in alternate years beginning in 1955-1956.) *Two credits each semester.* Miller and the staff of the Reno Little Theater.

217–218. 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.
Two credits each semester. Griffin.

221–222. INTERPRETATION. The oral interpretation of the forms of literature with special attention directed to diction.
Two credits each semester. Miller.

311. ADVANCED SPEECH COMPOSITION. Study for effective speech composition, based upon application of rhetorical and psychological principles. Open to a limited number of students with consent of instructor.
Three credits. Griffin.

315. PRINCIPLES AND TECHNIQUES OF PUBLIC DISCUSSION. Study of the principles and techniques involved in the various forms of group discussion: symposium, panel, lecture forum, forensic progression, etc. Duties and problems of the discussion leader. Classroom practice in solving public problems. The course stresses scholarly inquiry on a cooperative basis.
Prerequisite: Speech 111-112 or 217-218. *Three credits.* Griffin.

317–318. ADVANCED ARGUMENTATION AND PERSUASION. Study

of the intellectual and emotional behavior of the audience. Analysis of complex public problems and the briefing of cases for the advocate.

Prerequisite: Speech 217-218. *One or two credits each semester.* Griffin.

321–322. ADVANCED INTERPRETATION. A study of advanced techniques of oral expression to develop imagination, reading skill, and platform deportment in all its phases. Practice will include radio presentations of dramatic materials.

Prerequisite: Speech 221-222, or the consent of the instructor. (Offered in alternate years beginning in 1954-1955.) *Two credits each semester.* Miller.

323–324. THE ORAL INTERPRETATION OF SHAKESPEARE. The oral interpretation of Shakespeare's plays. During the second semester the class will present a full-length production.

(Offered in alternate years beginning in 1955-1956.) *Two credits each semester.* Miller.

411(G). THE BASES OF SPEECH. The social, physiological, phonetic, and neurological bases of speech. Designed to provide a background for advanced study in speech, especially as preparation for the study of speech correction.

Prerequisite: Consent of instructor. *Two or three credits.* Griffin.

412(G). CORRECTION OF SPEECH DEFECTS. A course designed for teachers and others with a special interest in effective oral communication. The course deals with the nature and causes of the various speech defects, and with the therapeutical procedures used to correct them. Not designed to train clinicians, but to create an insight into subnormal speech problems.

Two or three credits. Griffin.

413. PARLIAMENTARY LAW AND PRACTICE. Study and practice of the parliamentary rules and procedures governing deliberative assemblies.

Two credits. Griffin.

415(G)–416(G). HISTORY OF PUBLIC ADDRESS. The study and appraisal of the speeches of famous orators, viewing each in relation to the social milieu in which the speech situation is set. The first semester will treat ancient, medieval, and English orators; the second American orators.

Prerequisite: Consent of instructor. *Two credits each semester.* Griffin.

417(G)–418(G). DEBATE PRACTICE AND PROBLEMS. Study and discussion of the various types of modern debates, with particular attention to the problems of directors and coaches. Bibliographies and collateral readings in textbooks and speech journals. Conduct of debates and methods of judging.

Two credits each semester. Griffin.

419–420. PRELEGAL ARGUMENTATION. Study and practice, especially for prelegal students, of the forensic aspects of law. The course will include participation in mock trials and the auditing of exemplary cases and suits in local courtrooms.
Two credits each semester. Griffin.

425(G)–426(G). PLAY DIRECTING. The reading, study, and production of representative and modern plays, with lectures, readings, and reports.
Prerequisite: Consent of instructor. (Offered in alternate years beginning in 1955-1956.) *Two credits each semester.* Miller.

Foreign Languages

Professor GOTTARDI (Chairman of Department); Associate Professors DANDINI, MELZ; Assistant Professors EILERTSEN, KLINE.

Foreign Languages

495–496, 497–498. SEMINAR IN FOREIGN LITERATURES. Open to qualified students with the permission of the chairman of the department. Study of a literary period with individual research.
One to three credits. Staff.

591. FOREIGN LANGUAGE THESIS COURSE.
Open only to candidates for the master's degree. *Six credits.*

French

101–102. BEGINNING FRENCH. Essentials of grammar, reading, conversation and composition.
Five credits each semester. Staff.

103–104. SECOND YEAR FRENCH. Readings from modern French prose writers. A review of grammar. Conversation and composition.
Prerequisite: French 101-102 or two years of high school French. *Three credits each semester.* Gottardi.

351(G)–352(G). THE FRENCH NOVEL. Rapid reading of masterpieces of French fiction: Balzac, Sand, Mérimée, Zola, Daudet, etc.
Prerequisite: French 103-104. *Two credits each semester.*

355–356. INTERMEDIATE FRENCH COMPOSITION AND CONVERSATION. This course should be taken simultaneously with the first year junior-senior reading courses in French.
Prerequisite: French 103-104. *Two credits each semester.*

357(G)–358(G). 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: French 103-104. *Three credits each semester.*

369(G)–370(G). FRENCH CLASSIC DRAMA. The development of the drama in France with special study of the works of Corneille, Racine, and Moliére.
Prerequisite: French 103-104. *Two credits each semester.*

371(G)–372(G). MODERN FRENCH DRAMA. A study of the drama of France in the nineteenth and twentieth centuries.
Prerequisite: French 103-104. *Two credits each semester.*

379–380. ADVANCED FRENCH COMPOSITION AND CONVERSATION. Includes a study of French epistolary style. This course should be taken simultaneously with the second year of junior-senior reading courses in French.
Prerequisite: French 103-104. *Two credits each semester.*

381(G)–382(G). THE EIGHTEENTH CENTURY IN FRENCH LITERATURE. A study of the works of Montesquieu, Voltaire, Rosseau, etc.
Prerequisite: French 103-104. *Two credits each semester.*

389–390. FRENCH PHONETICS. A study of pronunciation on the basis of practical phonetics. This course is especially arranged for prospective teachers of French.
Prerequisite: French 103-104. *Two credits each semester.* Gottardi.

German

101–102. BEGINNING GERMAN. Essentials of grammar, reading, conversation, and composition.
Five credits each semester. Staff.

103–104. INTERMEDIATE GERMAN. Grammar review. Reading of German short stories, with exercises in conversation and composition. In German 104 additional reading material in the various sciences will be offered as an introduction to scientific German.
Prerequisite: German 101-102 or two years of high school German. *Three credits each semester.* Melz.

335–336. THE AGE OF GOETHE. This course is designed to give a comprehensive view of the great period of German literature from the middle of the eighteenth century to Goethe's death in 1832. Due cognizance will be given to currents of European thought and literature during this period with emphasis on Goethe's life and works. Taught entirely in English. No knowledge of German required.
Two credits each semester. Melz.

351(G)–352(G). THE GERMAN "NOVELLE." The development of the "Novelle" from the Romantic period to modern times: Hauff, Tieck, Hoffman, Ludwig, Storm, Keller, Meyer, Mann, etc. Rapid reading and discussion.
Prerequisite: German 103-104. *Two credits each semester.* Melz.

355–356. INTERMEDIATE GERMAN COMPOSITION AND CONVERSATION. This course should be taken with the first year of junior-senior reading courses in German.
Prerequisite: German 103-104. *Two credits each semester.* Melz.

357(G)–358(G). 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: German 103-104. *Three credits each semester.* Melz.

359–360. SCIENTIFIC GERMAN. Readings from German scientific works. This course is particularly recommended to premedical students and to those who intend to specialize in any one of the scientific fields.
Prerequisite: German 103-104. *Two credits each semester.*

369(G)–370(G). GERMAN CLASSICS. Reading and technical study of representative works of Lessing, Schiller, and Goethe.
Prerequisite: German 103-104. *Two credits each semester.*

371(G)–372(G). MODERN GERMAN DRAMA. A study of the German drama from Romanticism to Naturalism: Kleist, Grillparzer, Hebbel, Hauptmann, Schnitzler, etc.
Prerequisite: German 103-104 or the equivalent. *Two credits each semester.* Melz.

379–380. ADVANCED COMPOSITION AND CONVERSATION. This course should be taken simultaneously with the junior-senior reading courses.
Prerequisite: German 103-104. *Two credits each semester.*

Italian

101–102. BEGINNING ITALIAN. Essentials of grammar, reading, conversation, and composition.
Five credits each semester. Staff.

103–104. INTERMEDIATE ITALIAN. Grammar review. Reading of prose and poetry. Exercises in conversation and composition.
Prerequisite: Italian 101-102 or two years of high school Italian. *Three credits each semester.*

351(G)–352(G). THE ITALIAN NOVEL. Rapid reading of masterpieces of modern Italian fiction: Manzoni, Fogazzaro, Verga, etc.
Prerequisite: Italian 103-104. *Two credits each semester.* Gottardi.

355–356. INTERMEDIATE COMPOSITION.
Prerequisite: Italian 103-104. *Two credits each semester.* Gottardi.

381(G)–382(G). 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 103-104. *Two credits each semester.* Gottardi.

Latin

101–102. Beginning Latin. Essentials of Latin grammar. Translation of easy prose. Word study and composition.
Five credits each semester. Dandini.

103. Cicero. Orations. Study of Roman law and government.
Prerequisite: Latin 102 or two years of high school Latin. *First semester. Three credits.* Dandini.

104. Vergil. First six books of the *Æneid.* Study of classic myths.
Prerequisite: Latin 103 or three years of high school Latin. *Second semester. Three credits.* Dandini.

331–332. Greek and Latin Literature in Translation. Study of classical literature in translation, considering the contribution of Greek and Latin literature and culture to modern literature.
Three credits each semester. Dandini.

Spanish

101–102. Beginning Spanish. Essentials of grammar, reading, conversation, and composition.
Five credits each semester. Staff.

103–104. Second-Year Spanish. Readings from modern Spanish writers. A review of grammar. Conversation and composition.
Prerequisite: Spanish 101-102 or two years of high school Spanish. *Three credits each semester.*

351(G)–352(G). The Modern Spanish Novel. Rapid reading of masterpieces of Spanish fiction: Galdós, Valdés, Ibáñez, etc.
Prerequisite: Spanish 103-104. *Two credits each semester.* Kline.

355–356. Intermediate Spanish Composition and Conversation. This course should be taken with the first year of junior-senior reading courses in Spanish.
Prerequisite: Spanish 103-104. *Two credits each semester.* Dandini.

357(G)–358(G). 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: Spanish 103-104. *Three credits each semester.* Gottardi.

367(G)–368(G). Early Spanish Novel. Reading of Spanish prose of the sixteenth, seventeenth, and eighteenth centuries. A study of novelistic movements. Montalvo, Montemayor, Cervantes, Quevedo. Collateral reading.
Prerequisite: Four credits of junior-senior work. *Two credits each semester.* Kline.

369(G)–370(G). SPANISH CLASSIC DRAMA. Literature of the sixteenth and seventeenth centuries—Lope de Vega, Tirso de Molina, etc.

Prerequisite: Four credits junior-senior work. *Two credits each semester.* Gottardi.

371(G)–372(G). MODERN SPANISH DRAMA. A study of Spanish dramatic literature from the Golden Age to the twentieth century.

Prerequisite: Spanish 103-104. *Two credits each semester.*

373(G)–374(G). SPANISH-AMERICAN LITERATURE. Prose and poetry.

Prerequisite: Spanish 103-104. *Two credits each semester.* Melz.

379–380. 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 103-104. *Two credits each semester.* Dandini.

General Education, See Education

Geology and Geography

Associate Professor LARSON (Chairman of Department); Assistant Professors KERSTEN, LINTZ, MCGIRK, SLEMMONS.

Geography

101. SURVEY OF WORLD GEOGRAPHY. A regional consideration of the geography of the world. World regions, with their characteristic physical environments and human activities, and their inter-relationships, are the focus of the study.

First semester. Three lectures. Three credits. Kersten.

103. PHYSICAL GEOGRAPHY. A geographic analysis of the physical earth. The nature and distribution of landforms, climate, and earth resources. Laboratory work involves the study of maps and other illustrations of physical geographic principles. May be taken with or without laboratory. Satisfies natural science requirements in the College of Arts and Science.

Each semester. Three lectures; one three-hour laboratory period. Four credits (three credits without laboratory). Kersten.

106. CULTURAL GEOGRAPHY. An analysis of the cultural elements of geography—population, settlements, economic activities, and historical and political factors. The nature, classification, and world distribution of each of the elements is considered.

Second semester. Three lectures. Three credits. Kersten.

222. WEATHER AND CLIMATE. A study of the elements of weather and climate. The classification of climates and types

of world climates are considered. Satisfies natural science requirements in the College of Arts and Science.

Prerequisite: Geography 103 or Physics 117. *Second semester. Two lectures; one three-hour laboratory period. Three credits.* Kersten.

343(G). GEOGRAPHY OF PRIMARY PRODUCTION. A study of the agriculture, mineral, forest, and fishing industries. The physical bases, methods, products, and world distribution of these industries are examined.

Prerequisite: Geography 103, and 101 or 106. *First semester. Three lectures. Three credits.* Kersten.

471(G). NORTH AMERICA. A regional study of the United States, Canada, Alaska, and Mexico. The physical environments and the human activities of the continent are considered, with emphasis upon the geographic characteristics of American industry.

Prerequisite: Geography 103, and 101 or 106. *First semester. Three lectures. Three credits.* Kersten.

482(G). EUROPE. Geography of western and central Europe, Scandinavia, and the Mediterranean countries. An over-all examination of the physical and human use characteristics of the continent is followed by the study of the geographic regions of Europe.

Prerequisite: Geography 103, and 101 or 106. *Second semester.* (Alternates with Geography 486.) *Three lectures. Three credits.* Kersten.

486(G). ASIA. A regional study of the continent with special emphasis on China, Japan, and the Soviet Union. The various regions are analyzed as to their physical environments, peoples, and economic activities such as: agriculture, manufacturing, mining, trade, and transportation.

Prerequisite: Geography 103, and 101 or 106. *Second semester.* (Alternates with Geography 482.) *Three lectures. Three credits.* Kersten.

495(G)–496(G). SPECIAL PROBLEMS. Independent study of selected problems of geographic character, including library research, field work, and reports.

Prerequisite: Advanced standing in geography, and permission of the instructor. *One to three credits each semester.* Staff.

501–502. ADVANCED GEOGRAPHY. Consists of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

One to four credits each semester. Staff.

Geology

101. PHYSICAL GEOLOGY. Lectures on geologic features and processes. Laboratory work involves the reading of topographic

and geologic maps, the study and identification of common rocks and minerals, and the study of geologic phenomena. May be taken with or without laboratory.

Each semester. Three lectures; one three-hour laboratory period. Four credits (three credits without laboratory). Staff.

102. HISTORICAL GEOLOGY. The origin and history of the earth, with a description of the life of the successive geologic periods.

Prerequisite: Geology 101. *Each semester. Three lectures. Three credits.* Larson, Lintz.

211–212. MINERALOGY. Elementary crystallography, physical and chemical examination of minerals, and descriptive mineralogy.

Prerequisite: Chemistry 101 and Geology 101. *One lecture; two three-hour laboratory periods. Three credits each semester.* McGirk.

322(G). LITHOLOGY. Lectures on the occurrence, classification, and origin of the common rocks, and laboratory practice in their megascopic identification. Two Saturday field trips will be taken.

Prerequisite: Geology 211. *Second semester. One lecture; one three-hour laboratory period. Two credits.* Slemmons.

325(G)–326(G). OPTICAL MINERALOGY AND PETROLOGY. Lectures on the fundamentals of optical mineralogy and on the composition, classification, and origin of rocks. Laboratory study of the rock-forming minerals and practice in the microscopic and megascopic identification of rocks. Two Saturday field trips will be taken each semester.

Prerequisite: Geology 212 and physics of light. *Two lectures; two three-hour laboratory periods. Four credits each semester.* Slemmons.

331(G). STRUCTURAL GEOLOGY. A study of structural features of the earth's crust. Laboratory work involves the study and preparation of geologic maps and cross sections.

Prerequisite: Geology 102 and trigonometry. *First semester. Two lectures; one three-hour laboratory period. Three credits.* Larson.

441(G). GEOMORPHOLOGY. A study of the origin, character, and classification of land forms. The use of geomorphic methods in the interpretation of the geologic history of a region.

Prerequisite: Geology 331. *First semester. Two lectures; one three-hour laboratory period. Three credits.* Slemmons.

450(G). FIELD METHODS. Introduction to the methods and instruments used by the field geologist; including elementary photogrammetry.

Prerequisite: Civil Engineering 241. *Second semester. One three-hour laboratory period. One credit.* Larson.

451(G). SUMMER FIELD GEOLOGY. (S. F. Hunt Foundation Field Course.) A six-week's course in geological field methods

beginning in early June. Students will prepare topographic and geologic maps to accompany a report on the geology of an area in Nevada.

Prerequisite: Geology 322 or 326, 331, 450, and/or permission of the department chairman. *Six credits.* Larson.

461(G). INVERTEBRATE PALEONTOLOGY. The structure and evolutionary development of fossil invertebrates and their existing representatives. The application of paleontology to stratigraphic problems. Collecting trips will be arranged on a few Saturdays.

Prerequisite: Geology 102. A knowledge of zoology is desirable. *First semester. Three lectures; one three-hour laboratory period. Four credits.* Lintz.

465(G). SEDIMENTATION. The formation, transportation, and deposition of sediments.

Prerequisite: Geology 102 and 211. *First semester. Two lectures; one three-hour laboratory period. Three credits.* Larson.

468(G). STRATIGRAPHY. An outline of the stratigraphy of North America. Emphasis is placed on principles and the relationship of stratigraphy to tectonics.

Prerequisite: Geology 461. *Second semester. Three lectures. Three credits.* Larson.

471(G). ORE DEPOSITS. The geology of metallic ore deposits, including origin, mode of occurrence, alterations, and surface expression. Laboratory work emphasizes the study of textures, mineralogy, and paragenesis. A few Saturday field trips will be taken.

Prerequisite: Geology 322 or 326. *First semester. Two lectures; one three-hour laboratory period. Three credits.* McGirk.

476(G). NONMETALLIC MINERAL DEPOSITS. The occurrence, distribution, origin, and economic value of the nonmetallic minerals. The geology of ground water.

Prerequisite: Geology 212. *Second semester.* (Alternates with Geology 482.) *Three lectures. Three credits.* Lintz.

482(G). PETROLEUM GEOLOGY. The origin, migration, and accumulation of petroleum. Petroleum exploration. Petroliferous provinces of the world, with emphasis on North America.

Prerequisite: Geology 102. *Second semester.* (Alternates with Geology 476.) *Three lectures. Three credits.* Lintz.

484. GROUND WATER. A study of the occurrence, movement, resources, chemical properties, and utilization of underground water.

Prerequisite: Physics 152 or 204, Mathematics 152, and Geology 331. *Second semester. Three lectures. Three credits.* McGirk.

495(G)–496(G). GEOLOGY PROJECT. Original investigation of a geologic problem.

Prerequisite: Geology 331, and 326 or 461. *Two or three credits each semester.* Staff.

501–502. ADVANCED GEOLOGY. (a) General geology, (b) regional geology, (c) mineralogy, (d) ore deposits, (e) paleontology, (f) petrology, (g) stratigraphy, (h) structural geology. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

One to five credits each semester. Staff.

521–522. UNIVERSAL STAGE. Practice in the use of the universal stage for mineralogic, petrographic, and petrofabric analyses.

Prerequisite: Geology 326, 331, and consent of the instructor. *One three-hour laboratory period. One credit each semester.* Slemmons.

526. IGNEOUS PETROLOGY. Lectures, reports, and discussions on the origin and nature of igneous rocks. May be taken with or without laboratory.

Prerequisite: Geology 326 and consent of the instructor. *Second semester.* (Alternates with Geology 528.) *Two lectures; one or two three-hour laboratory periods. Two to four credits.* Slemmons.

528. METAMORPHIC PETROLOGY. Lectures, reports, and discussion on the origin and nature of metamorphic rocks. May be taken with or without laboratory.

Prerequisite: Geology 326 and consent of the instructor. *Second semester.* (Alternates with Geology 526.) *Two lectures; one or two three-hour laboratory periods. Two to four credits.* Slemmons.

532. STRUCTURAL GEOLOGY SEMINAR. A study of structural features of the earth's crust; their distribution and the mechanics of their formation.

Prerequisite: Geology 331 and consent of the instructor. *Second semester. Two lectures; one three-hour laboratory period. Three credits.* Larson.

572. MINERAGRAPHY. Microscopic study of polished ores, the significance of their textures and paragenesis.

Prerequisite: Geology 471. *Second semester. One lecture; one three-hour laboratory period. Two credits.* McGirk.

585. ENGINEERING GEOLOGY. The application of geology to earth and rock work in the construction industry. Will consider such items as: landslide problems; sites for dams, bridges, tunnels, and canals; and possibly certain problems of the control of erosion and sedimentation by rivers and oceans.

Prerequisite: Geology 322 or 326, plus 331. *Three to four credits.* Scheid.

591–592. MINERAL INDUSTRY SEMINAR. (Same as Mining 591–592.)

597–598. THESIS.
Each semester. Credit to be arranged. Staff.

German, See Foreign Languages

Health, Physical Education, and Athletics

Professor MARTIE; Associate Professors BROTEN (Chairman of Department), RUSSELL, SCRANTON; Assistant Professor LAWLOR; Miss FITZGIBBONS, Mr. SMITHWICK, Miss WILSON.

Physical Education

101–102. FRESHMAN ACTIVITIES FOR MEN (required). Medical and physical examinations are required at the beginning of the semester. Adapted work will be arranged for those unable to take other classes. During his first two years each man may select team sports, individual or dual activities from the following:
Team sports—basketball, football, soccer, softball, and volleyball.
Individual or dual activities—apparatus, archery, badminton, bowling, boxing, fundamentals, golf, lifesaving, recreational games, swimming, tennis, track and field, tumbling, and wrestling.
Rhythmic activities—rhythmic conditioning, roller skating, and folk, modern, social, square or tap dancing.
Two periods. One-half credit each semester. Staff.

161–162. FRESHMAN ACTIVITIES FOR WOMEN (required). Choice of two activities each semester. During the freshman year each woman is required to select one team sport, one individual or dual activity, and one rhythmic activity from the following:
Team sports—basketball, hockey, softball, soccer, speed-a-way, and volleyball.
Individual or dual activities—archery, badminton, bowling, conditioning, golf, lifesaving, recreational games, swimming, tennis, and tumbling.
Rhythmic activities—rhythmic conditioning, roller skating, and folk, modern, social, square or tap dancing.
Three or four periods. One credit each semester. Staff.

201–202. (261–262) SOPHOMORE ACTIVITIES FOR MEN OR WOMEN (required). A choice of individual, dual, team, or rhythmic activities as offered. See basic requirements under Physical Education 101 and 161.
Two periods. One-half credit each semester. Staff.
NOTE—By consent of the department chairman, a student may elect

any of the following sports as a substitute for the practical work in Physical Education 101, 102, 201, or 202: Baseball, basketball, boxing, football, golf, gymnastics, skiing, tennis, track, or tumbling. The exception to this is orientation which is required of all freshmen and may not be substituted for.

112. (110, 111) PRINCIPLES OF HEALTHFUL LIVING. A study of health problems as they relate to college and adult life. Special emphasis on the knowledge and care of oneself.

Open to all students. *Second semester. Two periods. Two credits.* Wilson.

163–164. PHYSICAL EDUCATION TECHNIQUES. Practical work in activities not taken for credit under Physical Education 101–102 or 161–162.

Three or four periods. One credit each semester. Staff.

170. ACTIVITIES FOR PRIMARY GRADES. Rhythms, stunts, and games suitable for kindergarten and grades 1–4. May be substituted for any semester of required work.

First semester. Two periods. One credit. Fitzgibbons.

171. ACTIVITIES FOR INTERMEDIATE GRADES. Rhythmic activities, lead up games, and games of low organization for grades 4–8. May be substituted for any semester of required work.

Second semester. Two periods. One credit. Fitzgibbons.

180. (180, 310) INTRODUCTION TO PHYSICAL EDUCATION AND HEALTH. An orientation course which considers the history, aim, and objectives of physical education and health. Special emphasis on current trends in physical education.

Second semester. Two credits. Staff.

205. BEGINNING TECHNIQUES FOR PROFESSIONAL STUDENTS. A combined activity course in which the basic skills of coeducational activities (dance, individual, and dual sports) will be covered.

Second semester. Four two-hour laboratory periods. Three credits. Staff.

210. FIRST AID AND TREATMENT OF ATHLETIC INJURIES. The first eight weeks will be devoted to the Standard and Advanced First Aid Course, successful completion of which will entitle the student to a Red Cross Certificate. The remainder of the course will deal with prevention and treatment of common athletic injuries.

First semester. Two lectures; one laboratory period. Three credits. Staff.

263–264. ADVANCED TECHNIQUES FOR PROFESSIONAL STUDENTS. Additional and advanced work in activities listed under freshman activities. Students taking this course will be expected to help as squad leaders in freshman courses.

Prerequisite: Consent of instructor. *Three periods. One credit each semester.* Staff.

281. Recreational Skills for Home, School, and Camp. Includes practical work in arts and crafts, party planning, camp craft, and social mixers.
Each semester. Five hours laboratory. Two credits. Russell.

295. (410) Introduction to School and Community Health Education. A presentation of the scope of health education in the schools and community including health services available.
First semester. Two credits. Broten.

301. Advanced Apparatus and Tumbling. Advanced exercises for increasing skills on the mats, bars, horse, and springboard.
First semester. One credit. Broten.

323. (320, 321) Basketball and Football in Theory and Practice. A course of lectures and practical demonstrations for those who may wish to coach or for those who are interested in, and wish a more intimate knowledge of the game.
First semester. Two lectures; one laboratory period. Two to three credits. Lawlor.

324. (322) Track and Field Activities and Baseball in Theory and Practice (men only). Lectures and demonstrations of each track and field event and baseball.
Second semester. Two lectures; one laboratory period. Three credits. Smithwick.

325. Officiating Major Sports (men only). A careful study of the rules of basketball, football, and track with interpretations, methods of officiating and characteristics of officials.
First semester. Two credits. Scranton.

341. Administration and Organization of Athletics and Physical Education (men only). A course covering high school competition in general; methods of organizing athletic associations and administration of same.
Second semester. Two credits. Scranton.

353(G). Methods and Materials in Teaching Health and Physical Education for Men. (Same as Secondary Education 353). This is a study of the methods of teaching physical education with special emphasis on physical education activities, practice in conducting skill procedures using class and squad organization, and in planning of lessons for both health and physical activity classes.
First semester. Two credits. Scranton.

354(G). (347) Organization and Administration of Physical Education for Women. (Same as Secondary Education 354.) Objectives, methods and general principles including, first, a discussion of the biological, physiological, psychological, and sociological principles underlying those objectives, and second, a

study of acceptable methods of administering a physical education program to achieve these objectives.

Prerequisite: Physical Education 180. *First semester.* (Offered in alternate years beginning in 1954–1955.) *Two credits.* Russell.

361–362. JUNIOR ACTIVITIES. Advanced work in activities offered for students who have completed or are registered for their required physical education.

Two periods. One-half credit each semester. Staff.

371. TEACHING OF DANCE. Methods of teaching folk, square, and social dance. Practical experience in teaching beginners to dance.

First semester. One lecture; two hours laboratory. Two credits. Fitzgibbons.

372. COACHING AND OFFICIATING TEAM SPORTS (women only). Rules, strategy, and techniques of basketball, softball, field sports, and volleyball.

First semester. Three credits. Wilson.

373(G). METHODS AND MATERIALS IN HEALTH INSTRUCTION FOR ELEMENTARY TEACHERS. Methods and materials used in presenting acceptable health practices to elementary school students. Includes unit planning.

Two credits.

374(G). SECONDARY SCHOOL HEALTH INSTRUCTION. Methods and materials used in presenting acceptable health practices to secondary school students. Includes unit planning.

Prerequisite: Physical Education 295. *Two credits.*

390(G). KINESIOLOGY. The mechanical and anatomical analysis of motion as a basis for the teaching and adaptation of physical education activities.

Prerequisite: Zoology 223 and Physics 101. *Second semester. Three credits.* Russell.

411. ADVANCED AND INSTRUCTORS FIRST AID. Regular Red Cross courses. Those completing the course may be designated First Aid Instructors.

Second semester. One credit. Staff.

430(G). PSYCHOLOGY OF COACHING. Emphasizes the application of practical psychology in all forms of athletic activities. Illustrations of applied psychology are collected and analyzed as to values in the relations to specific forms of athletics.

Second semester. Two credits. Martie.

431(G). CHARACTER EDUCATION THROUGH PHYSICAL EDUCATION. An application of the principles of leadership to the particular problems in the program of character education in general, but with special reference to the character training situations that arise in the physical education field.

Second semester. Two credits. Martie.

440. Recreation Leadership and Playground Administration. A comprehensive study of recreation leadership and playground administration with special emphasis given to group games, and the organization of programs for all ages in the community center building and the playground. An analysis of municipal recreation needs.

Second semester. Three credits. Broten.

451(G). (391, 451) Adapted Physical Education and the Orthopedic Examination. Methods of administering physical examinations. The study of the causes of faulty posture and the detection and correction of these faults. Adaptations of activities for the handicapped.

Second semester. (Offered in alternate years beginning in 1953–1954.) *Two credits.* Russell.

452(G). Physiology of Exercise. This course acquaints students with physiological changes in human organisms due to physical exercise. It furnishes a physiological basis for planning a program of physical education for schools. Laboratory experiments deal with simple observations of respiration, circulatory, nervous and metabolic adjustments to physical exercise.

First semester. Three credits. Martie.

461. Senior Activities. Advanced work in activities offered for students who have completed their required work in physical education.

Two periods. One-half credit. Staff.

462. Lifesaving. The Red Cross senior lifesaving course.

Prerequisite: Ability to pass swimming test. *Second semester. Two periods. One-half credit.* Russell.

471. Theory and Practice of Directing Individual and Dual Activities. A study of rules, techniques, and coaching methods of archery, badminton, bowling, golf, tennis, and recreational games.

Prerequisite: Physical Education 205 or demonstrated skill in the above. *Second semester. Two lectures; two laboratory periods. Three credits.* Russell.

480. History and Development of the Dance. A study of the dance forms of the past and present in their relationship to the other arts. Practical work in teaching modern dance to beginners.

Prerequisite: Skill in modern dance. *Second semester.* (Offered in alternate years beginning in 1954-1955.) *One lecture; three hours laboratory. Two credits.* Fitzgibbons.

490(G). Tests and Measurements. A study of tests used in physical education; methods of administering the testing program and of using the data collected.

Second semester. One lecture; one laboratory period. Two credits. Russell.

501–502. Physical Education and Health Seminar.
Credit to be arranged. Staff.

530. Physiological Bases of Conditioning Programs. A systematic analysis of conditioning programs dealing with reduction or gains in body weight. Increased muscular strength, endurance, and coordination.
Two credits. Broten.

574. Modern Problems for Health Instruction. Methods of determining health instruction problems and unit planning.
Two credits. Wilson.

591. Thesis Course for Graduate Students.
Six credits.

History and Political Science

Professors Hicks (Chairman of Department), C. C. Smith; Associate Professor Hutcheson; Assistant Professors Elliott, Shepperson (on leave); Mr. M. Smith.

History

101–102. United States. Colonial times to the present: social, political, and diplomatic.
Three credits each semester. Hicks, Hutcheson.

105–106. European Civilization. The development of civilization in Europe from the dawn of history to the present.
Three credits each semester. Shepperson.

303(G). United States; Colonial Period, 1607–1783. The era of discovery; the establishment of the thirteen colonies; the battle for empire; the Revolutionary War; the Treaty of Peace.
First semester. Three credits. Hutcheson.

304(G). United States; National Period, 1781–1850. Constitution-making; Federalists in power; Jeffersonian democracy; War of 1812; the era of good feelings; Jacksonian democracy; territorial expansion.
Prerequisite for graduate credit: History 101–102. *Second semester. Three credits.* Elliott.

305(G). United States; Conflict, Reconstruction, and Industrialization, 1850–1896. Drifting toward disunion; the Civil War; reconstruction; urban-industrial America; the Populist Revolt.
Prerequisite for graduate credit: History 101–102. *First semester. Three credits.* Elliott.

306(G). United States; Recent History, 1896–Present. Spanish-American War; the Progressive Revolt; the first World

War; Normalcy; the Depression and the New Deal; the second World War and after.

Prerequisite for graduate credit: History 101–102. *Second semester. Three credits.* Elliott.

309(G). The Study of History. Historiography—history of history—great historians and their works. Methods of historical criticism and writing from sources. "Philosophies" of history; old and new viewpoints.

First semester. Two credits. Hutcheson.

312(G). The Westward Movement in the United States. The westward movement of peoples from the Atlantic Coast, and the influence of this movement upon United States history.

Prerequisite for graduate credit: History 101–102. *First semester. Two credits.* Elliott.

314(G). Western North America. The Far West; the Rocky Mountains and West Coast States; activities of the Spanish, Russians, British, and Americans on the Pacific Coast.

Second semester. Three credits. Hutcheson.

331(G). Nevada History. From early exploration through the Comstock era.

First semester. Two credits. Hutcheson.

332(G). Nevada History. From the Comstock era to the present.

Prerequisite for graduate credit: History 101–102. *Second semester. Two credits.* Elliott.

341(G)–342(G). American Constitutional History. A narrative and interpretive study of the origin and growth of the institutional forms and principles which have crystallized into the American constitutional system.

Prerequisite for graduate credit: History 101–102. *Three credits each semester.* Elliott.

History 341–342 may be substituted for Political Science 201; full credit will be given for History 341–342 even when the student has taken Political Science 201.

371(G)–372(G). Ancient Civilization. Origins of western civilization in the Near East, Greece, and Rome: art, culture, society, and politics.

Two credits each semester. Hutcheson.

375(G)–376(G). The Late Middle Ages and the Renaissance. An inquiry into medieval thought, theology, and economic, political, and social organization, followed by a study of the early enlightenment and an examination of its flowering into the Renaissance.

Prerequisite for graduate credit: History 105–106. *Two credits each semester.* Shepperson.

393(G)–394(G). ENGLAND AND THE BRITISH EMPIRE. History of England and its empire: social, economic, and political. Background of English literature and law. Second semester begins at Elizabethan age.

Prerequisite for graduate credit: History 105–106. *Three credits each semester.* Shepperson.

395(G). ENGLISH CONSTITUTIONAL HISTORY. The rise and development of institutions—such as free, representative government, the jury system, and English law—which were transmitted to Colonial America to become the basis of government in the United States.

First semester. Three credits. Hutcheson.

407(G). THE INDUSTRIAL REVOLUTION IN EUROPE. Rise and growth of the European industrial society and its relationship to the economic organization, social philosophy, and political institutions of nineteenth century Europe.

Prerequisite for graduate credit: History 105–106. *First semester. Three credits.* Shepperson.

408(G). EUROPE SINCE 1914. A detailed study of an age of conflict and its interludes of peace. A continuation of History 407.

Prerequisite for graduate credit: History 105–106. *Second semester. Three credits.* Shepperson.

411(G)–412(G). THE FRENCH REVOLUTION AND NAPOLEON. An intensive study of the great epoch extending from 1789 to 1815.

Prerequisite for graduate credit: History 105–106. *Two credits each semester.*

427(G)–428(G). EUROPE 1415–1815. An economic, political, social, and intellectual study of the rise, growth, and institutional changes of European states.

Prerequisite for graduate credit: History 105–106. *Three credits each semester.* Shepperson.

429(G)–430(G). EUROPE 1815–1914. A study of the political and social development of European institutions.

Prerequisite for graduate credit: History 105–106. *Three credits each semester.* Shepperson.

441(G)–442(G). LATIN AMERICA. History of Spanish and Portuguese America from the age of discovery to the present: domestic and international.

Two credits each semester. Hicks.

451(G)–452(G). THE FAR EAST. Domestic and international relations of China and Japan from the earliest times to the present.

Two credits each semester. Hicks.

497–498. UNDERGRADUATE SEMINAR.
Credit to be arranged. Staff.

501–502. GRADUATE SEMINAR.
Prerequisite required in certain fields. Credit to be arranged. Staff.

591–592. GRADUATE THESIS.
Credit to be arranged. Staff.

Political Science

101–102. AMERICAN GOVERNMENT. A basic course dealing with the organization, the working principles, structural problems, and functional processes of the federal, state, and local governments of the United States; and with recent trends in administration and constitution-making. Political Science 101, federal government; Political Science 102, state and local. May be used to satisfy requirements for United States and Nevada Constitutions.
Three credits each semester. Smith, Elliott.

105–106. COMPARATIVE GOVERNMENT. A study of the frameworks, functions and motivating ideals of various representative democratic and totalitarian governments.
Two credits each semester. Smith, Hutcheson.

201–202. CONSTITUTIONS OF THE UNITED STATES AND NEVADA. Origins, history, and essentials of these constitutions — with emphasis upon devotion to American institutions and ideals. Political Science 201, United States Constitution; Political Science 202, Nevada Constitution.
One credit each semester. Not open to freshmen. Staff.

357(G). ELEMENTS OF POLITICAL SCIENCE. An introduction to certain concepts, distinctions and terminology necessary for an intelligent approach to a study of the science of politics; theories as to the origin, nature, and functions of the State.
Prerequisite for graduate credit: Political Science 101–102, 105–106.
First semester. Three credits. Smith.

369(G). HISTORY OF POLITICAL THOUGHT. A survey course designed to portray the historical development of political thinking from the classical period to the present. A discussion of types of inquiry, or methods of approach.
Prerequisite for graduate credit: Political Science 101–102, 105–106.
First semester. Two credits. Smith.

404(G). INTERNATIONAL LAW AND ORGANIZATION. The elements of international law, and a study of organizational forms as they relate to international law and procedure.
Prerequisite for graduate credit: Political Science 101–102, 105–106.
Second semester. Two credits. Smith.

416(G). POLITICAL PARTIES. The party system in the United

States; the history, composition, and functions of parties—their organization and methods.

Prerequisite for graduate credit: Political Science 101–102, 105–106. *Second semester. Three credits.* Smith.

418(G). PUBLIC PERSONNEL ADMINISTRATION. A study of methods of recruiting, examining, training, and of other techniques utilized in the management of employees in government service.

Prerequisite for graduate credit: Political Science 101–102, 105–106. *Second semester. Two credits.* Smith.

427(G). AMERICAN DIPLOMACY. Governmental machinery for the conduct of American foreign relations; traditional policies; current problems and practices; impending changes.

Prerequisite for graduate credit: Political Science 101–102, 105–106. *First semester. Two credits.* Smith.

431(G)–432(G). PRINCIPLES OF PUBLIC ADMINISTRATION. Principles and problems of public administration; the budget, forms of administrative action; types of control; administrative law.

Prerequisite for graduate credit: Political Science 101–102, 105–106. *Two credits each semester.* Smith.

497–498. UNDERGRADUATE SEMINAR.
Credit to be arranged. Staff.

501–502. GRADUATE SEMINAR.
Prerequisite required in certain fields. Credit to be arranged. Staff.

591–592. GRADUATE THESIS.
Credit to be arranged. Smith.

Home Economics

Professor SWIFT (Chairman); Associate Professor CARROLL; Miss EAGER, Miss FONDA.

Students concentrating in the College of Arts and Science and wishing to select related subjects in home economics should consider the following courses, open to men and women:

Freshman
Orientation, 103
Foods, 131-132
Clothing, 115-116
Nutrition, 133

Junior
Nutrition, 334
Cookery for Men, 357
Tailoring, 366
Family Clothing Problems, 367

Sophomore
Food and Nutrition, 250
Care of Family Health, 253
Art and Science of Meal Service, 255

Senior
Child Development, 475
Family Life and Relationships, 476
Child Guidance, 477-478
Home Management, 486
Home Planning, 487
Experimental Foods, 494
Institutional Management, 498

103. ORIENTATION. A discussion of opportunities in the field of home economics as a basis for the choice of major. Also application of standards of social conduct to daily living.
First semester. One credit. Swift.

115. CLOTHING. Application of principles of color and design in selection of clothes for the college girl. Grooming. Construction of garments.
First semester. One lecture; two laboratory periods. Three credits.

116. TEXTILES FOR HOME AND INSTITUTIONS. A study of construction of fabrics and fiber content, their selection, care, and use. New textiles and new finishes. Field trips.
Second semester. Two lectures; one laboratory period. Three credits.

118. COSTUME DESIGN AND CONSTRUCTION. Application of color, line, and the principles of art in the selection of clothing for the individual. Fitting and simple pattern design.
Second semester. One lecture; two laboratory periods. Three credits.

131. FOOD FOR THE FAMILY. A study of food including the principles of selection, preparation, care and use of foods for maintaining the nutrition of the individual and his family. Preparation of family meals with emphasis on breakfast and lunches.
First semester. One lecture; two laboratory periods. Three credits. Staff.

132. FOOD FOR THE FAMILY. A study of food, including the daily food patterns, standards for selection, care, cost, and preparation of family meals, with emphasis on dinners.
Second semester. One lecture; two laboratory periods. Three credits. Staff.

133. ELEMENTARY NUTRITION. A study of the relationship of food to the maintenance of health.
First semester. Three credits. Eager.

218. FAMILY ECONOMICS. The economic principles of family consumption.
Second semester. Three credits. Eager.

250. FOOD AND NUTRITION. Designed for the prenursing student. This course deals with food preparation, service, and applied nutrition.
Second semester. (Offered in alternate years.) *Two lectures; one laboratory period. Three credits.*

253. COMMUNITY, SCHOOL, AND FAMILY HEALTH. A study covering the important phases of health.
First semester. Two lectures; one laboratory period. Three credits. Swift.

255. THE ART AND SCIENCE OF MEAL SERVICE. Student actually purchases, prepares and serves family meals at various cost levels. All types of service are experienced.
Prerequisite: Home Economics 131, 132 or equivalent. *One lecture; three laboratory periods. Four credits.* Swift.

334(G). NUTRITION. Designed for students in the area of foods and nutrition and any other student who can meet the prerequisites of physiology and organic chemistry.
(Offered in alternate years.) *Three credits.*

357. COOKERY FOR MEN. A service course for men who desire to learn short cuts of cookery on the grill, in the camp, or on the range.
First semester. One lecture; two laboratory periods. Three credits.

366. TAILORING AND ADVANCED CLOTHING. A study of tailoring techniques, construction of coats, suits, and dresses. Advanced problems in construction.
Second semester. One lecture; two workshops. Three credits.

367. FAMILY CLOTHING. Emphasis on children's clothing. Selection on the basis of the child's physical and emotional needs. Construction of children's garments.
First semester. One lecture; two workshops. Three credits.

376. THE NURSERY SCHOOL. An introduction to the nursery school, its basic philosophy, curriculum, and procedure.
Second semester. Three credits. Carroll.

400. NUTRITION. Nutrition as it relates to the school lunch situation.
One credit. Staff.

402. HOME ECONOMICS SEMINAR.
Second semester. Two credits. Staff.

436(G). DIET THERAPY. A study of the adaption of diet in disease in which nutrition is a primary concern. Continued application of material in Home Economics 334. For nutrition majors.
Second semester. (Alternates with Home Economics 334.) *Two lectures; one laboratory period. Three credits.*

475(G). CHILD DEVELOPMENT. Preconceptional care, pregnancy, and childbirth; the factors which contribute to the physical and mental health of the mother, and the well-being of the family group. Growth and development of the child during the prenatal period and early infancy. Observations of children are arranged.
Prerequisite: Junior or senior standing, or consent of the instructor.
First semester. Three credits. Carroll.

476(G). FAMILY LIFE AND RELATIONSHIPS. Growth and behavior characteristics of the preschool child, with principles for guidance. The home environment, and the relationships within the family, as significant factors in the child's development during the important foundational years.
Second semester. Three or four credits. Carroll.

477(G)–478(G). CHILD GUIDANCE. Child guidance based on actual experience with the preschool group.
One lecture; one laboratory period. Three or four credits each semester. Carroll.

483–484. SPECIAL PROBLEMS IN FOODS. Field work for seniors or graduate students.
Three credits. Swift.

486. HOME MANAGEMENT AND EQUIPMENT. Opportunity is given to study the best and easiest ways of accomplishing a job; how to select, buy, and care for household equipment.
First semester. Four credits. Staff.

487. HOME PLANNING AND FURNISHING. A study of art principles as applied to selecting and arranging of furnishings. Field trips.
Second semester. One lecture; two laboratory periods. Three credits.

491. EDUCATION FOR FOODS AND NUTRITION MAJORS. This course meets the requirements of the American Dietetic Association.
First semester. (Offered in alternate years beginning in 1954-1955.) *Three credits.* Swift.

494. EXPERIMENTAL COOKERY. Development of experimental methods; application to investigations in cookery. Preparation for independent investigation.
Prerequisite: Home Economics 131, 132. *Second semester. One lecture; one laboratory period. Two credits.* Swift.

496. QUANTITY COOKERY. Meal planning, food production, purchasing and service for large groups.
Prerequisite: Home Economics 131, 132. *Second semester. One lecture; two laboratory periods. Three credits.*

498. INSTITUTION ORGANIZATION AND MANAGEMENT. A study of equipment, furnishings, floor plans, cost control, personnel, labor and sanitation laws governing food preparation in institutions.
Second semester. Three credits.

499. DEMONSTRATION. Principles and techniques for commercial and classroom demonstrations. Audiences — campus and community.
First semester. (Offered in alternate years.) *One lecture; two laboratory periods. Three credits.* Swift.

591. THESIS COURSE FOR GRADUATE STUDENTS. *Credit to be arranged.*

Horticulture, See Agronomy and Range Management

Italian, See Foreign Languages

Journalism

Professor HIGGINBOTHAM (Chairman of Department); Associate Professor JANULIS; Members of the staffs of *The Reno Evening Gazette, The Nevada State Journal, The Nevada State News, The Sparks Tribune,* the *Carson City Nevada Appeal,* The United Press, The Associated Press, Radio Station KOH, Television Station KZTV, Reno Press Service, and the Thomas C. Wilson Advertising Agency.

101–102. INTERPRETING THE DAY'S NEWS. Study of the news of the day and the function of the newspaper, the news magazine, and news broadcasts in American life. A course both for students beginning the study of journalism and for those who wish an introduction to the intelligent following of the news as part of a general education.

Open to all students. Course may be started with Journalism 101 or Journalism 102. *Three credits each semester.* Staff.

221–222. NEWS GATHERING AND WRITING. What makes news, how news is obtained, and how news is written are studied and the principles applied in reporting news for the *U. of N. Sagebrush.* Discussions and laboratory.

Prerequisite: Sophomore standing. *Three credits each semester.* Janulis.

231–232, 361–362, 491(G)–492(G). ADVANCED INTERPRETATION OF THE DAY'S NEWS. Study and interpretation, on an advanced level, of the news of the day. Both for students intending to practice journalism and for those who wish to continue their study of the news as part of a liberal education.

Prerequisite: Journalism 101-102. *One or two credits each semester.* Higginbotham and Janulis.

301. PUBLIC RELATIONS TECHNIQUES. The tools of public relations, with stress on the journalistic media, and methods of using them successfully.

Open to all juniors and seniors. (Offered in alternate years.) *Two credits.* Staff.

320. PUBLICITY METHODS. A course for officers and publicity chairmen, present and prospective, of civic, social, religious, professional, recreational, and fraternal organizations in the handling of news of their groups for newspapers and radio stations. Offered in cooperation with Reno and Sparks newspapers and

radio and television stations. Not acceptable toward satisfying the requirements for the field of concentration in journalism or the degree Bachelor of Arts in Journalism.

Open to juniors and seniors in any college. (Offered in alternate years.) *Two credits.* Higginbotham.

321. MAGAZINE READING. A course designed to introduce students to the reading, enjoyment, and understanding, both in college and after graduation, of various types of primarily journalistic magazines.

Open to juniors and seniors in any college. (Offered in alternate years.) *Three credits.* Higginbotham.

351–352. NEWS EDITING. Copy reading, rewriting, headline writing, news evaluation, the mechanics of publishing and make-up, and similar duties of the newspaper copy editor.

Prerequisite: Journalism 221-222. *Two or three credits each semester.* Janulis.

353(G). THE EVOLUTION OF THE NEWSPAPER AS A SOCIAL INSTITUTION. The development of the newspaper in America, from colonial times to the present, especially in relation to political, economic, and social movements. The men and the newspapers that created the traditions of modern journalism.

Open to juniors and seniors in any college. *Three credits.* Higginbotham.

354(G). 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: Journalism 221-222. All students concentrating on preparation for editorial work will be expected to elect this course as part of the requirements. (Offered in alternate years.) *Three credits.* Higginbotham.

356. THE PRINCIPLES OF ADVERTISING. A survey of the elements which go into successful advertisements, including basic principles, types, planning, media, copy, production, and social responsibility.

Open to juniors and seniors in all colleges. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. *Two credits.* Janulis.

357. ADVERTISEMENT COPY WRITING. Application of the principles of advertising in the writing of copy for newspapers, magazines, and radio stations.

Prerequisite: Journalism 356 and upperclass standing. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. *Two credits.* Janulis.

365(G)–366(G). COMMUNITY NEWSPAPER MANAGEMENT. Principles of journalism peculiar to the country weekly and small city

daily, especially in Nevada. Editorial, circulation, and advertising management.

Prerequisite: Journalism 221-222. All students concentrating on preparation for community newspaper work will be expected to elect this course as part of the requirements. (Offered in alternate years.) *Two credits each semester.* Janulis.

367(G). EDITORIAL WRITING. Study of the interpretation of contemporary events through the newspaper and magazine editorial, coupled with extensive practice in writing.

Prerequisite: Journalism 221-222 or upperclass standing. (Offered in alternate years.) *Two or three credits.* Higginbotham.

368. THE SPECIAL FEATURE ARTICLE. Study, writing, and marketing of the special feature article for magazines and newspapers.

Prerequisite: Journalism 221-222 or upperclass standing. (Offered in alternate years.) *Two credits.* Janulis.

370. AGRICULTURAL JOURNALISM. The writing of news stories and feature articles on agriculture and home economics subjects for newspapers and magazines.

Open only to upperclass students in the College of Agriculture. Not acceptable toward the requirements of the Course in Journalism or the field of concentration in journalism. (Offered in alternate years.) *Two or three credits.* Janulis.

372(G). THE LAW OF THE PRESS. Study of state and federal laws affecting the reporting of news, the expression of opinion, advertising, the publication of newspapers and magazines, and radio broadcasting.

Prerequisite: Journalism 221-222. *Two credits.* Higginbotham.

373. TYPOGRAPHY AND LAYOUT. Study and practice of the use of type, illustrations, color, and similar typographic elements in the display of news, advertisements, and other printed journalistic material. The mechanics of publishing.

Prerequisite: Journalism 221–222 or 356 and 357. *Two credits.* Staff.

374. NEWSPAPER ADVERTISING. The production and handling of advertising for weekly and daily newspapers from idea to printed page. Emphasis on practices of Nevada newspapers.

Prerequisite: Journalism 356. Open to juniors and seniors in any college. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. (Offered in alternate years.) *Two credits.* Staff.

375. PICTORIAL JOURNALISM. Study of the principles of reporting news through photography and the application of them in practice work for various publications. Discussion and laboratory.

Prerequisite: Journalism 221–222. (Offered in alternate years.) *Two credits.* Higginbotham.

379(G). JOURNALISM AND SOCIETY. Sociological aspects of

journalism, including public opinion, newspaper leadership and responsibility, ethics, censorship, propaganda, the world's press, and other contemporary problems.

Prerequisite: Journalism 221-222 or upperclass standing. *Two or three credits.* Higginbotham.

386. JOURNALISM ON THE AIR. The principles and practice of writing journalistic types—the news story, the column, features, advertising—for broadcasting. Special emphasis is given to news processing.

Prerequisite: Journalism 221-222. (Offered in alternate years.) *Two or three credits.* Janulis.

387(G). JOURNALISM IN THE HIGH SCHOOL. An introduction to the teaching of journalism in high school and to the supervision of high school newspapers, magazines, and year books.

Offered especially for students preparing to teach English in Nevada high schools. Not acceptable for the field of concentration in journalism or the Course in Journalism. (Offered in alternate years.) *Two credits.* Janulis.

393(G)–394(G), 395(G)–396(G). INDEPENDENT STUDY. Aspects of journalism not covered by other courses.

Open only to juniors and seniors in journalism who have attained an average grade of B in all their work. *One credit each semester.* Higginbotham.

481–482. JOURNALISM INTERNSHIP. Reporting and copy reading as members of the staffs of the *Nevada State Journal,* the *Reno Evening Gazette,* the United Press Association, the Associated Press, the *Sparks Tribune,* the *Nevada State News,* and the *Carson City Nevada Appeal;* advertising work with the Thomas C. Wilson Advertising Agency, or the Reno newspapers; news or advertising work with Radio Station KOH or Television Station KZTV; or publicity work with the Reno Press Service.

Prerequisite: Open only to seniors in the Course in Journalism and senior students in journalism. Students will be assigned to internships in fields for which their courses in journalism have prepared them. *One, two, or three credits each semester.* Higginbotham and cooperators in journalism.

Latin, See Foreign Languages

Library Science

Professor HILL (Director of Libraries).

335. USE OF THE LIBRARY. Classification and arrangement of books in the University Library; general principles of cataloguing and filing; major reference works in all fields of knowledge; simple forms of bibliography making; intelligent use of the library.

Prerequisite: Sophomore standing. *Each semester. Two credits.* Hill.

Mathematics and Mechanics

Professors HARRIS, WOOD; Associate Professor BEESLEY (Chairman of Department); Assistant Professors DAVIS, DEMERS; Mr. BRADSHAW.

PLACEMENT EXAMINATION. During the orientation period preceding each fall registration a mathematics placement examination is given. All entering freshmen in the College of Engineering or in the Mackay School of Mines must take this examination. Other students who wish to evaluate their backgrounds in high school algebra may arrange to take the examination.

A. REFRESHER ALGEBRA. A thorough review of algebra for students who fail to pass the placement examination. This course may be used to remove entrance deficiencies, but cannot be used to fulfill the credit requirements for graduation in any of the colleges.

First semester. Four class periods. No credit, but counts as part of the student's regular load.

101. INTERMEDIATE ALGEBRA. A second course in algebra for students who have had one year of algebra in the high school. Credits earned in this course cannot be used to fulfill the credit requirements for graduation in the College of Engineering or in the Mackay School of Mines.

Prerequisite: One unit of high school algebra. *Each semester. Two credits.* Staff.

102. PLANE TRIGONOMETRY. A study of the trigonometric functions, identities, and the solution of triangles.

Prerequisite: Plane geometry and Mathematics 101 or 1½ units of high school algebra. *Each semester. Two credits.* Staff.

105. ARITHMETIC. Principles and applications of arithmetic. Primarily for students preparing to teach.

Open to students in those curricula which require it and to others with the consent of the department. *Each semester. Two credits.* Bradshaw.

110. COLLEGE ALGEBRA. Progressions, binominal theorem, logarithms, inequalities, systems of linear and quadratic equations, determinants, elementary theory of equations, permutations and combinations.

Prerequisite: Mathematics 101 or 1½ units of high school algebra. *Each semester. Three credits.* Staff.

140. 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 are studied.

Prerequisite: Mathematics 102 and 110 or equivalent. With the

permission of the instructor, Mathematics 110 and 140 may be taken concurrently. *Second semester. Three credits.*

151–152. ELEMENTARY MATHEMATICAL ANALYSIS. A unified treatment of the elements of college algebra, trigonometry, and analytic geometry, with special emphasis upon the applications. These courses are required of all students who are candidates for an engineering degree and are recommended for all others who intend to specialize in applied mathematics or who desire mathematical preparation for scientific work. Students who fail to pass the placement examination (see above) must complete Mathematics A before registering in Mathematics 151.

Five credits each semester. Staff.

210. MATHEMATICS OF FINANCE. A mathematical study of interest, annuities, sinking funds, depreciation, amortization, and other topics related to business problems, including an introduction to the mathematics of life insurance.

Prerequisite: Mathematics 101 or 1½ units of high school algebra. *First semester. Three credits.* Davis.

220. MATHEMATICAL STATISTICS. A mathematical study of frequency distribution, averages, dispersion, probable error, correlation, graphical methods and other related topics, with application to problems in the social and natural sciences.

Prerequisite: Mathematics 110 or equivalent or Mathematics 210 and the instructor's permission. *Second semester. Three credits.* Davis.

231–232. DIFFERENTIAL AND INTEGRAL CALCULUS. The elements of the calculus with applications. Designed for students in the College of Arts and Science.

Prerequisite: Mathematics 110, 102, 140, or Mathematics 151-152. *Three credits each semester.* Staff.

251. ENGINEERING CALCULUS. A unified course in differential and integral calculus with special emphasis upon applications. Required of all engineering students.

Prerequisite: Mathematics 151-152 or equivalent. *First semester. Four credits.* Beesley and Staff.

252. ENGINEERING CALCULUS. A continuation of Mathematics 251. Required of all students in the College of Engineering.

Prerequisite: Mathematics 251. *Second semester. Four credits.* Beesley and Staff.

254. ENGINEERING CALCULUS. A continuation of Mathematics 251. Required of all engineering students in the Mackay School of Mines. Those who plan to take mathematics courses beyond Mathematics 342 should substitute Mathematics 252 for Mathematics 254.

Prerequisite: Mathematics 251. *Second semester. Two credits.* Staff.

325. INTERMEDIATE CALCULUS. Infinite series, solid analytic

geometry, partial differentiation, and other topics necessary to complete the student's preparation for Mathematics 425 and other advanced courses.

Prerequisite: Mathematics 232. *First semester. Two credits.* Staff.

341–342. 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.

Prerequisite: Mathematics 252 or 254; Physics 203. Mathematics 341, *first semester, three credits.* Mathematics 342, *second semester, two credits.* Harris.

351(G). DIFFERENTIAL EQUATIONS. A study of techniques for the solution of ordinary differential equations with emphasis on geometrical and physical applications.

Prerequisite: Mathematics 232, 252, or 254. *First semester. Two credits.* Davis.

352(G). DIFFERENTIAL EQUATIONS. This course emphasizes a deeper understanding of the theory of differential equations than does Mathematics 351. It includes theorems on the existence of solutions of such equations, and the applications of the theory to topics in mathematics and physics.

Prerequisite: Mathematics 351. This requirement may be waived by the instructor. *Second semester. Two credits.* Davis.

371(G). THE THEORY OF EQUATIONS. The course is concerned primarily with the classical elementary theory of equations. It includes also a discussion of determinants and a study of the Peano axioms for the natural numbers.

Prerequisite: Mathematics 110 or equivalent. *First semester.* (Offered in alternate years beginning in 1953-1954.) *Three credits.* Davis.

372(G). INTRODUCTION TO MODERN ALGEBRA. Various topics of modern algebra are considered including the elementary theory of groups, rings, and fields.

Prerequisite: Mathematics 371. This requirement may be waived by the instructor. *Second semester.* (Offered in alternate years beginning in 1953-1954.) *Three credits.* Davis.

381(G). COLLEGE GEOMETRY. A study of advanced geometrical topics such as the Nine Point Circle, Ceva's Theorem, etc., using the methods of proof of elementary geometry. Recommended for students preparing to teach mathematics in high school.

(Offered in alternate years beginning in 1954–1955.) *Three credits.* Beesley.

425(G). ADVANCED CALCULUS. A more thorough study of the differential and integral calculus, with extensive applications to geometrical and physical problems.

Prerequisite: Mathematics 325 or 252. *Second semester. Three credits.* Staff.

451(G). ADVANCED MATHEMATICS FOR ENGINEERS. Vector analysis, partial differential equations, Fourier series, and other topics of importance in applied mathematics.
Prerequisite: Mathematics 425. *Three credits. Second semester.* Offered when requested by a sufficient number of students. Demers.

501. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. Deals with complex numbers, analytic functions, integration, infinite series, entire functions.
Prerequisite: Mathematics 425. *First semester. Three credits.* Offered when requested by a sufficient number of students. Beesley.

502. THEORY OF FUNCTIONS OF A REAL VARIABLE. The real number system. Elementary set theory, continuity, differentiability, integration and related topics.
Prerequisite: Mathematics 425. *Second semester. Three credits.* Offered when requested by a sufficient number of students. Beesley.

550. SEMINAR. Library work and reports on topics of mathematical interest.
Each semester. One to three credits each semester. May be repeated for credit as Mathematics 550a, 550b, 550c. Except under special circumstances, total credits will be limited to four.

591. THESIS COURSE FOR GRADUATE STUDENTS.
Six credits. Staff.

Mechanical Engineering

Professors HARRIS, VAN DYKE (Chairman of Department); Assistant Professor VAN TASSEL; Mr. RYAN.

105. ENGINEERING DRAWING. Mechanical drawing, freehand lettering, orthographic projection, pictorial methods, and working drawings.
Prerequisite: Plane geometry (solid geometry very desirable). Mathematics 151 to be taken concurrently with Mechanical Engineering 105. *First semester. Two credits.*

106. DESCRIPTIVE GEOMETRY. Principles of descriptive geometry and their applications to problems of engineering. Includes auxiliary views, developments, intersections, double-curved and warped surfaces in addition to point, line, and plane problems.
Prerequisite: Completion of Mechanical Engineering 105 and Mathematics 152 to be taken concurrently. *Second semester. Two credits.*

351. KINEMATICS OF MACHINERY. A study of the laws of motion of machinery preliminary to machine design. Includes analytical and graphical analysis of the motion of linkages, cams, gears, rolling bodies, trains of mechanisms, etc., and the forms of gear teeth and cams.
Prerequisite: Mathematics 341 (completed or concurrently taken); Physics 203-204; Mathematics 251-252. *First semester. Three credits.*

353. FUNDAMENTALS OF THERMODYNAMICS. Similar to Mechanical Engineering 355 and 356, but abbreviated so that it can be covered in one semester.
Prerequisite: Physics 203-204; Mathematics 251-252. *Each semester. Three credits.*

355. THERMODYNAMICS. Principles of engineering thermodynamics; properties of gases; thermodynamic processes of gases; gas cycles; internal combustion engines; air compressors and elements of different types of power plants.
Prerequisite: Physics 203-204; Mathematics 251-252. *First semester. Three credits.*

356. APPLIED THERMODYNAMICS. Additional work in thermodynamics; properties of vapors; thermodynamic processes of vapors; vapor cycles; steam engines; steam turbines.
Prerequisite: Mechanical Engineering 355. *Second semester. Three credits.*

457. MACHINE DESIGN. The application of the laws of kinematics, mechanics, and strength of materials to the design of various machine elements as bolts, belts, gears, flywheels, bearings, structural machine members, clutches, brakes, shafts, cylinders, cams, keys, couplings, etc.
Prerequisite: Mathematics 341-342; Civil Engineering 376; Mechanical Engineering 351. *First semester. Three credits.*

458. MACHINE DESIGN. A continuation of Mechanical Engineering 457 with more advanced machine design problems involving the integration of various machine elements and more comprehensive analysis of stress, fabrications, economies, etc.
Prerequisite: Mechanical Engineering 457. *Second semester. Three credits.*

461(G). HEAT TRANSFER. A study of the basic laws of heat transfer by conduction, convection, and radiation, and the application of heat transfer principles to engineering problems.
Prerequisite: Mechanical Engineering 356. *First semester. Three credits.*

462. MECHANICAL ENGINEERING LABORATORY. An abbreviation of Mechanical Engineering 464 and 465 for students who have taken Mechanical Engineering 353.
Prerequisite: Mechanical Engineering 353. *Second semester. Two credits.*

464. MECHANICAL ENGINEERING LABORATORY. Use and calibration of instruments; study of oils; calorimetry; presentation of data and the writing of reports.
Prerequisite: Mechanical Engineering 355 and 356. *First semester. Two credits.*

465. MECHANICAL ENGINEERING LABORATORY. The study of

experimental thermodynamics involving internal combustion engines, steam prime movers, refrigeration, and air compression; principles of heat transfer and air conditioning.
Prerequisite: Mechanical Engineering 464. *Second semester. Two credits.*

471. HEAT-POWER ENGINEERING. Power plants, fuels, combustion, steam generators, turbines, and steam generator accessories.
Prerequisite: Mechanical Engineering 356. *First semester. Two credits.*

472(G). AIR CONDITIONING AND REFRIGERATION. Air conditioning for human comfort and industrial purposes, including heating and refrigeration.
Prerequisite: Mechanical Engineering 356. *Second semester. Three credits.*

476(G). MECHANICAL VIBRATIONS. Theory of mechanical vibrations and practical engineering applications to problems involving critical speeds and torsional vibrations of rotating machinery; vibrations of beams and plates; vibration isolation and damping, vibration absorbers, dynamic balancing of machines, etc. Lectures, laboratory demonstrations, experiments and problems.
Prerequisite: Mathematics 341-342, Mathematics 351, Physics 203-204, Civil Engineering 376. *Second semester. Three credits.*

477(G). INTERNAL COMBUSTION ENGINES. A study of modern internal combustion engines of the stationary, automotive and aeronautic types, including spark ignition and compression ignition. Thermodynamics for engine analysis, fuels, mixture requirements, combustion, detonation and its effects, efficiencies, engine performance, etc., are included.
Prerequisite: Mechanical Engineering 356. *Second semester. Three credits.*

Mechanic Arts

203. 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.
Two credits.

205. MACHINE SHOP. An advanced course in gear cutting, face plate work, elementary die making and construction and use of special tools, jigs, and fixtures.
Prerequisite: Mechanic Arts 203 or equivalent. *One or two credits.*

207. MACHINE SHOP. An advanced course in general machine work for students wishing to develop projects in connection with thesis or special problems.
Prerequisite: Mechanic Arts 203. *One or two credits.*

220. WELDING AND HEAT TREATING. Shop practice in oxy-acetylene and electric arc welding, stress relieving, annealing, and heat treating.
One credit.

226. MANUFACTURING PROCESSES. A study of processes, machines, and tools used in manufacturing. Demonstrations and visual aids are used.
Second semester. One credit.

Metallurgy

Professor SMYTH (Chairman of Department); Assistant Professors HAMMOND, WINSTON.

204. INTRODUCTION TO METALLURGY. Fundamental principles relating to the properties, uses, and production of metals and alloys.
Prerequisite: Chemistry 124 and Physics 151 or 203. *Second semester. Three lectures. Three credits.* Smyth.

206. ENGINEERING MATERIALS AND PROCESSES. A general course stressing properties of metals, theory and use of alloys, heat treatment, corrosion, pyrometry, production of ferrous metals, and shaping metals.
Prerequisite: Chemistry 101, Physics 203. *Second semester. Two lectures. Two credits.* Winston.

311(G). FIRE ASSAYING. Theory and practice of fire assaying, fuels, combustion, roasting, and smelting.
Prerequisite: Geology 212, Chemistry 232. *First semester. One lecture; two three-hour laboratory periods. Three credits.* Smyth.

322(G). MINERAL DRESSING. Principles and practices of mineral preparation and concentration.
Prerequisite: Chemistry 232, Geology 212, and Metallurgy 311. *Second semester. Two lectures; two three-hour laboratory periods. Four credits.* Hammond.

343(G). FERROUS METALLURGY. Principles and practices of producing and shaping iron and steel products.
Prerequisite: Metallurgy 204. *First semester. Two lectures. Two credits.* Winston.

432(G). PYROMETALLURGY. Theory and practice of extracting and refining the common nonferrous metals by fire methods.
Prerequisite: Two years of college chemistry. *Second semester. Three lectures. Three credits.* Winston.

433(G). HYDROMETALLURGY. Theory and practice of recovering metals by hydrometallurgical procedures.
Prerequisite: Chemistry 232 and Metallurgy 311 and 322. *First semester. Two lectures; one three-hour laboratory period. Three credits.* Hammond.

435(G). ELECTROMETALLURGY. Principles and practices of electrolytic recovery processes and the construction and uses of electric furnaces.

Prerequisite: Metallurgy 311. *First semester. Two lectures. Two credits.* Winston.

450(G). PRINCIPLES OF PHYSICAL METALLURGY. A study of the fundamental principles concerning structure and properties of metals and alloys, and practice in metallographic techniques.

Prerequisite: Metallurgy 204. *Second semester. Two lectures; one three-hour laboratory period. Three credits.* Winston.

451(G). PHYSICAL METALLURGY. Continuation of Metallurgy 450 with special emphasis on transformations in the solid state.

Prerequisite: Metallurgy 450. *First semester. Two lectures; one three-hour laboratory period. Three credits.* Winston.

476(G). METALLURGICAL PROBLEMS. Mathematical and economic study of metallurgical processes and plants.

Prerequisite: Senior standing in metallurgy, mining, or chemistry. *Second semester. Two lectures. Two credits.* Smyth.

495(G)–496(G). METALLURGY PROJECT. Individual research problems in extractive or physical metallurgy.

Prerequisite: Metallurgy courses to the senior year. *Two three-hour laboratory periods. Two credits each semester.* Staff.

501–502. ADVANCED METALLURGY. (a) General metallurgy, (b) metallurgical analysis, (c) mineral dressing, (d) pyrometallurgy, (e) hydrometallurgy, (f) electrometallurgy, (g) nonferrous metallurgy, (h) ferrous metallurgy, (j) physical metallurgy, (k) metallography, (m) heat treatment, (n) mechanical metallurgy, (p) history of metallurgy. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

One to five credits each semester. Staff.

516. X-RAY DIFFRACTION. Theory of X-ray diffraction and methods used in obtaining and interpreting X-ray diffraction diagrams.

Prerequisite: One year of college physics. *Each semester. One lecture; two three-hour laboratory periods. Three credits.* Winston.

522. ADVANCED MINERAL DRESSING. Continuation of Metallurgy 322 with emphasis on the concentration and flotation of nonmetallic minerals and metallic oxides.

Prerequisite: Metallurgy 322. *Second semester. One lecture; two three-hour laboratory periods. Three credits.* Hammond.

538. RARE AND MINOR METALS. Production and uses of rare and minor metals.

Prerequisite: Metallurgy 432 and 433. *Second semester. Two lectures. Two credits.* Hammond.

591–592. MINERAL INDUSTRY SEMINAR. (Same as Mining 591–592.)

597–598. THESIS.
Each semester. Credit to be arranged. Staff.

Military Science and Tactics

Professor Lt. Col. BEREUTER (Chairman of Department); Assistant Professors Capt. CROWE, Capt. HOLT.

101–102. FIRST YEAR BASIC BRANCH GENERAL. Three hours drill and conference per week. Required of all first-year men not specifically exempted.
Military 101 is not a prerequisite for Military 102. *One credit each semester.*

201–202. SECOND YEAR BASIC BRANCH GENERAL. Three hours drill and conference per week.
Military 201 is not a prerequisite for Military 202. *One credit each semester.*

301–302. FIRST YEAR ADVANCED BRANCH GENERAL. Five hours drill and conference per week. These are the first two numbers of an elective group consisting of Military 301, 302, 303, 401, and 402. Each application for enrollment in this group must be approved by the PMS&T, subject to the limitation of annual quotas fixed by the Department of the Army.
Prerequisite: Military 101, 102, 201, and 202, or their equivalent. *Three credits each semester.*

303. SUMMER CAMP. All who take advanced training are required to attend a six-week summer camp immediately following Military 302. The place and date of attendance will be announced at a later date.
Prerequisite: Military 301, 302. *Two credits.*

401–402. SECOND YEAR ADVANCED BRANCH GENERAL. Five hours drill and conference per week.
Prerequisite: Military 301, 302, 303. *Three credits each semester.*

Mineralogy, See Geology

Mining

Professor SMYTH (Chairman of Department); Associate Professor NELSON.

A. PRACTICAL MINING. Practical work in mining, metallurgy, or geology during the summer vacation. Such work must extend over a period of at least two months, and a satisfactory report must be prepared upon it.

Freshman, sophomore, or junior vacation. Required for graduation. No credit.

101. MINERAL INDUSTRY LECTURES. A brief survey and orientation course designed to introduce the student to the mineral industry.
First semester. One lecture. One credit. Staff.

312(G). EXCAVATION. The principles and practice of earth and rock excavation; including drills, explosives, blasting, tunneling, shaft sinking, and boring.
Prerequisite: Physics 203. *Second semester. Three lectures. Three credits.* Nelson.

321(G). MINE EQUIPMENT. The principles and practice of underground and surface haulage, hoisting, air compression, and mine drainage.
Prerequisite: Physics 203. *First semester. Three lectures. Three credits.* Nelson.

423(G). MINING LABORATORY. Test work on compressors and fans, drilling and blasting practice, and field trips.
Prerequisite: Mining 312 and 321. *First semester. Two three-hour laboratory periods. Two credits.* Staff.

426(G). MINE PLANT DESIGN. The design of mine plant structures including buildings, headframes, and ore bins; and of mining machinery including hoists, skips, and pumps.
Prerequisite: Mining 321. *Second semester. Two three-hour laboratory periods. Two credits.* Nelson.

432(G). MINING METHODS. The prospecting, development, and exploitation of mineral deposits with stress on underground metal mining methods.
Prerequisite: Mining 312 and 321, or permission of instructor. *Second semester. Three lectures. Three credits.* Nelson.

435(G). PLACER MINING. Lectures on occurrence, sampling, and exploitation of placer deposits; including dry, hydraulic, and dredging methods.
Prerequisite: Mining 312 or permission of instructor. *First semester. Two lectures. Two credits.* Smyth.

442(G). MINE SURVEYING. A study of surveying and mapping methods for underground and surface mines.
Prerequisite: Civil Engineering 242. *Two weeks during summer vacation. Two credits.* Nelson.

451(G). MINE SAFETY AND VENTILATION. Accident prevention, insurance and compensation; the theory and practice of mine ventilation and atmospheric and dust control.
First semester. Two lectures. Two credits. Nelson.

462(G). Mineral Industry Economics. Administrative and economic problems of mining companies; including mining law.
Prerequisite: Mining 312 or permission of instructor. *Second semester. Three lectures. Three credits.* Staff.

466(G). Mine Sampling and Valuation. A study of the factors involved in sampling ore bodies, estimation of ore reserves, and valuation of mining properties.
Second semester. Two lectures. Two credits. Smyth.

501–502. Advanced Mining. (a) General mining, (b) excavation, (c) drilling, (d) blasting, (e) equipment, (f) transportation, (g) design, (h) surface mining, (j) underground mining, (k) safety, (m) ventilation, (n) mining economics, (p) mine administration, (r) mining law, (s) mineral economics, (t) history of mining. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.
One to five credits each semester. Staff.

570. Nonmetallics. Mining, preparation, and sale of nonmetallic minerals; stressing those of importance in Nevada and the Pacific Coast states.
Prerequisite: Geology 212. *Second semester. Three lectures. Three credits.* Staff.

591–592. Mineral Industry Seminar. Review and discussion by staff members and graduate students of individual research or important new publications concerning the mineral industry and related sciences.
Prerequisite: Graduate or faculty standing. *Each semester. Credit to be arranged.* Staff.

597–598. Thesis.
Each semester. Credit to be arranged. Staff.

Music

Professor Post (Chairman of Department); Assistant Professor Hickman.

101–102. Music Fundamentals and Ear Training. Notation, terminology, intervals, major and minor scales. Learning to read music in unison and in four-part arrangements. The course is designed to furnish a foundation for musicianship and is recommended for all music students and teachers in the public schools.
One credit each semester. Hickman.

103–104. Elementary Instruments. This course is set up primarily for students in education or music. Students will

become acquainted with the fundamental techniques in teaching various instruments such as clarinet, cornet, trombone, percussion, and string instruments. This course will be helpful to students preparing to teach. Class instruction.
One credit each semester. Hickman.

105–106. UNIVERSITY CHAMBER MUSIC ENSEMBLE. The work of this course will include music written for chamber ensemble as well as material arranged especially for the needs of the group. Students will prepare for at least one concert and assist in the presentation of larger works such as Handel's "Messiah," or Reno Civic Orchestra concerts. Open to students who are able to play string, brass, or wood-wind instruments.
*One credit each semester.** Hickman.

107–108. ELEMENTARY PIANO. Fundamentals of keyboard technique and experience in playing simple accompaniments and materials for classroom use. Restricted to approved education and music students. Class instruction.
One credit each semester. Post.

111–112. UNIVERSITY SINGERS CLUB. Literature selected from the best choral works. The group will take part in the annual community presentation of the oratorio, "The Messiah," by Handel, accompanied by the orchestra. In addition, there will be one or more public concerts by the group, including an opera or operetta in concert form.
Open to all students who are qualified. *One credit each semester.** Post.

113–114. ELEMENTARY VOICE. Fundamentals of good tone production, practical technique in reading parts and the interpretation of songs. Restricted to approved education and music students.
One credit each semester. Post.

117–118. UNIVERSITY BAND. Band appearances include athletic events, rallies, civic and university parades, out-of-town trips with the football team, and one or more band concerts. Open to men and women students, subject to approval of the director.
*One credit each semester.** Hickman.

203. EIGHTEENTH CENTURY MUSIC. Music as found in the pre-Bach and eighteenth century classic period. Recordings of Gregorian chant, minstrelsy, folk songs, the Netherland School and Palestrina. Bach, Handel, Gluck, Haydn, Mozart, and

*A maximum total of 12 credits shall be allowed any student for participation in the three musical organizations (band, chorus, and orchestra), to be distributed as the student prefers, with not more than 8 credits in any one organization.

Beethoven. Historical and biographical background. Illustrations from the Carnegie University Library of records and scores.

Open to all students and visitors. *First semester. Two credits.* Hickman.

204. NINETEENTH CENTURY MUSIC. The music of the Romantic period. Schubert, Weber, Schumann, Mendelssohn, Berlioz, Liszt, Wagner, Brahms, Chopin, Grieg, Dvorak, Saint-Saens, and Franck. Period background, records, scores, lectures, and recitals provide materials for observation and study.

Open to all students and visitors. *Second semester. Two credits.* Hickman.

301–302. HARMONY. Fundamental triads, the Dominant seventh chord and inversions in both the major and minor modes. Ear training, keyboard drill, simple analysis, harmonization of melodies and modulation. Figured bass.

Prerequisite: Music 101-102. *Three credits each semester.* Post.

303. RUSSIAN MUSIC. A survey of the music of Glinka, Rimsky-Korsakoff and the Russian "Five," Tschaikowsky, Scriabin, Rachmaninoff, Stravinsky, Prokofieff, Shostakovich, Khachaturian, and others, with illustrations from the recordings. Some historical and biographical background.

Open to all students and visitors. *First semester. Two credits.* Post.

304(G). MUSIC OF TODAY. Contemporary composers of all nations with special emphasis upon American music. Consideration of modern trends in both classical and popular fields. Music of Richard Strauss, Sibelius, Hindemith, Milhaud, Khachaturian, Williams, Holst, Schonberg, Chadwick, MacDowell, Carpenter, Copland, Harris, Gershwin and others, with illustrations from the recordings. Some historical and biographical background.

Open to all students and visitors. *Second semester. Two credits.* Post.

305–306. UNIVERSITY CHAMBER MUSIC ENSEMBLE. For description see Music 105–106.

*One credit each semester.** Hickman.

310(G). BAND INSTRUMENTATION. Arranging for the various keyed instruments. Transpositions, voicing, limitations of instruments and score reading. Full band arrangements from the piano score.

Prerequisite: Music 301-302. *Second semester. Three credits.* Hickman.

311–312. UNIVERSITY SINGERS CLUB. For description see Music 111–112.

*One credit each semester.** Post.

*See footnote, page 218.

317–318. UNIVERSITY BAND. For description see Music 117–118.

*One credit each semester.** Hickman.

324. (149) THE TEACHING OF MUSIC IN THE ELEMENTARY SCHOOL. (Same as Elementary Education 324.) This course is designed for the elementary teachers who teach their own music. Methods of presenting *rote* songs to primary grades and *note reading* to the intermediate grades will be practiced. The course includes a varied repertoire of songs and singing games, listening to music for rhythmic expression or creative effort, the use of rhythm instruments, practice in conducting and sight-singing.

Prerequisite: Music 101, 107, and 113; or equivalent. Open to juniors and seniors. Open to sophomores by consent of instructor and Dean of Education. *First semester. Three credits.* Hickman.

355. (349) METHODS AND MATERIALS IN TEACHING SECONDARY INSTRUMENTAL AND VOCAL MUSIC. (Same as Secondary Education 355.) Practical work in conducting vocal and instrumental groups. Practice given in sight-singing and score reading. Study given to the organizing of public school bands and choruses. This course is designed to follow Music 324 and acquaint students of music and prospective teachers with techniques and problems pertaining to junior and senior high school curricula.

Prerequisite: Music 101–102, active participation in band or chorus, or permission of the instructor. *Second semester. Two credits.* Hickman.

401(G)–402(G). ADVANCED HARMONY. Study of secondary sevenths, irregular resolutions of the seventh, ninth, eleventh, and thirteenth chords, mixed and altered chords, suspensions and other embellishments and modulation. Some original work. Continued ear training.

Prerequisite: Music 301–302. *Three credits each semester.* Post.

403–404. COUNTERPOINT. Two, three, and four part counterpoint in the traditional five species, strict and free counterpoint, chorale elaboration and the invention of the Ecclesiastical Modes.

Prerequisite: Music 401–402. *Three credits each semester.* Post.

Philosophy

Professor IRWIN (Chairman of Department); Assistant Professor MONSON; Mr. HILER.

101. INTRODUCTION OF PHILOSOPHY. A brief study of the problems and methods of philosophy together with the solutions suggested by various philosophers. 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.

Each semester. Three credits. Staff.

*See footnote, page 218.

102. Social Ethics. A critical examination of the standards of right and wrong to be found in religious, business, political, and social organizations in contemporary society. Designed for beginning students in philosophy.
Second semester. Two credits. Monson.

107. Elementary Logic. A study of the principles of correct reasoning. Emphasis is upon helping the student to analyze and evaluate arguments encountered in everyday life.
First semester. Three credits. Hiler.

110. Scientific Method. A consideration of the historical development of scientific methodology and a study of these principles as they are applied in the various fields of modern science.
Second semester. Three credits. Hiler.

201. Philosophy of Democracy. A consideration of the historical development of the democratic theory of the state, an analysis of the ideals and values recognized in a democratic state, and a discussion of some of the problems present in contemporary democracies.
Second semester. Three credits. Monson.

221. Ethical Theories. A study of the leading theories concerning standards of right and wrong. Among the topics discussed will be the meaning of goodness, justice, freedom, and responsibility.
First semester. Two credits. Monson.

351(G). History of Ancient Philosophy. A study of the principal philosophers of Greek and Roman civilizations including Socrates, Plato, Aristotle, and the early Christians.
Prerequisite: One course in philosophy. *First semester. Three credits.* Monson.

352(G). History of Modern Philosophy. A study of the development of philosophy from the Renaissance to the present including such men as Descartes, Locke, Hume, Kant, and Dewey.
Prerequisite: One course in philosophy. *Second semester. Three credits.* Monson.

354(G). Contemporary Philosophy. A study of the vital issues of present day philosophy as found in the writings of such men as Russell, Whitehead, James, and Santayana.
Prerequisite: One course in philosophy. *First semester.* (Offered in alternate years.) *Two credits.* Staff.

455(G). Aesthetics. A critical examination of theories dealing with the nature of beauty. Special attention is given to the application of these theories to literature, music, painting, and the other arts.
First semester. (Offered in alternate years.) *Two credits.* Monson.

461(G). World Religions. A study of the chief characteristics of primitive and civilized religions with special consideration of the main moral and religious doctrines of Taoism, Confucianism, Buddhism, Judaism, Christianity, and Islam.
First semester. Three credits. Monson.

462(G). Philosophy of Religion. The meaning and validity of religious experience as exemplified in the writings of various philosophers. Among the topics discussed will be the conception of God, the purpose of life, the nature of evil, and the function of prayer.
Second semester. Three credits. Monson.

482(G). Philosophy of Political Problems. A critical study of various theories concerning the nature of the state and its functions. Special attention will be given to the similarities and differences in the philosophical principles recognized by contemporary governments.
(Offered in alternate years beginning in 1953-1954.) *Two credits.* Monson.

484(G). Metaphysics. A study of the nature of reality. Among the topics to be discussed will be the meaning of matter, mind, time, space, and causality.
Prerequisite: Two courses in philosophy. *Second semester.* (Offered in alternate years.) *Two credits.* Monson.

499(G). Special Problems in Philosophy. A course designed to give advanced students an opportunity for intensive study or research in particular areas of philosophy.
Prerequisite: Fifteen credits in philosophy. *Each semester. Two credits.* May be repeated as Philosophy 499a(G). Monson.

Physical Education, See Health, Physical Education, and Athletics

Physics

Professor Leifson (Chairman of Department); Associate Professor Worley; Assistant Professor Frazier.

101–102. Introductory Physics. A nonmathematical course designed to give the student an understanding of some of the basic principles of physics.
Two credits each semester. Leifson.

103–104. Introductory Physics Laboratory. Elementary laboratory exercises in mechanics, heat, sound, light, electricity and magnetism, designed to illustrate and supplement lectures in Physics 101–102.
One credit each semester. Leifson.

107. DESCRIPTIVE ASTRONOMY. A brief course in astronomy designed to acquaint the student with the more important facts relating to the heavenly bodies. Descriptive rather than mathematical in character. By special arrangement, interested members of the class may become familiar with the use of the sextant and with the underlying principles involved in the determination of the location of the observer upon the surface of the earth.

Each semester. Two scheduled periods and one evening hour to be arranged. Three credits. Frazier.

115–116. ELEMENTARY RADIO. The characteristics of electron tubes and their applications. The principles underlying radio receivers and transmitters. Liberally illustrated by laboratory demonstrations.

Prerequisite: Two years of high school mathematics. *Three credits each semester.*

117–118. METEOROLOGY. A brief presentation of the fundamental principles of weather observation, mapping, and forecasting. This course will be found most helpful to men planning to enter any branch of aviation. The content of the course also affords a solid foundation for more advanced work in meteorology. A knowledge of general physics is desirable.

Three credits each semester.

119. HOUSEHOLD PHYSICS. A course in general physics for students in home economics, with special emphasis on practical applications in the home.

Two lectures; two laboratory periods. Four credits. Frazier.

151–152. 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.

Prerequisite: Plane geometry. A knowledge of trigonometry is desirable. *Three credits each semester.* Frazier.

153–154. GENERAL PHYSICS LABORATORY. A laboratory course to make the student an intelligent observer of natural phenomena. To accompany Physics 151–152. 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.

Prerequisite: Plane geometry. A knowledge of trigonometry is desirable. *One credit each semester.* Frazier.

203–204. 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: Analytic geometry and trigonometry. *Four credits each semester.* Leifson, Worley.

205–206. 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: Analytic geometry and trigonometry. *One or two credits each semester.* Worley.

357–358. 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.

Prerequisite: General physics, differential and integral calculus. *Two credits each semester.*

359(G)–360(G). HEAT, THERMODYNAMICS, AND KINETIC THEORY. Lectures and recitations. Many of the more difficult subjects merely touched upon in general physics will be fully treated.

Prerequisite: General physics, differential and integral calculus. *Two credits each semester.* Frazier.

361(G)–362(G). LIGHT AND PHYSICAL OPTICS. Lectures and demonstrations. Survey of geometrical optics and of optical instruments. Selected topics in physical optics including interference, diffraction, and polarization, with applications. The nature of light.

Prerequisite: General physics and calculus. *Two credits each semester.* Worley.

365(G)–366(G). HISTORY OF PHYSICS. Lectures and recitations. Preparation of reports and discussion of assigned topics by members of the class.

Prerequisite: General physics. *Two credits each semester.* Leifson.

368(G). PHYSICAL OPTICS AND SPECTROSCOPY. Theory and use of prism and grating spectrometers and spectographs. Excitation and recording of emission spectra. Wavelength determination and qualitative analysis. Elementary theory of spectra.

Prerequisite: General physics, general chemistry, and calculus. Physics 361-362 is desirable. *One lecture; one laboratory period. Two credits.* Worley.

375–376. GLASSBLOWING. A laboratory course of instruction in methods of making simple glass apparatus.

One credit each semester. Leifson.

377(G)–378(G). 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: General physics, differential and integral calculus. *Two credits each semester.*

401. PHOTOGRAPHY. The materials and processes of photography. Photographic technology and dark room procedure.
One lecture; one two-hour laboratory period. Two credits. Worley.

451(G)–452(G). ACOUSTICS. Introduction to the theory of vibrations, sound sources, and the propagation of waves in elastic media and in gases. Selected topics in acoustics including refraction, reflection, absorption, and hearing of sound waves.
Prerequisite: General physics and calculus. *Two credits each semester.* Frazier.

471(G)–472(G). INTRODUCTION TO MODERN PHYSICS. 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 and calculus. *Two credits each semester.* Leifson.

473(G)–474(G). ELECTRICITY AND MAGNETISM. 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. *Two credits each semester.*

483(G)–484(G). MODERN PHYSICS LABORATORY. Laboratory exercises in connection with Physics 471–472.
Prerequisite: General physics and calculus. *One credit each semester.* Leifson.

493(G)–494(G). SPECIAL PROBLEMS. Laboratory or research work not in courses listed above.
Credit to be arranged. Staff.

501–502. THEORETICAL PHYSICS. An introduction to the more advanced mathematical analysis as applied to general physical problems.
Prerequisite: General physics, differential and integral calculus, and differential equations. *Two credits each semester.* (Undergraduates may be admitted with the consent of the instructor.)

591. GRADUATE THESIS. Experimental or theoretical research.
Maximum credit six units. Staff.

Political Science, See History and Political Science

Psychology

Professor IRWIN (Chairman of Department); Assistant Professor RICHARDSON; Mr. HILER.

121. HUMAN NATURE. A freshman course in personal and social efficiency. Topics included are psychological factors in effective study, social and emotional adjustment, the measurement of personality traits and aptitudes, vocational choice and leadership.
Each semester. Two credits. Hiler, Richardson.

201. GENERAL PSYCHOLOGY. An introductory course dealing with forms and laws of human behavior and consciousness. Open to any sophomore and to freshmen who rank in the upper one-half with their mental test scores.
Prerequisite to all other courses in the department except Psychology 121. *Each semester. Three credits.* Irwin, Richardson, Hiler.

205. APPLIED PSYCHOLOGY. A general course in the applications of psychology: psychology of vocational guidance, personal efficiency, scientific management, social work, propaganda and public opinion, law, medicine, athletics, business, art, education.
Prerequisite: Psychology 201. *Second semester. Two credits.* Richardson.

221. EDUCATIONAL PSYCHOLOGY. (Same as General Education 221.) Applications of psychology to such educational problems as learning in general, discipline, development of desirable social, emotional, intellectual, aesthetic, moral and other traits, principles and practices of certain educational and psychological tests and measurements.
Prerequisite: Psychology 201. *Three credits.* Irwin.

231. PSYCHOLOGY OF ADOLESCENCE. (Same as Secondary Education 231.) An intensive study of the characteristics dominant in the adolescent, with special emphasis upon applications to the work of the high school teacher.
Prerequisite: Psychology 201. *Two credits.* Richardson.

233. CHILD PSYCHOLOGY. (Same as Elementary Education 233.) The development of behavior patterns in the normal child from conception to twelve years of age. Some consideration is given to the elimination of undesirable personality traits.
Prerequisite: Psychology 201. *Two credits.* Hiler.

241. MENTAL HYGIENE. A consideration of the principles of psychology in their relationship to mental health and efficiency.
Prerequisite: Psychology 201. *Second semester. Three credits.* Hiler.

301(G). EXPERIMENTAL PSYCHOLOGY. A laboratory course in

the application of scientific methods to the study of behavior and mental processes. Lectures, assigned readings, and laboratory.
Prerequisite: Psychology 201. *Second semester. Three credits.* Hiler.

310(G). Interpretation of Psychological and Educational Data. Study and practice with statistical methods especially useful in the presentation and interpretation of psychological and educational data.
Prerequisite: Psychology 201 or special permission of instructor based on training in education. *Three credits.* Richardson.

361(G). Social Psychology. A study of the applications of psychology to the social relations of the individual and the group life of society. Interaction of individual and social factors in the formation of personality, leadership, propaganda, audiences, communities, nations, crowds, amusements.
Prerequisite: Psychology 201. *Second semester. Three credits.* Irwin.

362(G). Psychology of Propaganda and Public Opinion. This is a socio-psychological study of (1) the psychological basis of public opinion, (2) the techniques of leadership, (3) the forces which mould public opinion, and (4) quantitative techniques in the measurement of attitudes and the effects of publicity campaigns.
Prerequisite: Psychology 201. *First semester. Two credits.* Irwin.

371(G). Criminal and Legal Psychology. The individual and social factors of crime and legal relationships, with special emphasis on juvenile delinquency. Problems of the lawyer, educator, and social workers are considered. A study is made of criminal personality, and the nature, development, prevention, detection, and treatment of crime and the criminal. Field trips will be taken.
Prerequisite: Psychology 201. *First semester. Two credits.* Irwin.

375(G). Marriage, Homemaking, and Divorce. A presentation of the psychological principles involved in these three types of social adjustment.
Prerequisite: Psychology 201. *Second semester. Two credits.* Irwin.

381(G). Psychology of Advertising. An intensive study of the psychological principles basic to effective advertising. Emphasis will be placed on the techniques of experimental investigation useful to advertisers in solving problems on the job for which psychology does not provide ready-made answers.
Prerequisite: Psychology 201. *First semester. Two credits.* Richardson.

382(G). Business Psychology. Discussions, readings, and

practical assignments on the mental laws basic to effective buying, selling, advertising, and management of men. Salesmanship will be emphasized.

Prerequisite: Psychology 201. *First semester. Two credits.* Richardson.

391(G). PSYCHOLOGY OF PERSONNEL. Applications of psychology to public and private personnel administration, including (1) selection, merit-rating and in-service training, (2) supervision, leadership, incentives and industrial conflict, (3) fatigue, accident prevention and conditions of work, and (4) the emotional and social adjustment of the employee.

Prerequisite: Psychology 201. *Second semester. Two credits.* Irwin.

404(G). THEORIES OF LEARNING. An examination of theories which attempt to explain the processes of learning and memory. The principal types of theories examined are behavior and field theories; other views are studied as variations of these.

Prerequisite: Psychology 201 and follow-up study in psychology. *Second semester. Two credits.*

405(G). PSYCHOLOGY OF PERSONALITY. A consideration of the nature, development, and evaluation of personality.

Prerequisite: Psychology 201. *First semester. Two credits.*

408(G). SYSTEMATIC PSYCHOLOGY. A study of the historical background of psychology and of the various schools of psychological thought.

Prerequisite: Psychology 201. *Second semester. Two credits.* Hiler.

411(G). PSYCHOLOGICAL TESTS. Lectures, laboratory, practice, and readings. Description, demonstration, and training in the construction, use, and interpretation of standard tests. Special attention will be given to test uses for school purposes, industrial and personnel practice, clinical diagnosis, vocational guidance, and social service work.

Prerequisite: Psychology 201. *First semester. Three credits.* Richardson.

412(G). INDIVIDUAL TESTING. A professional course in the administration of the Stanford-Binet and Wechsler Bellevue intelligence tests. Students will be required to administer, score, and interpret about 40 individual tests during the semester. The critical evaluation of test results will be stressed.

Prerequisite: Psychology 201, Psychology 411, and permission of the instructor. *Second semester.* (Offered in alternate years beginning in 1953-1954.) *Three credits.* Richardson.

433(G). PROBLEMS IN CHILD PSYCHOLOGY. A course principally for professional workers in the fields of teaching and nursing. The content is devoted to identifying and understanding children with emotional problems and to the therapeutic approach to children's emotional difficulties. Lectures, occasional films, and

group discussions are used to present theoretical and practical aspects.

Prerequisite: Psychology 201 and consent of instructor. *Each semester. Two credits.*

441(G). ABNORMAL PSYCHOLOGY. A study of the abnormal mind, aetiology of mental disorders, neuroses and psychoses, with some attention to therapeutic procedures.

Prerequisite: Psychology 201. *First semester. Three credits.* Irwin.

450(G). INTRODUCTION TO CLINICAL PSYCHOLOGY. A preprofessional course in the fundamental concepts of clinical testing, diagnosis, therapy, and research as performed by the psychologist either individually or as a member of the psychiatric team. For students in the fields of psychology, medicine, social work, nursing, and related fields.

Prerequisite: Psychology 201, a course in testing and/or permission of the instructor. A course in mental hygiene or abnormal psychology would be desirable. *Second semester.* (Offered in alternate years beginning in 1954-1955.) *Three credits.* Richardson.

499(G). SPECIAL PROBLEMS OF PSYCHOLOGY. Research is chosen from any field of psychology in which the student has had at least one advanced course. The course may be repeated with research on a new problem.

For graduate students and seniors. *Each semester. Two credits.* May be repeated as Psychology 499a(G). Staff.

591. MASTER'S THESIS.

Each semester. Staff.

Range Management, See Agronomy and Range Management

Secondary Education, See Education

Secretarial Science, See Economics, Business, and Sociology

School Administration, See Education

Sociology, See Economics, Business, and Sociology

Soils and Plant Nutrition

Professor TITUS; Associate Professor DUNN (Chairman of Department).

Agricultural Mechanics

211. FORGING AND SHEET METAL. Instruction and laboratory practice in the heating, bending, and shaping of mild steel. Forging and tempering of tool steel. General soldering, riveting, and shaping of sheet metal.

First semester. Two laboratory periods. Two credits. Titus.

221. General Mechanics. Tool sharpening and fitting, saw filing, ropework, belts and pulleys, pipe fitting, threading, tape and dies, general woodworking. Use of bandsaw, jointer, and cut-off saw.
First semester. (Offered in odd-numbered years.) *Two laboratory periods. Two credits.* Titus.

312. Welding. Instruction and practice in acetylene and arc welding as related to farm and ranch; with particular application to the common metals, iron, steel, cast iron, aluminum, etc. Practice in brazing, low temperature welding, and hard facing.
Prerequisite: Agricultural Mechanics 211. *Second semester. One lecture; one laboratory period. Two credits.* Titus.

332. Farm Machinery and Equipment. A study of the construction, operation, care, and repair of farm machinery and equipment.
Second semester. (Offered in even-numbered years.) *One lecture; one laboratory period. Two credits.* Titus.

341. Farm Structures. Building materials and their use, concrete masonry, farming construction, elementary drafting, blueprint reading, cost estimating, lighting, heating, ventilation, painting.
First semester. (Offered in even-numbered years.) *One lecture; one laboratory period. Two credits.* Titus.

353. Gas Engines and Tractors. The development, principles of operation, care, and repair of farm gas engines and farm tractors. Demonstrations and practice in the operation of farm tractors will be given whenever practicable.
First semester. (Offered in odd-numbered years.) *One lecture; one laboratory period. Two credits.* Titus.

356. Irrigation and Irrigation Structures. A course designed to acquaint the student with the needs of irrigation and the mechanics of getting irrigation water onto the land. Measurements of water, sources of water supply, preparation of land, methods of irrigation, irrigation structures, water law, drainage.
Prerequisite: Soils 106. *Second semester. Two lectures; one laboratory period. Three credits.* Titus.

444. Methods and Materials of Teaching Farm Mechanics. (Same as Secondary Education 444.) A course designed for students preparing to meet the qualifications of agriculture and farm mechanics instructors in high schools. The organization and administration of a farm mechanics course, including objectives, course content, lesson planning, and teaching methods.
Second semester. Two credits. Titus.

Soils

106. SOILS AND SOIL FERTILITY. Nature and properties of soils. Soil and plant relations; soil types; soil fertility and management.
Prerequisite: Chemistry 101. *Second semester. Two lectures; one laboratory period. Three credits.* Dunn.

311(G). SOIL MANAGEMENT AND CONSERVATION. The soil as a natural resource. Management of soils for crop production and soil protection with emphasis given to soil acidity and salt constituents, physical condition and tillage, soil water control, soil erosion control, soil fertility and fertilizer materials, and crop rotation. Land capability and use. Field trips.
Prerequisite: Soils 106 and Agronomy 207. *First semester. Three lectures; one laboratory period. Four credits.* Dunn.

323(G). SOIL CHEMISTRY AND PHYSICS. Chemical, physical, and biological properties of soils.
Prerequisite: Chemistry 233 or 242 or Physics 152. *First semester. Three lectures; one laboratory period. Four credits.* Dunn.

325(G). SOIL GENESIS AND CLASSIFICATION. Origin and development of soils. Soil classification and survey. The distribution, chemical and physical properties and uses of the major soil groups. Soils of Nevada. Field trips.
Prerequisite: Geology 101 or Soils 106. *First semester.* (Offered in odd-numbered years.) *Two lectures; one laboratory period. Three credits.* Dunn.

473(G). SOILS PROBLEM. An intensive study of a special problem in soils.
Prerequisite: Soils 311. *Each semester. One or two credits.* Dunn.

591. THESIS COURSE IN SOILS.
Each semester. Credit to be arranged.

Spanish, See Foreign Languages

Speech, See English Language and Literature

Teacher Education, See Education

Zoology, See Biology

Summer Sessions

*FIRST SESSION

June 13 through June 24, 1955

*LONG SESSION

June 13 through August 19, 1955

*MAIN SESSION

June 27 through August 5, 1955

*POST SESSION

August 8 through August 19, 1955

Opportunity and Purpose

The Summer Sessions are an integral part of the University of Nevada organization. The same high standards prevail as in the regular session; equivalent work carries equivalent credit and the same high quality of teaching personnel is maintained.

One of the primary purposes of the Summer Sessions is to meet the needs of teachers who wish to spend a part of the summer vacation in serious study or investigation. The Summer Sessions afford unusual opportunity to increase teaching skill, to develop teaching personality, to obtain help with individual classroom problems, to acquire new cultural and recreational interests, and to become better informed concerning current and social problems, and to build depth in academic fields.

Of almost equal importance is the opportunity given by the Summer Sessions to students desiring to accelerate their programs. Moreover, some students find it advantageous to attend summer school to gain a desired classification or to study a particular subject not offered in the regular sessions.

Specific courses are designed for high school teachers, elementary teachers, and teachers of departmental work. Courses offered in any of the Summer Sessions may be applied for advancement toward a special school diploma, a bachelor's or master's degree, and toward certification by the Nevada State Board of Education. A bulletin describing the faculty, the curriculum, and the facilities available during the summer may be obtained by addressing the Director of Summer Sessions.

*Registration is on preceding Saturday.

Admission and Credits

High school graduates or adults with ability to do scholastic work on the University level may register in the Summer Sessions. However, credit toward any University degree or diploma will be granted only after the student has met all requirements for admission and has matriculated at the University.

Usually the student may enroll for a maximum of 6 or 7 credits of work in the main Summer Session. The number of credits allowed for each course is determined on the basis that fifteen University lecture periods of fifty minutes each, together with two hours of out-of-class preparation for each class, earn 1 credit. A total of 10 to 12 credits may be earned during the Summer Sessions.

Out-of-State Teachers

Teachers from other states may fulfill requirements to validate certificates to teach in Nevada schools by attending either or both of the Summer Sessions. Out-of-State teachers are required to pass State examinations in, or to receive University credit for, School Law and Organization and the Constitutions of the United States and of Nevada. Teachers from other states must meet the requirement in Nevada Constitution should they already have credit in United States Constitution. All of these courses are offered in the Summer Sessions.

Teacher Placement

Teachers are eligible for teacher placement service after ten weeks of summer school attendance at the University of Nevada.

The policy of the appointment director has always been to consider the welfare of the children of the State paramount to the interests of prospective teachers. Consequently, recommendations for teaching positions are confined largely to those whose achievement, ability, and character are known. The appointment office will, however, be instrumental in bringing competent teachers and school officers into contact.

The fee for enrollment in the appointment service is $5. For this fee, five sets of credentials are prepared, to be sent to school authorities. No commission is charged on the appointee's salary.

Off-Campus Centers

Special summer school courses are offered through the State at established off-campus centers, depending on available staff and demand. These centers include Las Vegas, Elko, and Ely. There programs are primarily designed for teachers and administrators who are working toward either undergraduate or graduate degrees. Information pertaining to these programs is available from the Dean of State-wide Development.

Summer Sessions Fees

The Summer Sessions fees are listed in the section of this catalogue entitled *Financial Information.*

Information Concerning Summer Sessions

Inquiries concerning any aspect of the Summer Sessions should be directed to the Director of Summer Sessions. Specific requests concerning housing should be sent to the Dean of Student Affairs. Transcripts of credit earned at other institutions should be sent to the Director of Summer Sessions for advisement purposes. New students desiring to work for a degree at the University of Nevada should write to the Director of Admissions requesting permission to be admitted to do work for credit.

Public Services

Agricultural Experiment Station

The support of the Station comes from state and federal funds. The federal grant funds are made available from the following Acts of Congress: The Hatch Act of March 2, 1887; the Adams Act of March 16, 1906; the Purnell Act of February 24, 1925; the Bankhead-Jones Act (Section 5) of June 29, 1935; and the Bankhead-Jones Act (Section 9) of August 14, 1946. None of these funds can be applied to teaching or to the work of Agricultural Extension because the object of all of these funds is the investigation, by scientific methods, of problems in the agricultural industry.

Agricultural Extension Service

Cooperating Parties

The President and the Board of Regents of the University of Nevada.

The Extension Service of the United States Department of Agriculture.

Boards of County Commissioners.

Cooperative extension work in agriculture and home economics is conducted in Nevada under the provisions of the following Acts of Congress: The Smith-Lever Act, approved May 8, 1914; the Capper-Ketchum Act, approved May 22, 1928; the Bankhead-Jones Act, approved June 29, 1935; the Bankhead-Flannagan Act, June 1945.

The Agricultural Extension Service as established under the Memorandum of Understanding with the United States Department of Agriculture is a "definite and distinct administrative division" of the Max C. Fleischmann College of Agriculture of the University of Nevada. All the extension activities of the Max C. Fleischmann College of Agriculture and the United States Department of Agriculture in Nevada are conducted through this division.

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." Instructions and demonstrations are given to rural people in both adult and junior

organized groups through the County Community Centers, and Boys' and Girls' 4-H Clubs.

County Community Centers serve as a forum where farm men and farm women together find a solution for many of their problems by cooperating with Agricultural Extension Service.

Extension work is outlined in written projects and budgets entered into by the cooperating parties. Major projects are range livestock, dairying, poultry, crops, home improvement, human nutrition, and rural organization.

The organization for extension work in Nevada comprises an administrative and specialist staff, resident at the University, and county and district agents. All 17 Nevada counties have county extension work now extended to them. Fifteen counties have cooperative agreements between the Agricultural Extension Service and the respective Boards of County Commissioners pursuant to Nevada Statutes, Chapter 94, Sections 1–9, approved March 20, 1947.

Nevada Mining Analytical Laboratory

The Mining 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 mineral industry of Nevada by making free identifications and assays of minerals, ores, and rocks taken from within the boundaries of the State by its citizens, and by reporting to the senders the results of such identifications or assays together with the uses and market values of the substances submitted.

Samples and specimens are listed in the order in which they are received at the laboratory, and are examined essentially in this order, but reports do not go out in the same order, for some assays take longer than others.

The records of the laboratory are open to inspection, but visitors are not permitted to see copies of reports until sufficient time has elapsed for the original reports to reach the hands of the senders.

Nevada Bureau of Mines

The Bureau of Mines of the State of Nevada was established by the Legislature of 1929. The Act places the supervision of the Bureau with the Board of Regents of the University of Nevada.

The purposes of the Bureau are to conduct a mineralogical survey of the State, to catalogue both metallic and nonmetallic deposits, 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, and other various activities.

Departments of Food and Drugs, Weights and Measures, and Petroleum Products Inspection

(Sierra and Fifth Streets, Reno)

Staff

EDWARD L. RANDALL, M.S., Commissioner.
STANLEY D. JOHNS, B.S., Chemist.
LYLE WARREN, M.S., Chemist.
PETER A. FERRETTO, Inspector.
CARLTON W. STROUD, Inspector.
ARTHUR B. ANDERSON, Inspector.
A. J. RAFAEL, Resident Inspector, Las Vegas.
JUANITA L. HOLMES, Clerk.

These three departments were created by separate specific Acts of the State Legislature. Since the enforcement of each of these laws has been delegated to the Commissioner of Food and Drugs, they have been consolidated under one department. The consolidation has proved to be of considerable benefit, because the laboratory control necessary in carrying out the provisions of these laws can be used to a great extent by the three departments, and because much of the work and many of the duties overlap.

An entirely new Food, Drugs and Cosmetic Law was enacted in 1939. As this law is patterned very closely after the Federal Law of the same title, there is little conflict in the provisions of the two laws. Essentially this law prohibits the manufacture or sale of misbranded or adulterated food, drugs, and cosmetics. This includes commodities which constitute a danger to health, as well as an economic fraud. The laboratory of the department is completely equipped to examine practically all types of food, drugs, and cosmetics.

Under the provisions of the State Weights and Measures Act the department is required to keep a complete set of reference standards of weight, volume, and linear measure. The standards are calibrated for accuracy at intervals of not less than ten years by the Bureau of Standards in Washington. Field-testing equipment is calibrated against the office standards and is used in checking all weighing or measuring devices, regardless of type, throughout the State. Citizens of the State are privileged to submit measuring devices of any description for calibration with the office standards. Commodities sold by weight, measure, or numerical count are periodically checked by the Department for compliance with their declared weights.

To the Petroleum Products Inspection Department is delegated the duty of enforcing the State specifications and standards for gasoline and lubricating oils. Specifications for gasoline are incorporated in the law. Such standards insure that a product sold as gasoline is entirely suitable for internal combustion

engines and is not a petroleum product of less volatile nature, such as kerosene, stove oil, or distillate. Lubricating oil must be of the same grade as advertised on the dispensing container.

In addition to the above-described duties, this department is pleased at any time to investigate cases in which the products involved constitute a public health menace or an economic fraud.

The State Veterinary Control Service

Staff

EDWARD RECORDS, V.M.D., Director.
AGNES HILDEN, B.S., Technician.
SHIRLEY M. AVANSINO, Secretary.

The State Veterinary Control Service was organized under the provisions of an Act of the Legislature approved March 11, 1915. The primary object of this department is to provide facilities for the routine laboratory diagnosis of contagious, infectious, and parasitic diseases of domesticated animals, poultry, game animals and birds. Minor research into the nature, cause, and means of control of such conditions is also carried on. It is the official laboratory for the Nevada State Department of Agriculture and is approved by the United States Department of Agriculture and the California State Department of Agriculture for the conduct of brucellosis tests.

This work is conducted in close cooperation with the State Department of Agriculture, the State Board of Sheep Commissioners, the United States Department of Agriculture, and the State Fish and Game Commission.

The services of the laboratory are available to the veterinarians, livestock owners and poultry raisers of the State in connection with any problem coming within the scope of its work.

When any condition encountered appears to warrant more prolonged and elaborate research work, projects covering same are set up as part of the work of the Agricultural Experiment Station.

United States Department of the Interior
Bureau of Mines
Rare and Precious Metals Experiment Station

Staff

T. R. GRAHAM, Chief, Division of Mineral Technology; Supt., Rare and Precious Metals Experiment Station.
CLYDE E. ARRINGTON, Chemist.
WALTER BANKS, Geologist.
WILLMAR T. BENSON, Mining Engineer.
JOHN M. BOYLAN, Chemist.
K. G. BROADHEAD, Chemist.
THERESA V. CAPRIO, Clerk-Stenographer.
LEONARD A. CROSS, Guard.

A. L. ENGEL, Metallurgist.
H. J. HEINEN, Metallurgist.
HENRY A. HELLER, Chemist.
GEORGE H. HOLMES, JR., Mining Engineer.
EDWARD F. HUGHES, Guard.
A. C. JOHNSON, Mining Engineer.
HOWARD W. KEATING, Guard.
ALBERT E. LONG, Mining Research Engineer.
ANN M. MEIERS, Secretary.
EDWARD MORRICE, Metallurgist.
JOHN N. NOLAND, Superintendent (Maintenance).
ANDREW C. RICE, Chemist.
LEONARD O. ROSSITER, Scientific Aid.
EDWARD T. SCHENK, Geologist.
EDWARD C. SHEDD, Metallurgist.
CARLTON S. SMITH, Chemist.
DOROTHY C. TEASS, Clerk-Stenographer.
LENORE S. THOMPSON, Clerk-Typist.
RUSSELL R. TRENGOVE, Mining Engineer.
WILLIAM N. TUTTLE, Chemist.
THOMAS C. WHITNEY, Procurement Officer.
FRANK J. WIEBELT, Mining Engineer.
J. G. WISECARVER, Mining Engineering Aid.
JOYCE M. WILLIAMS, Clerk-Typist.
JOHN W. WUNDERLICH, Guard.
JOHN B. ZADRA, Metallurgist.

The Federal Bureau of Mines maintains the Rare and Precious Metals Experiment Station on the campus of the University of Nevada. This facility is headquarters for the Division of Mineral Technology, Region II, which comprises the geographical area of Nevada and California, and serves as office for technical direction of activities at the Electrometallurgical Experiment Station, Boulder City, Nevada, and Mineral Thermodynamics Experiment Station, Berkeley, California. The Division of Mineral Technology is responsible for basic and applied scientific research and technologic activities in metals and minerals, other than fuels, including mining and metallurgical investigations, engineering evaluation of area resources, and related studies in the earth sciences.

The Bureau of Mines is primarily concerned with the Nation's mineral supply and is responsible for making technologic and economic studies of the problems of mineral industries that affect the availability of domestic and foreign minerals. The Bureau fosters the development and conservation of the Nation's mineral resources, particularly strategic resources and those vital to regional economies; promotes health and safety in the mineral industries; conducts technical research in the mining, preparation, and utilization of minerals; and assists the mineral industries through consultation, dissemination of technical data and statistics, and development of new techniques for utilizing available resources and substitutes for materials not produced domestically in adequate supply.

Record for 1954-1955

Scholarships

Scholarships for 1954–1955 for the following students were announced by the Scholarships and Prizes Committee on Commencement Day, June 7, 1954:

JEWETT W. ADAMS SCHOLARSHIPS of $100

Dennis K. Burge	Yvonne Lartey
Jo Ann Foster	Olaf S. Leifson
Richard M. Gillette	Francine Luwe
Lillis Hatch	Richard C. McClintic
Beverly Sue Hug	Robert R. Reeder
Barbara Irwin	Lois Sandorf

ARMANKO OFFICE SUPPLY SCHOLARSHIPS of $100

In Chemistry.....Gerald Svob
In Physics.....Edward Yates

ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP of $50

Donna Fisher

JOSEPHINE BEAM SCHOLARSHIPS of $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks

Marilyn Akers	Kathleen Mitchell
Wynona Bromley	Mark Nicklanovich
Mary Gibson	Gayle Sommer
Carol Meder	Dawn Tilman

FRANK O. BROILI SCHOLARSHIP IN ELECTRICAL ENGINEERING of $150

Robert A. Martin

AZRO E. CHENEY SCHOLARSHIP IN ENGLISH of $100

Patricia Samon

CHARLES ELMER CLOUGH SCHOLARSHIP of $150

Grant Engstrom

DELTA DELTA DELTA SORORITY SCHOLARSHIP of $150

Evalyn Lagasse

EMPORIUM OF MUSIC SCHOLARSHIP of $100

Divided between:
Eugene Mills Thomas Murie

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $250

James A. Bright	Fred Hertlein III
Barbara Jean Brown	Margot Hoagland
Ernest A. Brown	Lorraine Meunier
James N. Brune	Jewel Miller
Patricia Sue Casey	Richard Mills
Richard Coffill	Leanne Norton
Catharine Downer	Karen Phillips
Faye Fotos	James C. Schenk
Janice Lee Green	Doreen Spiller
June Hannon	John M. Staunton
Sheilla Harris	

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $500

George W. Evans
John L. Hall
Peggy Jo Jackson
Robert J. Jones
Priscilla Miller
Dixie Sturges
Charles M. Taylor

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS for entering freshmen: $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks

Judith Adams
Joseph Crook
Robert D. Faiss

GRAND ARMY OF THE REPUBLIC SCHOLARSHIP of $100

Raymond A. Gore

ROYAL D. HARTUNG INDUSTRIAL EDUCATION SCHOLARSHIPS of $500

James N. Brune
James Carlson
Jake A. Carpenter
Charles H. Handley
Hans Mohr

MRS. CARL OTTO HERZ SCHOLARSHIP IN ELECTRICAL ENGINEERING of $100

William Dennett

KENNECOTT COPPER CORPORATION SCHOLARSHIP of $1000

Kenneth Server

KLUTE SCHOLARSHIPS IN FOREIGN LANGUAGES of $100

Denise Dwyer
Theresa Naveran
Leanne Norton

CARRIE BROOKS LAYMAN MEMORIAL SCHOLARSHIP of $200

Robert C. Christner

WILLIAM S. LUNSFORD SCHOLARSHIP IN JOURNALISM of $100

William Eaton

HONORABLE WILLIAM O'HARA MARTIN AND LOUISE STADTMULLER MARTIN SCHOLARSHIP IN HISTORY AND POLITICAL SCIENCE of $50

Jocelyn Lord

ROSE SIGLER MATHEWS SCHOLARSHIPS of $100

Shirley Lois Allen
John C. Jepsen
Sandra Mitts

NEVADA STATE PRESS ASSOCIATION SCHOLARSHIP IN JOURNALISM of $100

Paul Finch

PREMEDICAL–PRENURSING SCHOLARSHIP of $100

Richard Brown

RENO BUSINESS AND PROFESSIONAL WOMEN'S CLUB SCHOLARSHIP of $50

Carol Tollefson

ROTARY CLUB OF RENO SCHOLARSHIP of $300

Joe McKibben

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of $250

Joseph Gary Earl

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of $200

Gayle Sommer

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIPS of $125

Logan W. Kyle
John E. Locke
Douglas Parry
Vernon Pursel

SEMENZA SCHOLARSHIP IN ECONOMICS, BUSINESS, AND SOCIOLOGY of $100

Jacklyn McGowan

MARY ELIZABETH TALBOT MEMORIAL SCHOLARSHIP IN MATHEMATICS of $300

William H. Colbert, Jr.

REUBEN C. THOMPSON SCHOLARSHIP IN PHILOSOPHY of $100

Hollist Manning

RITA HOPE WINER MEMORIAL SCHOLARSHIP IN EDUCATION of $50

Priscilla Miller

KENNETH W. YEATES SCHOLARSHIP IN PSYCHOLOGY of $100

Janet Van Valey

Prizes and Honors

Prizes and Honors for the following students were announced on Commencement Day, June 7, 1954:

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN'S honorary memberships

Dorothy Mae Bell
Leah Gregory
Nancy West

HENRY ALBERT SENIOR PUBLIC SERVICE PRIZES of $37.50

Dorothy Bell
Milton Sharp

A. W. (BERT) CAHLAN SCHOLARSHIP of $200

Bert Q. Munson

C. F. and FRANK WITTENBERG MEMORIAL PRIZE of $100

Irene Marshall

FRENCH LANGUAGE SCHOLARSHIP of $100

Faye Fotos

THE FRENCH MEDAL

Germaine Lartey Polikalas

THE GINSBURG JEWELRY COMPANY AWARDS of two fine watches

Dennis K. Burge
Francine G. Luwe

HONOR ROLL OF THE SENIOR CLASS (Listed according to rank)

Rayner Kjeldsen
George Maclean
Joline McCarthy
Erich Helfert
Carol Ann Normandy
Irene Marshall
Dat Kim Choy
Dorothy Mae Bell
Andree Anchart
Earl Latham
Boyd Murphy

HONOR ROLL FOR THE FOUR-YEAR COURSE (Listed according to rank)

Rayner Kjeldsen
George Maclean
Joline McCarthy
Mary Louise Panicari
Carol Ann Normandy
Dorothy Mae Bell
Jerrold Cox
Erich Helfert
Virginia Rider
Andree Anchart

THE GOLD MEDAL

Rayner Kjeldsen

ELECTED TO PHI KAPPA PHI

Andree Anchart
Dorothy Mae Bell
Dorothy Caffrey
Dat Kim Choy
Jerrold Cox
Erich Helfert
Rayner Kjeldsen
William Law
Joline McCarthy
George Maclean
Joanne Menu
Edna Mishaud
Carol Ann Normandy
Mary Louise Panicari
Blanche Picchi
Helen Sterling
Barbara Van Meter

Awards for Military Excellence

GOVERNOR'S MEDAL

Cadet Lieutenant Colonel Donald P. Hill

COMBAT FORCES MEDAL

Cadet Captain Donald J. Tippin

PRESIDENT'S TROPHY

Cadet Charles M. Taylor

MCCLURE REVOLVING TROPHY

Company "A," Cadet Captain Milton Sharp, Commanding

VETERANS FOREIGN WARS TROPHY

Cadet Master Sergeant Olaf S. Leifson

NATIONAL RIFLE ASSOCIATION TEAM MEDAL

Cadet Terrance L. Katzer

SCABBARD AND BLADE AWARDS

Gold Medal, Cadet Roger S. Trounday
Silver Medal, Cadet Don A. Nelson
Bronze Medal, Cadet Ruel DePaoli

KERAK TEMPLE AWARDS

Gold Medal, Cadet Burton T. Miller
Silver Medal, Cadet John B. Boone
Bronze Medal, Cadet William H. Pledger

Graduates

Diplomas and degrees were awarded on Commencement Day, June 7, 1954, as follows:

Master of Arts

John Erwin Bills (1-29-54) — Education
University of Montana, 1937

Donald A. Robertson — Education
Eureka College, Eureka, Illinois, 1923

Helen Kathryn Sterling — English
University of Nevada, 1950

Sidika Ayfer Turner (1-29-54) — History
Ankara University, Turkey, 1947

Master of Science

Marvin Colin Abrams — Chemistry
University of Nevada, 1952

Howard Marvin Byars — Civil Engineering
University of Nevada, 1952

Richard Edgar Eckert, Jr. — Agriculture
University of California, 1952

Nina Larsen Hinderman — Home Economics
University of Minnesota, 1942

Harry D. Kennedy — Zoology
Eastern Washington College, Cheney, Washington, 1948

Darrell Bernard Lemaire — Metallurgical Engineering
University of Nevada, 1952

Engineer of Mines (E.M.)

Modesto L. Leonardi
University of Nevada, 1939

Metallurgical Engineer (Met.E.)

Joel Maurice Morris
University of Nevada, 1949

College of Arts and Science

Bachelor of Arts

Jack H. Allen
Fred Giles Altenburg
Andree Louise Anchart
Arthur Orrin Bachelor
Lawrence Duane Bangert
George Merton Baxter, Jr.
Dorothy Mae Bell
Joan Louise Blake
Theresa Ann Boero
Warren LoRing Botkin, Jr. (1-29-54)
James J. Boyle (8-22-53)
James Royal Brooke
Barbara Jean Brown
James Thomas Butler
Deane Cafferata
Dorothy Cruikshank Caffrey
Susan Ribble Calkins (1-29-54)
Annette Kathryn Caprio
Dorris MacPhee Carlson (8-22-53)
Helen Swisher Noyes Carlson (8-22-53)
Marvella Mae Chandler
Ray Rom Chandler (1-29-54)

BACHELOR OF ARTS—*Continued*

Albert Louis Checchi (8-22-53)
Jack Conrad Cherry
Henry Louis Clark
Myrtle Alice Coates
William J. Cooper (1-29-54)
James Peter Costa
Geraldine Seaberry Depaoli
Sam Dario Dibitonto (1-29-54)
Eleanor Amelia Donati
Stanley Joe Drakulich
Dolores Yvonne Dubbins
Norma Gloria Etchegoyhen
Dorothy Bastian Galli
La Moin Earl Garrard
Barbara Jean Gregory
Leah Louella Gregory (1-29-54)
Edward Leslie Hancock
Babson Hubbert Harford (8-22-53)
John Bruce Harris
Douglas M. Hawkins (8-22-53)
Doris Lee Henderson (8-22-53)
Raymond H. Hohle
Wonda Holt (8-22-53)
Raymond Dale Hunter
Barbara Katharine Jackson
Sara Titus Jansick
Stanley Bon Jee
Jack Lowell Keen
Barbara Hope Kemp (8-22-53)
Edith Anne King
James Rayner Kjeldsen
Diane Patricia Lewers (1-29-54)
Joan Love
Florence Lee Lyons
Freeland Wayne Lytle (8-22-53)
Vincent David Mahoney
Marcia Ann Malcolm
Joanne Menu
Edna Mishaud
Beverly Louise Morris
Bert Quayle Munson
Boyd Alma Murphy (1-29-54)
Ronald Glen Myers
Carol Ann Normandy
Mary Louise Panicari (8-22-53)
Inez Carmen Pasquale
Blanche Delores Picchi
Germaine Lartey Polikalas
Billie Mae Polson
Robert Joseph Potter
Virginia Rider (8-22-53)
Hampden Sidney Robinson
Barbara Leah Rohlfing
Jane Elizabeth Rohlfing
Stewart Henry Russell
George Edward Schindler
Warren H. Shelton (1-29-54)
Frank Y. Simoni (8-22-53)
Margaret Kay Terry (8-22-53)
Helen Joyce Thomas
Stephen V. Tieber
Donald Jay Tippin
Barbara Elyse Van Meter
Daniel Vidovich
Joseph Leo Ward (1-29-54)
Nancy Eileen West
Mary E. Williams (8-22-53)
Guy Chapman Wilson
Dorothy Berger Yenter
Ervin Jack Young (1-29-54)
Eileen Joyce Yrueta
Mary Jane Zunino

Bachelor of Arts in Journalism

Rosemary Cochran Girolamo
David Henry Mathis
Helen Marie Nielsen
Arthur Darrell Peterson

Bachelor of Science

Fred Ernest Alpers
Ann Atkinson
Robert C. Barto (1-29-54)
Dat Kim Choy
John Blake Darling
Wesley James Ebel (8-22-53)
Nancy Jean Hartke
Erma E. Sleighter Jensen
Ned Keith Johnson
Rex Mackay Larsen
William Brough Law
Don William Maestretti
Loris Joline McCarthy
William George Miller (1-29-54)
Patrick Michael Norton
Lazo A. Pavlakis (8-22-53)
Warren Kenneth Sandau (1-29-54)
Corinne Marie Vieta
Richard W. Wilcox
Hugh Duane Wilson
Norman M. Wood

Bachelor of Science in Business Administration

Paul Argeres
Jerry Cornelius Carstens
Roberta Arline Cave (8-22-53)
Remo Fratini
Melvin Philip Guerrera (1-29-54)
Erich Anton Helfert
Barbara Jean Humphreys
Lenn Jones
William Bradford Kottinger III
Janice Bea La Bounty
James A. Paterson
Takis Athanasios Polikalas
Carl Eugene Sawyer (1-29-54)
Joseph Stefani (8-22-53)
James W. Tate
James Edward Wilson (1-29-54)
Robert Allyn Winkel

Bachelor of Science in Chemistry

Ted Clay Bradbury

Bachelor of Science in Chemical Technology

Bruce Glendon Hicks

College of Agriculture

Bachelor of Science in Agriculture

Elbert Wayne Gardner
Glen Dudley Hardy (1-29-54)
James R. Hettinger (1-29-54)
George B. Knezevich (1-29-54)
George A. Myles (1-29-54)
R. Dale Odneal
Rollie Albert Weaver (1-29-54)
Gerald Merl Wittwer
Kenneth Elsworth Yenter (1-29-54)
Robert C. Zang

Bachelor of Science in Home Economics

Shirley Zay Flagg
Irene Haase Marshall

College of Engineering

Bachelor of Science in Civil Engineering

Kenneth B. Austin
Wesley Earl Barry (8-22-53)
Charles Alan Bell
Bruce Lawrie Brown (8-22-53)
Leland Milford Ford (8-22-53)
Richard B. Gould
Earl Robert Latham (1-29-54)
Calvin Byron March
William Leroy Nagel (1-29-54)
Milton L. Sharp
Robert Harry Stimmel
David Russell Storm (1-29-54)
Oliver Erwin Warren

Bachelor of Science in Electrical Engineering

Daniel H. Anderson (8-22-53)
Ernest R. Andregg
David Gordon Connett
Jerrold Lund Cox (8-22-53)
Jim Vern Dickinson
Paul Francis Fox
Thomas William Godbey
Joe David Moose
Wayne Clayton Seacrist
Arthur E. Sommer (1-29-54)
William John Van Den Berg, Jr.

Bachelor of Science in Mechanical Engineering

Paul Allan Clawson
Donald Philip Hill
George Maclean
Arthur L. Maxwell

Mackay School of Mines

Bachelor of Science in Geological Engineering

Roger L. Robison (8-22-53)
Frank Royse, Jr. (8-22-53)
James Evensen Skinner
Robert Norman Van Horn

Bachelor of Science in Metallurgical Engineering

Harlan R. Gilmore
Carl S. Tout, Jr.

Bachelor of Science in Mining Engineering

Robert Eugene Adams
Billy J. Brown
Carl Earnest Davis
Michael J. Gallagher, Jr.
Walter William Gill, Jr. (8-22-53)
Robert Edward Gray (8-22-53)
Ralph Leland Gronning (1-29-54)
William C. Maher
Edward W. Tempinski
Melvin Murkins Winsor
Peter Frederick Young

Students Commissioned in the Armed Forces

Second Lieutenant commissions were awarded on Commencement Day, June 7, 1954, as follows:

Robert E. Adams, Corps of Engineers (6-7-54)
Fred E. Alpers, Air Force (8-7-54)
Paul Argeres, Infantry (6-7-54)
Kenneth B. Austin, Corps of Engineers (6-7-54)
Lawrence D. Bangert, Infantry (2-6-54)
George M. Baxter, Jr., Infantry (6-7-54)
Billy J. Brown, Corps of Engineers (6-7-54)
Jack C. Cherry, Armor (6-7-54)
Henry L. Clark, Infantry (6-7-54)
David G. Connett, Signal Corps (6-7-54)
Remo Fratini, Infantry (7-30-54)
Elbert W. Gardner, Air Force (6-7-54)
Richard B. Gould, Ordnance Corps (2-6-54)
John B. Harris, Infantry (2-6-54)
Donald P. Hill, Air Force (6-7-54)
William B. Kottinger, Air Force (6-7-54)
Rex M. Larson, Infantry (6-7-54)
Vincent P. Laveaga, Infantry (6-7-54)
James H. Miller, Corps of Engineers (7-30-54)
LeRoy W. Mortimer, Transportation Corps (6-7-54)
George A. Myles, Infantry (2-6-54)
Patrick M. Norton, Armor (6-7-54)
James A. Paterson, Infantry (2-6-54)
Arthur D. Peterson, Infantry (2-6-54)
Leo P. Quilici, Armor (7-30-54)
George E. Schindler, Infantry (6-7-54)
Russell T. Schooley, Infantry (6-7-54)
Wayne C. Seacrist, Signal Corps (6-7-54)
Milton L. Sharp, Corps of Engineers (6-7-54)
Charles J. Spina, Infantry (7-30-54)
James W. Straight, Corps of Engineers (8-21-54)
Donald J. Tippin, Infantry (6-7-54)
Richard W. Wilcox, Chemical Corps (2-6-54)
James E. Wilson, Infantry (2-6-54)

Enrollment Summary by Registration Periods* 1954-1955

	Summer 1954	Fall 1954	Spring 1955
RENO CAMPUS—			
College of Agriculture			
School of Agriculture	----	59	52
School of Home Economics	----	42	40
College of Arts and Science	----	627	590
College of Education	----	175	197
College of Engineering			
Civil	----	80	72
Electrical	----	99	83
Mechanical	----	62	53
Mackay School of Mines			
Geology	----	34	32
Metallurgy	----	14	13
Mining	----	34	28
Nonmatriculated Students	----	40	21
Auditors	----	18	16
LAS VEGAS CAMPUS—			
College of Arts and Science	----	66	49
College of Education	----	25	25
College of Engineering	----	9	6
Mackay School of Mines	----	2	2
Nonmatriculated Students	----	199	173
Auditors	----	9	22
EVENING AND SATURDAY STUDY—			
Credit (Includes Regular and †Nonmatriculated Students)	----	229	176
Audit	----	82	111
GRADUATE STUDY	----	79	139
SUMMER SESSION—			
Reno Campus	819		
Other Centers	144		
CORRESPONDENCE STUDY	----	216	121
SPECIAL NONCREDIT COURSES AND CONFERENCES	56	279	152
ENROLLMENT TOTALS	1,019	2,479	2,173

* Data indicate gross enrollments in each registration period. Enrollments subsequent to March 25, 1955 not included.

† Includes Evening and Saturday Division students not included elsewhere.

GENERAL INDEX*

*Figures at end of lines refer to pages.

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