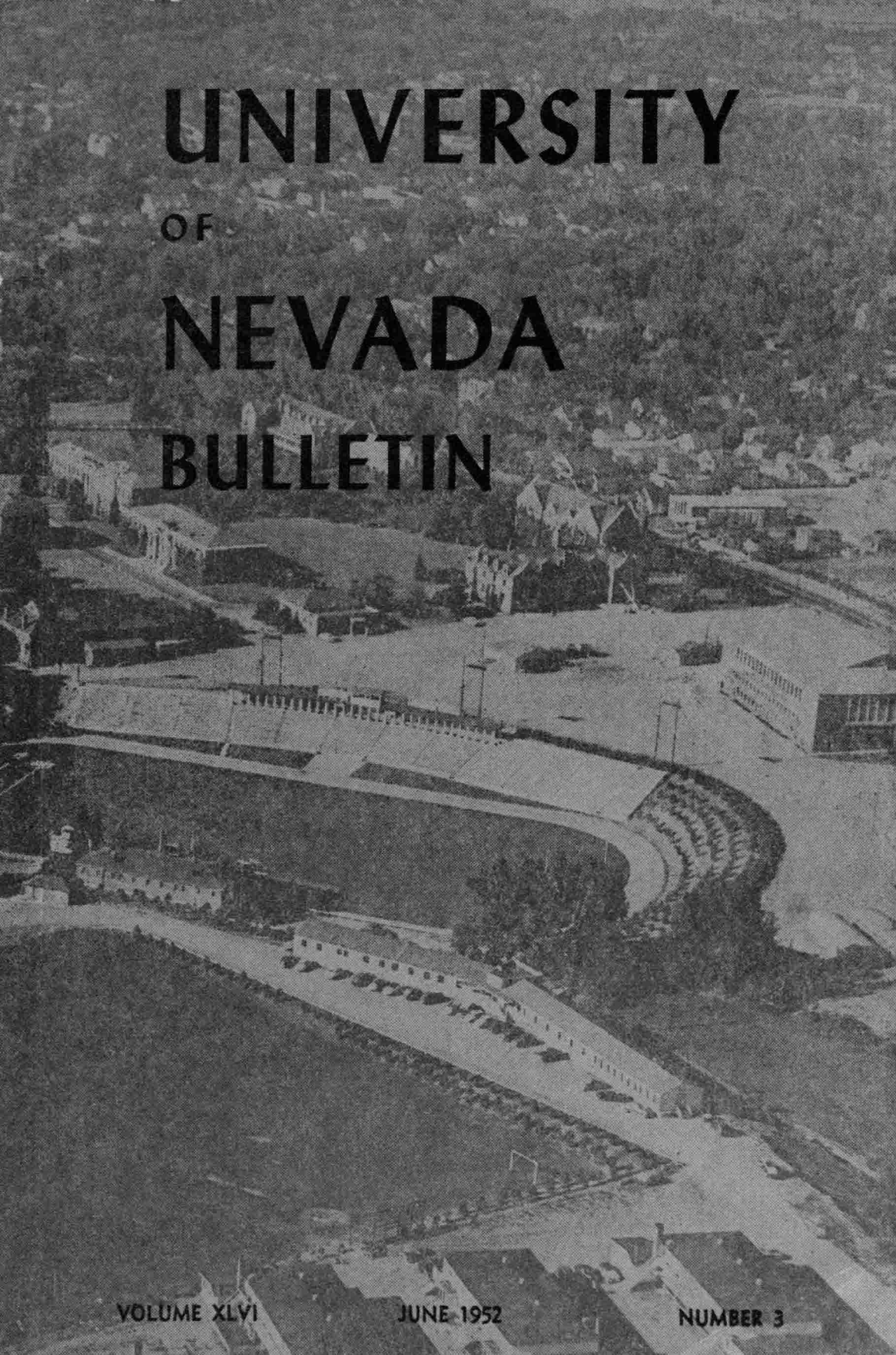

UNIVERSITY OF NEVADA BULLETIN

VOLUME XLVI JUNE 1952 NUMBER 3

University of Nevada Bulletin

CATALOGUE

ANNOUNCEMENTS

FOR

1952-1953

WITH

RECORD FOR 1951-1952

VOLUME XLVI JUNE 1952 No. 3

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MACKAY
STADIUM
STADIUM
NEW GYMNASIUM
PARKING
STREET
LINCOLN HALL
OLD GYMNASIUM
MACKAY SCHOOL OF MINES
PARKING
ARTEMESIA HALL
EDUCATION BUILDING
LAKE
MANZANITA
AGRICULTURE BUILDING
DINING HALL
MANZANITA HALL
LIBRARY
STEWART HALL
MORRILL HALL
VIRGINIA
NINTH
STREET

UNIVERSITY OF NEVADA

BUILDINGS & GROUNDS

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OFFICE OF THE
BOARD OF REGENTS, UNIVERSITY OF NEVADA
RENO, NEVADA, June 15, 1952

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 1951–1952, containing the courses of study, general information and membership of the Faculty, as required by the Act of the Legislature, approved March 6, 1901.

By the Board of Regents:

SILAS E. ROSS,
Chairman.

ALICE TERRY, *Secretary.*

1952

JANUARY

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1953

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University Calendar

1952–1953

First Semester

September 11, 12	Thursday, Friday	Entrance examinations.
September 12	Friday	First meeting of the faculty.
September 12–16	Friday-Tuesday	Orientation of new students.
September 12	Friday	Dormitories open.
September 13	Saturday, 7:45 a. m.	Required test of college aptitude, proficiency in English, and vocational interest.
September 14	Sunday, 3 p. m.	President's reception and outdoor entertainment for new students.
September 17	Wednesday	Registration.
September 18	Thursday	Instruction begins.
October 31	Friday	Admission Day.
November 8	Saturday	Homecoming.
November 15	Saturday	Grade reports due.
November 26—December 1	Wednesday, 5 p. m.-Monday, 8 a. m.	Thanksgiving recess.
December 20	Saturday, 12 noon	Christmas vacation begins.
December 20	Saturday, 5 p. m.	Dormitories close.
January 4	Sunday	Dormitories open.
January 5	Monday, 8 a. m.	Instruction begins.
January 26–30	Monday-Friday	Semester examinations.
January 30	Friday, 5 p. m.	Semester closes.
January 31	Saturday, 3 p. m.	Final grades on file with Registrar.

Second Semester

January 31, February 2	Saturday, Monday	Entrance examinations.
February 3	Tuesday, 9 a. m.	College aptitude tests for new students.
February 3	Tuesday, 1 p. m.	Examinations in English for all new students.
February 4	Wednesday	Registration.
February 5	Thursday	Instruction begins.
April 1	Wednesday	Grade reports due.
March 28-April 6	Saturday, noon-Monday, 8 a. m.	Easter recess.
May 30	Saturday	Memorial Day.
June 1–5	Monday-Friday	Semester examinations.
June 5	Friday	Meeting of Honorary Board of Visitors.
June 5	Friday, 5 p. m.	Semester closes.
June 6	Saturday evening	Phi Kappa Phi banquet and address.
June 6	Saturday, 5 p. m.	Dormitories close.
June 7	Sunday	Baccalaureate address.
June 8	Monday	Commencement.
June 10	Wednesday, 9 a. m.	Final grades on file with Registrar.

Summer Session

June 13	Saturday	Registration.
June 15	Monday	First term begins.
July 17	Friday	First term ends.
July 18	Saturday	Registration.
July 20	Monday	Second term begins.
August 21	Friday	Second term ends.

1953–1954

September 16	Wednesday	Registration for fall semester.

Officers of the University

The Board of Regents

Hon. Silas E. Ross (1953)	Reno
Hon. Sam S. Arentz (1953)	Pioche
Hon. Roy A. Hardy (1955)	Reno
Hon. Louis E. Lombardi, M.D. (1955)	Reno
Hon. Newton H. Crumley (1955)	Elko

Organization of the Board

Hon. Silas E. Ross	Chairman
Hon. Newton H. Crumley	Vice Chairman
Hon. Silas E. Ross, Hon. Roy A. Hardy, and Hon. Louis E. Lombardi	Executive Committee
Miss Carolyn M. Beckwith	Secretary Emeritus
Miss Alice Terry	Secretary

Honorary Board of Visitors

Hon. Milton B. Badt, Chief Justice of Supreme Court	Chairman
Mrs. Gladys Hope Dalbey	Fallon, Churchiill County
Mrs. Owen Cox	Las Vegas, Clark County
Mrs. Ralph Crouse	Douglas County
Mrs. Lee Gregory	Elko, Elko County
Hon. Peter Breen	Goldfield, Esmeralda County
Hon. A. F. Biale	Eureka, Eureka County
Rev. R. A. Lundy	Winnemucca, Humboldt County
Mrs. Helene T. Malloy	Austin, Lander County
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Hon. L. H. Winer	Yerington, Lyon County
Hon. Arthur I. Peterson	Babbitt, Mineral County
Hon. Leland Henderson	Tonopah, Nye County
Mrs. Dale Rose	Carson City, Ormsby County
Hon. W. J. McDonald	Lovelock, Pershing County
Hon. Wm. M. Harper, Sr.	Virginia City, Storey County
Mrs. Proctor R. Hug, Sr.	Sparks, Washoe County
Hon. G. M. Reid	Lund, White Pine County

Administrative Officers

MALCOLM A. LOVE, Ph.D., President.
PERRY W. HAYDEN, B.A., Comptroller and Treasurer.
ROBERT S. GRIFFIN, Ph.D., Dean of Men.
MISS ELAINE MOBLEY, M.A., Dean of Women.
MRS. JEANETTE C. RHODES, B.A., Registrar.
CLARENCE E. BYRD, M.A., Director of Admissions and Registration.
JAMES J. HILL, M.A., B.S. in L.S., Director of Libraries.
WALTER S. PALMER, E.M., Curator of the Mackay Museum.
J. B. ZADRA, B.S., Met., Supervising Engineer, United States Bureau of Mines Experiment Station.
LEGRAND WALKER, B.S., Manager of University Farms.
CARL M. HORN, Superintendent of Buildings and Grounds.
MRS. BELLE DREW, Hostess of Women's Dormitories.
MRS. NELLIE WALDEN NELSON, Director of Dining Hall.

Colleges and Schools

FREDRICK WOOD, Ph.D., Dean of the College of Arts and Science.
STANLEY G. PALMER, M.E., Sc.D., Dean of the College of Engineering.
FRED W. TRANER, Ph.D., Dean of the School of Education.
VERNON E. SCHEID, Ph.D., Dean of the Mackay School of Mines.
HAROLD N. BROWN, Ed.D., Director of Summer Sessions, Correspondence and Extension Studies.
ELDON E. WITTWER, Ph.D., Director of Resident Teaching in Agriculture.

Chairmen of Departments

Agricultural Economics—ELDON E. WITTWER, Ph.D.
Agronomy—LARAINE E. DUNN, Ph.D.
Animal Husbandry—JAMES KIDWELL, Ph.D.
Art—J. CRAIG SHEPPARD, B.F.A.
Athletics—GLENN LAWLOR, B.A.
Biology—W. D. BILLINGS, Ph.D.
Chemistry—JOE MOOSE, Ph.D.
Civil Engineering—H. B. BLODGETT, C.E.
Economics, Business and Sociology—MILAN J. WEBSTER, Ph.D.
Education—FRED W. TRANER, Ph.D.
Electrical Engineering—I. J. SANDORF, M.S.
English—ROBERT M. GORRELL, Ph.D.
Foreign Languages—C. F. MELZ, Ph.D.
Geology—V. P. GIANELLA, Ph.D.
History and Political Science—CHARLES R. HICKS, Ph.D.
Home Economics—MILDRED L. SWIFT, M.S.
Journalism—A. L. HIGGINBOTHAM, A.M.
Mathematics and Mechanics—E. M. BEESLEY, Ph.D.
Mechanical Engineering—J. R. VAN DYKE, M.E.
Metallurgy—WALTER S. PALMER, E.M.
Military Science and Tactics—LT. COL. JAMES D. LOEWUS, B.S.
Mining—WILLIAM I. SMYTH, E.M.
Music—THEODORE H. POST, M.A.
Philosophy—E. E. ERICKSEN, Ph.D.
Physical Education—JOHN E. MARTIE, M.P.E.
Physics—S. W. LEIFSON, Ph.D.
Psychology—RALPH A. IRWIN, Ph.D.

Public Service Division

EDWARD RECORDS, V.M.D., Director of Veterinary Control Service.
WAYNE B. ADAMS, B.S., Commissioner of Food and Drugs Control and Weights and Measures.
C. E. FLEMING, B.S.A., Director of Agricultural Experiment Station.
CECIL W. CREEL, Agr.D., Director of Agricultural Extension.
VERNON E. SCHEID, Ph.D., Director of Nevada Bureau of Mines; Director of Nevada Mining Analytical Laboratory.

Hospital Staff

ROBERT LOCKE, M.D., Physician.
MISS MARY ROTTER, R.N., Head Nurse.
MRS. VELMA MCKENNAN, R.N., Assistant Nurse.
MRS. J. B. LYNCH, Assistant.

Library Staff

MRS. EDITH J. HOLMES, B.A., Order Librarian.
MISS CLARE LOUISE JOHNSON, B.A., Cataloguer.
MRS. JULIA HURLBUT ENCK, B.S., Cataloging Assistant.
MRS. MARIANNE SPANN, B.A., Loan Librarian.
MRS. ISLAY STEPHEN, B.A., Reference Librarian.
MRS. KATHARINE PHILLIPS, A.B., Clerical Assistant.

Associated Students

JAMES MCNABNEY, Graduate Manager.

Alumni

JAMES MCNABNEY, Acting Secretary.

Publicity

GENE F. EMPEY, M.S., Editor.

Research

CORWIN M. MOKLER, B.A., Damon Runyon Research Project.

Y. W. C. A.

MRS. PATRICIA BARRETT, B.S., Executive Secretary.

The University Faculty*

President

MALCOLM A. LOVE, Ph.D., President.
A.B., Simpson College, 1927; A.M., University of Iowa, 1933; Ph.D., 1937. (1950)

WALTER ERNEST CLARK, 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)

Faculty Emeriti

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, 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)

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)

CHARLES H. GORMAN, Honorary M.S., LL.D., Vice President, Comptroller and Treasurer, Emeritus.
Honorary M.S., University of Nevada, 1939; LL.D., 1944. (1911–1950)

*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.

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

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)

SARAH LOUISE LEWIS, M.A., Professor of Home Economics, Emeritus.
B.S., Columbia University, 1919; M.A., 1923. (1920–1942)

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)

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

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, 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)

ROBERT STEWART, Ph.D., Professor of Agronomy, Emeritus.
B.S., Utah Agricultural College, 1902; Ph.D., University of Ilinois, 1909. (1920–1943)

REUBEN CYRIL THOMPSON,[1] M.A., LL.D., Professor of Philosophy, Emeritus.
B.A., McMinnville College, 1899; B.A., Harvard University, 1901; M.A., 1902; LL.D., Linfield College, 1938. (1908–1948)

JAMES REED YOUNG, 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)

[1]Died September 12, 1951.

Faculty

ERIC AXILROD, Ph.D., Instructor in Economics, Business, and Sociology.
A.B., Southern Methodist University, 1941; A.M., Harvard University, 1947; Ph.D., 1951. (1951)

FRANCIS W. BARSALOU, M.B.A., Instructor in Economics, Business, and Sociology.
B.S., Drake University, 1947; M.B.A., University of Southern California, 1949. (1952)

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

WILLIAM DWIGHT BILLINGS, Ph.D., Professor of Biology.
A.B., Butler University, 1933; M.A., Duke University, 1935; Ph.D., 1936. (1938–1951)

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

JOHN A. BONELL, C.E., Assistant 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)

GEORGE A. BROTEN,[1] Ed.M., Assistant Professor of Physical Education for Men.
B.S., Oregon State College, 1940; Ed.M., 1947. (1948–1950)

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

CLARENCE E. BYRD, M.A., Director of Admissions and Registration.
B.A., Central Normal College, 1925; M.A., University of Colorado, 1936; B.S., University of Nevada, 1948. (1943–1950)

VIRGINIA CARROLL, M.A., Assistant Professor of Home Economics.
B.S., Columbia University, 1927; M.A., 1933. (1943–1950)

DONALD G. COONEY, B.S., Instructor in Biology.
B.S., University of Nevada, 1947. (1948)

A. STUART DALEY,[1] Ph.D., Assistant Professor of English.
A.B., Syracuse University, 1932; Ph.D., Yale University, 1942. (1949–1950)

ALEX DANDINI, D.S.L., Assistant Professor of Foreign Languages.
D.S.L., University of Grenoble, 1921; H.E., University of Turin, 1923. (1946–1947)

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

[1]Absent on leave.

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 Plant Industry.
B.S., Oregon State College, 1929; M.S., Iowa State College, 1931; Ph.D., Washington State College, 1942. (1947)

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., Assistant 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)

EPHRAIM EDWARD ERICKSEN, Ph.D., Lecturer in Philosophy.
B.A., Brigham Young College, 1908; Ph.D., University of Chicago, 1918. (1948)

THOMAS VERNON FRAZIER, M.A., Instructor in Physics.
B.A., University of California, Los Angeles, 1943; M.A., 1949. (1950)

VINCENT P. GIANELLA, Ph.D., Professor of Geology.
B.S., Oregon Agricultural College, 1910; B.S., Oregon School of Mines, 1911; M.S., University of Nevada, 1920; Ph.D., Columbia University, 1937. (1923–1935)

LEIGH T. GIBBY, M.A., Instructor in English.
B.A., University of Colorado, 1941; M.A., University of Chicago, 1947. (1950)

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

JOHN R. GOTTARDI,[1] M.A., Associate Professor of Foreign Languages.
B.A., University of Nevada, 1921; M.A., 1926. (1922–1930)

ROBERT STUART GRIFFIN, Ph.D., Dean of Men; Professor of English.
B.S., Oregon State College, 1928; M.A., University of Southern California, 1935; Ph.D., 1941. (1928–1946)

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

[1]Absent on leave.

JAY M. HANSEN,[1] Ph.D., Assistant Professor of Physics.
B.S., University of Utah, 1941; M.A., Columbia University, 1944; Ph.D., 1947. (1947)

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)

HAROLD JOHN HENDRIKS, M.S., Associate Professor of Electrical Engineering.
B.S., Iowa State College, 1940; M.S., 1941. (1948–1951)

FELTON HICKMAN, B.A., Assistant Professor of Music.
B.A., University of Nevada, 1938. (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)

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

HOWARD R. HOUSTON, M.A., Instructor in English.
B.A., Cornell University, 1939; M.A., Pennsylvania State College, 1950. (1951)

JAMES M. HOYT, M.B.A., Instructor in Economics, Business and Sociology.
B.S., Miami University, 1947; M.B.A., Indiana University, 1948. (1948)

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)

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)

ERNEST L. INWOOD,[2] Ph.D., Professor of Economics, Business, and Sociology.
B.A., University of Nevada, 1927; Ph.D., University of California, 1935. (1930–1941)

RALPH A. IRWIN, Ph.D., Professor of Psychology.
B.S., Kansas State Agricultural College, 1928; M.S., 1929; Ph.D., Ohio State University, 1938. (1929–1944)

[1]Absent on leave. [2]Resigned February 1, 1952.

ROBERT L. JAMES, M.A., Instructor in Economics, Business, and Sociology.
B.A., Wayne University, 1948; M.A., Wayne University, 1950. (1951)

KEISTE JANULIS, M.S., Assistant Professor of Journalism.
B.A., Lehigh University, 1938; M.S., Columbia University, 1941. (1946–1948)

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

HELEN JOSLIN, Lecturer in Art.
(1939–1949)

THOMAS W. KENNELLY, Ph.D., Lecturer in Psychology.
B.A., University of Buffalo, 1932; M.A., 1933; Ph.D., Columbia University, 1941. (1952)

EARL W. KERSTEN, JR., M.A., Instructor in Geography.
A.B., Washington University, 1949; M.A., University of Nebraska, 1951. (1951)

JAMES F. KIDWELL, Ph.D., Associate Professor of Animal Husbandry.
B.S., University of California, 1943; Ph.D., University of California, 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)

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

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

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

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.
A.B., Williams College, 1942; M.S., University of Oklahoma, 1947. (1951)

THOMAS M. LITTLE, Ph.D., Assistant Professor of Biology and Horticulture.
B.A., Bucknell University, 1931; M.S., University of Florida, 1933; Ph.D., University of Maryland, 1943. (1949)

ALICE B. MARSH, M.S., Associate Professor of Home Economics.
B.S., Oregon State College, 1914; Professional Degree, 1933; M.S., Kansas State College, 1934; M.A., Ohio University, 1936. (1936–1951)

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

JEAN MCINTOSH, B.S., Instructor in Physical Education for Women.
B.S., Brigham Young University, 1948. (1951)

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)

WILLIAM CHARLES MILLER, 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)

JOE EUGENE MOOSE, Ph.D., Professor of Chemistry.
A.B., Southern Methodist University, 1917; M.S., University of Illinois, 1922; Ph.D., 1924. (1945)

R. 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., 1952. (1951)

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

WALTER S. PALMER, E.M., Professor of Metallurgy.
B.S., University of Nevada, 1905; E.M., Columbia School of Mines, 1907. (1910–1917)

GABRIEL J. PAOLOZZI, Ph.D., Instructor in Foreign Languages.
A.B., Kenyon College, 1942; A.M., University of Southern California, 1948; Ph.D., 1951. (1950)

FREDERICK PETRIDES, M.A., Instructor in Philosophy and Psychology.
B.A., Bowling Green State University, 1949; M.A., University of Colorado, 1951. (1951)

ALDEN J. PLUMLEY, M.A., Assistant Professor of Economics, Business, and Sociology.
B.A., University of Nevada, 1929; A.M., Brown University, 1932. (1931–1935)

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

JESSIE P. POPE, M.A., Associate Professor of Home Economics.
B.S., University of Nebraska, 1913; M.A., Columbia University, 1926. (1918–1929)

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

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

GALE LEE RICHARDS, Ph.D., Assistant Professor of English.
B.A.,University of Akron, 1940; M.A., University of Iowa, 1942; Ph.D., 1950. (1948)

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)

JOSEPH H. ROBERTSON, Ph.D., Associate Professor of Plant Industry.
A.B., Peru State Teachers College (Nebraska), 1928; M.Sc., University of Nebraska, 1932; Ph.D., 1939. (1947)

EDITH M. RUEBSAM, M.A., Associate Professor of Education.
B.A., Columbia University, 1921; M.A., University of California, 1934. (1925–1935)

MARY RULIFSON, B.A., Instructor in Physical Education for Women.
B.A., Hamline University, 1947. (1951)

RUTH IRENE RUSSELL, M.S., Assistant Professor of Physical Education for Women.
B.S., University of Colorado, 1937; M.S., University of Oregon, 1939. (1939–1947)

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

ROSEMARY SCHAEFER, B.S., Assistant Professor of Education.
B.S., College of St. Benedict (Minnesota), 1943. (1951)

VERNON E. SCHEID, Ph.D., Dean of the Mackay School of Mines.
A.B., Johns Hopkins, 1928; M.S., University of Idaho, 1940; Ph.D., Johns Hopkins, 1946. (1951)

CHESTER M. SCRANTON, M.A., Associate Professor of Physical Education for Men.
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)

ASA MILTON SEYMOUR, B.S., Instructor in Electrical Engineering.
B.S., University of Washington, 1950. (1951)

J. CRAIG SHEPPARD, B.F.A., Assistant Professor of Art.
B.F.A. in Painting, University of Oklahoma, 1938; B.F.A. in Sculpture, 1939. (1947)

WILBUR S. SHEPPERSON, Ph.D., Instructor in History and Political Science.
B.S., Northeast Missouri State College, 1941; M.A., University of Denver, 1947; Ph.D., Western Reserve University, 1951. (1951)

OLIVER F. SIGWORTH, Ph.D., Instructor in English.
A.B., University of California, 1947; M.A., 1948; Ph.D., 1951. (1951)

DAVID B. SLEMMONS, B.S., Assistant Professor of Geology.
B.S., University of California, 1948. (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)

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

VERNON C. SORENSON, B.A., Instructor in Foreign Languages.
B.A., University of Utah, 1947. (1950)

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

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

FRED W. TRANER, Ph.D., Dean of the School of Education; Professor of Education.
A.B., Beloit College, 1908; M.A., University of California, 1920; Ph.D., 1930. (1915–1937)

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)

MILAN J. WEBSTER, Ph.D., Professor of Economics, Business, and Sociology.
B.E., Nebraska Normal College, 1908; B.A., University of Nevada, 1929; M.A., 1931; Ph.D., University of Colorado, 1934. (1929–1944)

LORING RIDER WILLIAMS, Ph.D., Associate Professor of Chemistry.
B.S., West Virginia Wesleyan, 1927; M.S., West Virginia University, 1932; Ph.D., University of Illinois, 1939. (1939–1944)

ELDON WITTWER, Ph.D., Director of Resident Teaching in Agriculture; Professor of Agricultural Economics.
B.S., University of Nevada, 1922; Ph.D., Cornell University, 1930. (1938–1949)

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

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

Athletic Department Staff

GLENN LAWLOR, B.A., Athletic Coach.
B.A., University of Nevada, 1930. (1942)

HUGH SMITHWICK, B.A., Assistant Athletic Coach.
B.A., University of Nevada, 1948. (1948)

HAROLD CODDING, Ski Coach.
(1950)

JAMES OLIVAS, Boxing Coach.
(1951)

Military Science and Tactics Staff

JAMES D. LOEWUS, B.S., Lt. Colonel, U. S. Army; Professor of Military Science and Tactics.
B.S., U. S. Military Academy, 1940. (1951)

GEORGE M. BASTA, B.A., Captain, U. S. Army; Assistant Professor of Military Science and Tactics.
B.A., University of Nevada, 1943. (1950)

ROBERT M. BRAMBILA, JR., B.S., 1st Lieutenant, U. S. Army; Assistant Professor of Military Science and Tactics.
B.S., University of Nevada, 1948. (1950)

CAESAR J. BRUNETTI, SFC, U. S. Army.
(1949)

EDWARD R. BYRD, M/Sgt., U. S. Army.
(1951)

ROY H. DRIVER, SFC, U. S. Army.
(1950)

JOHN K. ELLIOTT, M/Sgt., U. S. Army.
(1947)

EARL J. GRADY, M/Sgt., U. S. Army.
(1946)

ROY E. GRIFFIN, JR., SFC, U. S. Army.
(1951)

EDWARD L. MCFEATERS, M/Sgt., U. S. Army.
(1951)

Assistants and Fellows

JAMES R. BROWN,[1] D.V.M., Animal Industry.
D.V.M., Colorado Agricultural and Mechanical College, 1942. (1951)

MABEL MARIANI BROWN, B.A., Education and Foreign Languages.
B.A., University of Nevada, 1928. (1946)

ESTHER LAIOLA DOYLE, Education.
(1951)

RODERICK A. FALK, A.B., Fellow in Chemistry.
A.B., Westmont College, 1950. (1951)

LOUISE FARRAR, B.A., Commercial Education.
B.A., University of Nevada, 1924. (1951)

PATRICIA M. GIBBY, A.B., Foreign Languages.
A.B., University of Colorado, 1946. (1951)

FREDERICK R. JENSEN, B.S., Fellow in Chemistry.
B.S., University of Nevada, 1951. (1951)

MILDRED KLAUS, M.S., Education.
B.A., University of Nevada, 1926; M.S., University of Southern California, 1946. (1941)

PAUL L. MALONEY, B.S., Animal Industry.
B.S., University of Nevada, 1921. (1925–1952)

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

LEE DOLSON PIVORNICK, M.A., Foreign Languages (Las Vegas).
B.A., Montclair State Teachers College, 1932; M.A., 1949. (1951)

ALBERT J. REED, B.S., Animal Industry.
B.S., University of Nevada, 1921. (1921–1951)

RANDALL T. ROSS, M.A., Education.
B.A., University of Iowa, 1929; M.A., University of Nevada, 1940. (1951)

GORDON CALHOUN SHELLEY, LL.B., Business Administration.
A.B., Stanford University, 1947; LL.B., University of Denver, 1948. (1948)

[1]Died January 21, 1952.

C. E. SHEPHERD, Meteorology.
(1950)

RUTH VAN DYKE, B.A., Mathematics.
B.A., University of Minnesota, 1914. (1946)

JACK TORNEY RYAN, Superintendent of Shops and Shop Instruction.
(1931–1944)

LE GRAND WALKER, B.S., Superintendent of Farms and Animal Husbandry Instruction.
B.S., Utah State Agricultural College, 1928. (1945–1949)

University Standing Committees

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

Academic Council
WOOD, BEESLEY, BILLINGS, DAVIS, DEMING, ELLIOTT, GORRELL, HENDRICKS, IRWIN, LAIRD, LITTLE, MARTIE, MELZ, MORRISON, S. G. PALMER, RICHARDS, F. RICHARDSON, SCHEID, SMITH, SMYTH, VAN DYKE, WILLIAMS, WITTWER.

Planning and Relations Council
HIGGINBOTHAM, BLODGETT, BROWN, ELLIOTT, EMPEY, HARRIS, MOOSE.

Student Life Council
GRIFFIN, BARRETT, DEMING, LAWLOR, MARTIE, MCNABNEY, MOBLEY, MORRISON, RICHARDS, WILLIAMS, WITTWER, A. S. U. N. Representatives: A. S. U. N. President, A. W. S. President, Blue Key President, Interfraternity President, Pan-Hellenic President, Member-at-Large, Men's Upperclass Committee, Sagebrush Editor, Women's Upperclass Committee.

FACULTY COMMITTEES

Admissions
SMYTH, BYRD (ex officio), KIDWELL, IRWIN, MORRIS, VAN TASSEL.

Assemblies and Lectures
RICHARDS, GOTTARDI, LANGFORD, NELSON, POOLMAN, SEIM, SWIFT.

Catalogue and Publications
GORRELL, DEMERS, HAYDEN, (ex officio), HILL, LAIRD, Deans and Directors concerned.

Ceremonials
DEMING, ELLIOTT, EMPEY, KLINE, LOEWUS, POST, SANDORF, The Deans (ex officio).

Curriculum and Instruction
MELZ, BLODGETT, DALEY, DEMING, LEIFSON, ROBERTSON, SANDORF, SWIFT.

Eligibility and Athletics
MORRISON, BLODGETT (ex officio), COONEY, MOOSE (ex officio), POOLMAN.

Faculty Welfare
BEESLEY, BILLINGS, BLODGETT, BUCKMAN (Public Service Representative), GIANELLA, GORRELL, IRWIN, MELZ, F. RICHARDSON, ROBERTSON.

Graduate
LAIRD, DUNN, HARRIS, LA RIVERS, LEIFSON, LINTZ.

Health
MARTIE, BROTEN, JONES, RUSSELL, SMITHWICK.

High School Relations
HENDRIKS, BROWN (ex officio), BYRD (ex officio), ELLIOTT, KIDWELL, MILLER, POOLMAN, POST.

Library
DAVIS, BONELL, DALEY, ELDRIDGE, HILL (ex officio), HUTCHESON, PAOLOZZI, POPE, SEIM, SLEMMONS.

Orientation and Guidance
IRWIN, CARROLL, HICKMAN, JANULIS, RICHARDS, H. RICHARDSON, RUSSELL, SHEPPERSON, VAN TASSEL.

Public Relations
SMITH, HIGGINBOTHAM, MORRISON, PLUMLEY, TITUS, VAN DYKE.

Registration and Schedules
VAN DYKE, BONELL, BYRD (ex officio), DANDINI, HAMMOND, TITUS, WORLEY.

Research
BILLINGS, BEESLEY, DUNN, HARRIS, HICKS, HUME, MORRIS, SLEMMONS.

Scholarships and Prizes
WILLIAMS, HENDRIKS, LARSON, LITTLE, SHEPPERSON.

Scholastic Standing
F. RICHARDSON, BYRD (ex officio), HARRIS, HUME, LARSON, ROBERTSON.

Special Services
ELLIOTT, BROWN (ex officio), GORRELL, HENDRIKS, KIDWELL, NELSON.

Student Welfare
LITTLE, LAWLOR, RICHARDS, RUSSELL, SANDORF, SHEPPARD.

General Information

Among western civilizations, the university is the recognized instrument with which man seeks the truth and seeds it abroad. Truth is sought by research; it is disseminated, indirectly through publication, directly by teaching students. Thus, a university is an institution for fostering and preserving culture; it is the custodian of tradition.

In Nevada, these activities are centered in the State University, the only recognized institution of higher learning in the State, and a member of the important American system of land-grant colleges and universities. The institution is supplied with ample facilities to do sound work, extensive grounds and good buildings, in which are classrooms, laboratories, and research collections. It is staffed with a competent administration and capable faculty, teachers and research workers, scholars, scientists, and professional people. These men and women work in their special fields, some through independent research, some through foundations and institutions supported by Federal funds, by State appropriation, or by private benefaction. The major concern of the University is, however, and has been since its inception, the teaching of students and the training of young people.

Opportunities

Students at the University of Nevada find unusual opportunities for developing general cultural backgrounds or gaining specialized training. The University is organized and administered primarily to provide serious undergraduates with capable and helpful instruction. Although graduate work is offered, the bulk of the students at the University of Nevada come there for studies leading to the degrees Bachelor of Arts or Bachelor of Science. Accordingly, most of the University is planned for the benefit of these students. Faculty members are chosen not only for their capacity to conduct research, but also for their ability to impart their knowledge and inspire young people. Classes are kept small. Students receive individual attention, and even the beginning student finds that he has access to the best of teachers, many of them with national reputations. Thus the University of Nevada combines advantages of a large university with those characteristics of the small college.

The University offers a wide variety of programs. Courses in

languages, literatures, social studies, the sciences, and the arts offer ample opportunities for a broad culture. Selections from these courses will permit the student to lay the foundation for any specialized technical or professional training he may later elect. In addition, advanced training is offered in many subjects, notably agriculture and engineering, and curricula are constantly revised to fit changing conditions and to take advantage of educational developments.

These opportunities at the University are open to all qualified students, and the qualifications for admission are only those which seem necessary to restrict the privileges of the University to those who can profit from them (see *Admissions* in the index). Citizens of the State pay no tuition; those from without the State pay a moderate sum, and care is taken that personal expenses need not be large (see *Expenses of Students* in the index). Students are given a large degree of self-government, and are encouraged in artistic, scientific, professional, and cultural pursuits. Their health and social needs are provided for.

Situation of the University

The University of Nevada is in Reno, a city of about 32,000, 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 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.

Organization of the University

The University is a combination of four 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, however, elect 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

Four colleges of the University present basic undergraduate programs.

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 and Bachelor of Science include courses in the following:

art, astronomy, biology, botany, business, chemistry, dramatics, economics, education, English, foreign languages, geography, history, journalism, library science, mathematics, military science, music, philosophy, physical education, physics, political science, psychology, 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, and social work.

The School of Education, a division of the College of Arts and Science, offers to prospective secondary school teachers a liberal and professional four-year course of study, leading to the bachelor's degree and qualifying the student for a teacher's high school certificate. It also offers four-year courses which qualify the student for a first-grade elementary certificate and offers special training courses for future school principals and superintendents.

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, also, may be earned in these same fields. Under certain conditions the College grants professional degrees.

The College of Agriculture curricula lead to the degree of Bachelor of Science in Agriculture with majors in agricultural economics; agricultural education; animal husbandry, specializing in animal breeding, animal nutrition, milk production, or general animal sciences; plant industry, specializing in agronomy, range management, horticulture, or soils; and general agriculture. These are four-year curricula, which include basic courses in the arts and sciences in addition to the prescribed agricultural subjects.

The School of Home Economics is in the College of Agriculture. The curricula include three areas: teaching, foods and nutrition, and general home economics. Each of these fields of study leads to the degree of Bachelor of Science in Home Economics. Both men and women will find cultural and professional opportunities, as well as fundamentals for everyday living, in these areas of study.

Graduate Study

Curricula leading to the degrees of Master of Arts and Master of Science are offered by the University under the direction of a Graduate Committee appointed by the President. These curricula include an integrated program of twenty-four hours 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 University of Nevada does not offer graduate work leading to the doctor's degree.

Educational Services

The University provides a variety of special educational services for students and citizens of the State. Summer Sessions provide a limited program for students wishing to advance more rapidly toward degrees, to study fields of particular interest, or to better their professional standing in education and other fields. For details consult the *Summer Sessions Bulletin* or write the Director of Summer Sessions. Correspondence Study is provided by many departments for the convenience of students unable to be in residence at the University. For details see the *Correspondence Study Bulletin* or write the Director of Correspondence Study. Extension courses offered in Reno and various centers throughout the State offer opportunities for general culture, specialized study, and University credit to citizens of Nevada. For details write the Director of Extension. Regular Arts and Science freshman courses are offered in Las Vegas.

Public Service Divisions

As divisions 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, the duty of

water, animal disease, poisonous range plants, economical feeding of livestock, insect pests, and plant diseases.

The Agricultural Extension Division 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.

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.

State Public Service Departments. Public services departments of the State for mining, assaying and analysis of minerals, 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.

University Administration

The University is organized administratively to function efficiently in the conduct of its regular business and at the same time to provide for full and democratic consideration of important educational problems. Supreme authority for the conduct of the University is vested by law in the Board of Regents, consisting of five members elected by the people of the State. Responsible to the Board of Regents for the administration of the University are the President, the University Faculty, and the deans, directors, and departmental chairmen of the various colleges and divisions.

Each student, therefore, finds that he is working within an organization which provides regular patterns of life and study and also sufficient flexibility to accommodate the exceptions when they appear.

Each new student is assigned a faculty adviser who is available for general counseling and who assists the student in arranging a program of courses. When study begins, he is under the direct supervision of the instructors in whose courses he has enrolled, but each course he takes is the offering of a department, the educational unit in the University, and the student may discuss with the chairman of any department problems related to specific subjects. Each student is also enrolled in a college,

headed by a dean, who supervises the educational work of the departments in his college, enforces the academic regulations of the faculty, and is available for consultation and advice concerning the student's general progress and welfare. In addition, the Dean of Men and the Dean of Women supervise extracurricular activities, administer regulations concerning student life, and are constantly available for counsel and guidance.

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 and partly by private gifts. 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 Men, 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 Journalism Building, Mackay School of Mines Building, Mackay Science Hall, Morrill Hall, the Engineering Building, Stewart Hall, the Astronomical Observatory, 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 Greenhouse on the main campus, the University Farm located two miles south of Reno, the Experiment Station Farm east of the campus, and the University Dairy Farm three miles south of Reno.

The University maintains residence facilities in Manzanita and Artemisia Halls dormitories for women, Lincoln Hall dormitory for men, and temporary housing units which include Hartman Hall and Victory Heights apartments for married veterans. The

Dining Hall on the west side of the campus accommodates a large portion of the student body.

Public service divisions of the University occupy 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 Student Union Building is just off the campus on University Avenue.

Most of the buildings on the campus are supplied by the central heating plant in the Mechanical Building.

Libraries

The University libraries supply printed materials to support courses offered by the University and assist the investigations undertaken by the research and teaching staffs, and provide space for study. The collections contain about 93,000 bound volumes and more than 125,000 unbound serials and pamphlets. The collections have been supplemented by private gifts.

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 loan 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.

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.

Housed separately from the main collection in the Clark Library are the following special collections:

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

The Mining Library in the Mackay School of Mines Building, more than 10,000 volumes and other publications relating to geology and mining.

Departmental libraries for chemistry and physics in Mackay Science Hall; for music and education in the Education Building; for veterinary science in the Veterinary Science Building; for military science in the New Gymnasium; for electrical engineering in the Electrical 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 80,000 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.

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 College of Arts and Science maintains special laboratories in biology, chemistry, physics, journalism, and music. The physics and chemistry laboratories include facilities for lecture demonstrations, individual student work, and special research by advanced students and faculty members. The biology laboratories include apparatus, instruments, and greenhouse facilities for university-level work in the life sciences. The Department of Journalism has a news laboratory, equipped like the 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 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.

Laboratories of the Mackay School of Mines include equipment for practical mining practice and specimens and apparatus for general scientific research. As well as machinery for mining,

the School maintains laboratories in assaying, chemistry, geology and mineralogy, petrography, metallurgy, metallography, electrometallurgy, and seismographic study.

The 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. The School of Home Economics has a laboratory for practice in the supervision of preschool-age children and laboratories in foods and clothing.

Scientific Collections and Museums

The Mackay Museum, in the northwest wing of the Mackay School of Mines Building, is an extensive collection of rocks, ores, minerals, metallurgical products, and historical material related to mining. The collection, which is constantly growing through the generosity of those interested in the development of mining, is designed to give a good general idea of the mining industry in Nevada and to illustrate standard 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 valuable Joseph D. O'Brien mineral and curio collection presented to the University by F. S. Markham, models of a mine and mining equipment, and pictures, maps, and relics of historical interest.

The Zoological Collection in the Department of Biology, a portion of which is arranged for public exhibit, includes about 500 skins and mounts of native birds; 100 sets of birds' eggs and nests, donated by Mr. Steinmetz of Carson City; 250 insect life histories; over 10,000 Nevada insects and other arthropods; 150 mammal skins and mounts; 30 mounted skeletons of various vertebrates; over 5,000 Nevada cold-blooded vertebrates; 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 the Department of Veterinary Science has a collection of several hundred permanently mounted gross pathological specimens covering practically all the common infectious diseases of animals and miscellaneous disease processes of particular interest. The collection is available for teaching purposes and inspection.

Chemical specimens have been collected in Mackay Science Hall and are on display. About 200 of the specimens were made by students in the laboratories of the Department of Chemistry; other specimens, including dyes, plastics, inorganic salts, petroleum products, and zinc products, have been contributed by industry.

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

A student's expenses will depend somewhat upon his course of study, but more upon his personal habits and the standard of living which he allows himself. A student's expenses may be conservatively estimated as follows:

TABULAR ESTIMATE OF NECESSARY ANNUAL EXPENSES OF STUDENTS EXCLUSIVE OF PERSONAL INCIDENTALS, CLOTHING AND TRAVELING.[1]

	Low	Moderate	Liberal
[2]Tuition	None	None	None
Board, 8½ months	$415.00	$440.00	$465.00
Room	90.00	145.00	280.00
[3]Laundry	30.00	40.00	60.00
[4]Books, stationery, etc.	70.00	85.00	100.00
Fees (laboratory, athletic, health service, etc.)	85.00	90.00	110.00
Fee (registration and incidental)	30.00	30.00	30.00
[5]Totals	$720.00	$830.00	$1,045.00

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

[2]Students from outside the State of Nevada must add a tuition of $100 each semester.

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

[4]All engineering students will require complete drawing outfits and slide rules. These cost from $55 to $65. Students having this equipment should bring it with them.

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

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 $100 per semester, beginning July, 1945. 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 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 5 credits or less 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 dormitories, 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, national and local, maintain chapter houses near the campus. They offer certain social advantages, along with good living conditions, and are under the supervision of the University administration. 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

Dormitories for Women

The dormitories 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 and Manzanita Hall Associations are 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 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 dormitories 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 Committee on Admissions. The residence form should then be completed immediately and mailed to the Dean of Women together with a check for the exact amount made payable to the Board of Regents.

Room rent for each semester (with roommate), $48.

Single occupancy, $60 (only a limited number available).

Room rent will be returned in full to the one making the

reservation when notification of desire to cancel reservation is sent to the Dean of Women one week prior to the date of registration. If withdrawal is made from the University before the end of the third week of the semester, two-thirds of the room rent fee will be refunded. If withdrawal is made after the end of the third week and before the end of the eighth week, one-half of the room fee will be refunded. No refund will be granted if withdrawal occurs after the end of the eighth week.

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

Residence Requirements. All residents of women's dormitories are required to:

1. Register in and carry throughout each semester at least fourteen credit hours of University work unless excused by the Dean of Women.
2. Conform to the regulations of the University and of the halls.
3. Provide bedding for single 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 their own room and linens.

Men's Residence Halls

The University is currently providing living accommodations for single men in Lincoln Hall and in Hartman Halls. All dormitories are under direct supervision of the Dean of Men, and all assignments are made from his office. Applications for accommodations may be secured from the office of the Dean of Men, and each new student will be supplied with application forms by the Office of Admissions when he receives his card of admission to the University.

To be honored, all applications must: (1) *Be on file with the Office of the Dean of Men at least three weeks prior to the opening day of the semester;* (2) *be accompanied by payment of the room rent for the semester concerned. All checks and money orders for rent should be made payable to the Board of Regents.*

In addition to the room rent, all residents of dormitories are required to contribute to the dormitory fund for the purchase of magazines and newspapers, and for the maintenance and replacement of laundry equipment. The amount is either 50 cents or $1 each semester, depending on the dormitory in which the student resides. A key deposit is also required of all residents of dormitories. No exceptions will be made to the above requirements, whether or not the student uses the equipment.

Room rent is as follows:

For each man for each semester.....$40
For each man for a five weeks summer course....$15

Rent will be returned in full to the applicant if due notification of desire to cancel the reservation is sent to the Dean of Men one week prior to the opening of the dormitory for the semester. If cancellation or withdrawal is later than one week prior to the opening of the dormitory for the semester, but not later than the end of the third week of the semester, two-thirds of the room rent will be refunded. If withdrawal is made after the end of the third week, but before the end of the eighth week, one-half of the room rent will be refunded. If withdrawal is made after the end of the eighth week no refund will be allowed.

No one will be admitted to a men's dormitory, nor will space be reserved, until the room rent for the semester has been paid. The applicant must agree to accept the space reserved for him by the Office of the Dean of Men. It is not possible to notify an applicant as to the specific place allotted to him until he arrives on the campus.

The Dean of Men reserves the right to reject an application when in his opinion the applicant would not be a desirable resident of a dormitory.

The Dean of Men reserves the right to require a student to vacate his room space when in his opinion the conduct of the student is contrary to the best interests of the dormitory and the University.

All residents of men's dormitories are required:

(1) To abide by the regulations of the dormitories as adopted by the student residents and approved by the Dean of Men.

(2) To provide themselves with the following articles: One bedspread, at least two heavy blankets, one comforter, one pillow, one mattress protector pad 3 x 6 feet, six towels, personal toilet articles.

All clothing and personal property should be plainly marked with the name of the owner. If window hangings or rugs for the floor are desired, they also must be supplied by the individual.

The University furnishes lights, heat, sheets and pillow cases (which it launders), beds and mattresses, mattress covers, dressers, tables and chairs, clothes closets or lockers. 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.

Family Living Accommodations

The University has 112 apartment units in the Victory Heights housing project. All family units are allotted to veterans only, and on the basis of priority, with residents of Nevada and former students from other States receiving preference. The current cost for family unit is $34 per month.

Occupants are required to furnish all personal items, including dishes, tableware, cooking utensils, bedding, rugs, draperies, etc.

All applications for family dwelling units should be addressed to the Office of the Dean of Men. Application forms will be sent upon request. Each new student will automatically receive application forms from the Office of Admissions when he receives his card of admission to the University.

Applications should be on file with the Office of the Dean of Men not later than four weeks prior to the opening date of the semester for which the accommodations are desired. Notice of acceptance or rejection of the application for a family unit will usually not be sent earlier than two weeks prior to the opening of the particular semester. All occupants of family units are required to vacate them immediately upon withdrawal from the University or upon graduation therefrom.

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 $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 women students residing in a University dormitory 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. Rebates for necessary absences or from 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 rebate 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 rebate will be allowed.

Preferences in Dining Hall and Dormitories

The Board of Regents has adopted the following rule:

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

(1) To Nevada students.

(2) To formerly enrolled students from outside Nevada.

(3) To new students from outside Nevada.

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

Fees and Deposits

All students are liable to some fees, although the total is seldom large. Students electing curricula requiring extensive equipment or considerable laboratory materials pay necessarily higher charges. Fees may also 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 registering for 6 or more credits 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 rebated.

Registration Fee

A registration fee of $15 per semester is to be paid by every student registering for 6 or more credits. This fee is not rebated.

Late Registration Fees

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

Each student who is registering for more than five credit hours and who begins registration before the end of the week of registration day shall pay to the Comptroller a progressively 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 more than five credit hours 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.

Library Fee

All students registering for 6 or more credits pay a library fee of $5 per semester which entitles them to all the privileges of the University libraries.

Health Service Fee

With the exception of graduate students and of students registered in five, or fewer, hours, all students are charged a Health Service Fee of $6 per semester. The funds obtained from this fee are used to provide an enlarged health service in accordance with the general practice of other colleges and in line with the recommendations of The American Student Health Association. Privileges and regulations of the University Health Service are outlined in the booklet *Regulations for the Guidance of Students,* available from the Dean of Men or Dean of Women.

Laboratory Fees

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

Associated Students Membership Fee

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. Visitors.
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. Students who are adult, bona fide Nevadans, registering for five or fewer semester credits in the University.

It is understood that any student registering in any of the above exempt classifications has the *privilege* of paying the student fee and securing the benefits which accrue to the students. This fee of $14 per semester includes subscriptions to the U. of N.

Sagebrush and, in the second semester, to the Artemisia, pays up each student's class dues and covers admittance to all regular Varsity athletic events and must be paid to the Comptroller at the time of registration.

Visitors' Fees

Students securing the privilege of visiting classes will be charged a fee of $5 per credit.

General Deposit

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

R. O. T. C. Deposit

Cadets enrolled in basic military courses normally deposit $20, $5 to guarantee against loss of texts and $15 to guarantee the uniform. An excuse from drill constitutes a relief from $15 of the deposit. Expenses for advanced students depend on current uniform costs and are arranged each year.

Uniforms

Women are required to furnish white gymnasium shoes and socks for physical education. Uniforms are furnished by the Physical Education Department.

Students in foods will be expected to wear suitable colored wash dresses. Those majoring in dietetics are expected to have three white uniforms.

Tuition Charges, Fees and Deposits Per Semester

	Amount
Agricultural Economics 353	$3.00
Agricultural Mechanics 211, 220, 332, 335, 341, 353, 356	5.00
Agricultural Mechanics 312	10.00
Agronomy 207, 346, 354, 359, 366, 468	5.00
Agronomy 364	10.00
Animal Husbandry 101, 201, 202, 207, 304, 307, 405	5.00
Animal Husbandry 203, 204, 301, 305, 310, 406	10.00
Art 101, 102, 105, 107, 115, 121, 122, 251, 252, 253, 254, 257, 258, 261, 355, 356, 359, 360, 362	3.00
Art 103, 363, 364	5.00
Art (Visitor's Fee)	10.00
Associated Students Fee	14.00
Botany 350	3.00
Botany 103, 104, 222, 231, 315, 317, 375, 491, 492	5.00
Botany 351, 355, 364, 370, 475, 476	10.00
Change of registration	1.00 per course
Chemistry 124, 242, 354, 355, 553, 554	5.00
Chemistry 101, 122, 231, 232, 234, 271, 312, 333, 341, 342, 391, 443, 497, 498	10.00
Chemistry 599	5.00 per credit
Civil Engineering 241, 363	5.00
Civil Engineering 242, 367, 369, 374	10.00
Commercial Education 101, 102	5.00
Condition, fee for removing	3.00
Deposit, General	10.00
Deposit, Military for basics taking drill	20.00
For basics not taking drill	5.00
For advanced students	Arranged each year
Diploma	
Education 141, 388	3.00
Education 133	5.00
Electrical Engineering 368, 375, 483, 484	5.00
Electrical Engineering 231, 232, 233, 234, 353, 354, 391, 392, 393, 394, 462, 463, 464, 481, 482	10.00
Geology 325, 351, 478	3.00
Geology 211, 212, 352, 370, 477	5.00
Health Service	6.00
Home Economics 133, 253, 334, 436, 477, 478, 487, 488	3.00
Home Economics 115, 116, 118, 250, 366, 367, 495	5.00
Home Economics 131, 132, 357, 483, 484, 496	10.00
Home Economics 255, 499	15.00
Home Economics 494	18.00
Horticulture 355	5.00
Late Registration	1.00–5.00
Library	5.00
Matriculation (new students only)	5.00
Mechanic Arts 203, 205, 226	10.00
Mechanic Arts 207	10.00 per credit
Mechanic Arts 220	15.00
Mechanical Engineering 464, 465	15.00
Metallurgy 356, 357, 471	5.00

	Amount
Metallurgy 368, 468, 479, 480, 481	$10.00
Metallurgy 341	20.00
Physical Education (Men)	3.00
Physical Education (Women)	3.00–10.00
Physics 103, 104, 153, 154	3.00
Physics 119, 357, 358, 368, 377, 378, 483, 484	5.00
Physics 375, 376	10.00
Physics 205, 206, 493, 494	3.00 per credit
Physics 599	5.00 per credit
Psychology 411	3.00
Registration	15.00
Soils 106, 211, 323, 417, 425	5.00
Special Examinations, each	3.00
Sports (women, depending upon activity)	1.00–12.00
Students registering for 5 or less credits	7.50 per credit
Teacher Appointment Service	5.00
Transfer credit evaluation	3.00
[1]Transcript of student record	1.00
Tuition to non-Nevadans	100.00
Veterinary Science 301, 302	5.00
Visitors	5.00 per credit
Zoology 350, 368	3.00
Zoology 101, 103, 322, 333, 335, 337, 364, 463, 491, 492	5.00
Zoology 209, 211, 346, 359, 370, 420	10.00

Special Services

Correspondence Study	6.00 per credit
Summer Session fees	23.00 (per term—residents)
	38.00 (per term—nonresidents)
For students enrolled for 3 hours or less	7.50 per credit
Health fee	2.00
Late registration	2.00
Extension and Evening courses	7.50 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 in any semester will not be entered on the record of any student delinquent in the payment of fees, deposits, room rent, board, etc., at the time grades are being recorded, nor will final grades or transcript of record be issued to any one for any such delinquent student.

Rebates

A rebate of two-thirds of all *laboratory, library, and hospital fees, room rent,* and *nonresident tuition* will be made if a student withdraws before the end of the third week in a semester; a

[1]When two or more transcripts of record are asked for at the same time, each additional transcript will be 50 cents.

rebate 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 rebate will be allowed if withdrawal follows the end of the eighth week.

Financial Aid for Students

Scholarships, Prizes, Loan Funds

Partly through provisions made by the Board of Regents and the University and partly by benefactions for organizations and individuals, a considerable number of scholarships, awards, loan funds, and other advantages are available to students. Some of these are grants in aid, intended to assist students during the course of their studies, especially students who show exceptional promise. Others are awards in the form of medals or honors, providing recognition for superior work. The deserving and capable student has an excellent chance of qualifying for substantial financial aid sufficient to pay a large portion of his expenses. Both entering students 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. Qualifications for eligibility for the many scholarships are varied enough to make it advantageous for any interested student to inquire about opportunities.

Students and prospective students interested in being considered for scholarship or loan aid should write for application forms to the Committee on Scholarships and Prizes, University of Nevada, Reno, Nevada. Applications should be in the hands of the committee by March 1 preceding the school year for which the scholarship is to be granted. A list of foundations, scholarships, awards, and prizes, with regulations concerning each, may be obtained in the Office of the Registrar or by writing the Committee on Scholarships and Prizes.

Funds available for aid to students are administered through the faculty committee on Scholarships and Prizes, which is empowered to receive and consider all applications. Unless otherwise specified, payments of grants will be made in two equal installments, six weeks after the registration day for each semester.

Student Employment

It is the purpose of the officers of the University to aid meritorious students of limited means so far as it lies in their power. Some of the work in and about the University buildings and grounds is done by young men and young women. Students are

favored whenever possible with such work as typewriting, copying, housework, dining-hall service, and janitorial service. A committee allots the open positions to students who apply, giving preference to those who have good scholarship records, who need the assistance, and who do the work well. Applications for campus employment should be made to the office of the Dean of Men. It is to be remembered that the power to favor students with self-help is limited by circumstances and *therefore students cannot expect to earn enough to pay all their expenses while pursuing their studies.*

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

Every student from Nevada should have at least $175 cash in hand, after reaching the campus, to start any University year properly. Outside students should have $275 in hand to start the year.

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 five credits must matriculate at the University of Nevada and meet all requirements for admission to regular standing. Students wishing to enroll for fewer than five credits may register as students not candidates for a degree (see below).

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 who have not attended another collegiate institution since withdrawing in good standing from Nevada need not make another application. Students are not required to submit credentials for admission to the Summer Sessions, but credit toward a degree or diploma 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 for admission 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 submit a $3 nonreturnable 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.

Requirements for Admission

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 special requirements.
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 Academic 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
- Advanced Algebra, Solid Geometry, Trigonometry ..... ½ unit each

Sciences:

General Science, Physics, Chemistry..... 1 unit each
Botany, Biology, Physiology, Hygiene,
Physical Geography ..... ½–1 unit each

Commercial Subjects:

Commercial Law, Commercial Geography..... ½–1 unit each

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

Vocational Subjects

A maximum of five units in vocational subjects may be used as part of the 15 units required for admission.

All vocational subjects accepted by the high school toward graduation are acceptable. Physical education is not used for entrance purposes. R.O.T.C., also, is not used for entrance since the second- and third-year program in high school will probably receive college credit and is not acceptable for both purposes.

Quality Units

Of the units presented for admission to first-year standing, six units must carry grades of 80 percent or better and four of the six must be in acceptable academic subjects. Nevada students who cannot meet this requirement may be able to qualify for admission (see below).

Specific Subject Requirements

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

The College of Arts and Science (including *School of Education*):

English, 3 units.
Mathematics (algebra and/or geometry), 2 units.

The Mackay School of Mines and the College of Engineering:

English, 3 units.
History, 1 unit.
Plane geometry, 1 unit.
Algebra, 1½ units.
Solid geometry or trigonometry, ½ unit.
Chemistry or physics, 1 unit.

The entering student in mining or engineering must present all the subjects here listed, especially that of 1½ units of algebra, or it is probable that he will be unable to graduate in four years. (See *Restricted Freshman* in the index and the descriptions of courses Mathematics 151 and Mathematics A.) It is advised that elective units include 2 units of foreign language, preferably modern language.

The College of Agriculture (including Home Economics):

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

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 or college records or both.

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 hours credit.

Advanced Standing

Applicants for advanced standing from universities and colleges of recognized standing will receive, upon presentation of their credentials, such credit as the Committee on Admission may deem fair. All credit for advanced standing, however, is provisional and subject to revision at the end of the first year following the enrollment of the student. Final acceptance depends upon:

1. Quality of work at this university.
2. Possible duplication of credit.
3. Required subjects as determined by the Dean of the College.
4. 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 College of Arts and Science.

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 fullfill all requirements for graduation, including all special requirements outlined for the freshman and sophomore years.

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 transferring from a recognized university, college, junior college, or normal school with junior standing 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 (see below).

Admission Without Quality Units

Any graduate of a Nevada high school, or a graduate of an out-of-State high school who is a legal resident of this State (or whose parent or guardian is a legal resident of this State), who cannot meet the requirements of six quality units, may, if he has no specific subject requirement deficiencies, qualify for admission by taking scheduled College Aptitude and Achievement Tests (see University Calendar). On passing these examinations and satisfying the Admission Committee through a personal interview that he is qualified to do University work, an applicant may be admitted as a regular student.

The College Aptitude Tests are administered in the various high schools in the State in April. Achievement tests in natural science, social science, mathematics, and English and reading comprehension are administered at several high school centers in June. They are offered again at the University in September on Thursday and Friday preceding registration. Applicants wishing to enter the second semester should refer to the University Calendar for dates of examinations.

Admission With Deficiencies

Limited Freshmen

Nevada high school graduates who have 13 or more but less than 15 acceptable high school units may be admitted as limited freshmen. Courses to remove deficiencies shall take precedence over all other subjects in the University. Requirements pertaining to grades for these students are the same as for regular students. See also *Removing Entrance Deficiencies* below.

Restricted Freshmen

Restricted freshmen are defined as high school graduates who present 15 acceptable units, but who are deficient in no more

than two of the required units as specified above under *Specific Subject Requirements.* See also *Removing Entrance Deficiencies,* below.

Removing Entrance Deficiencies

Time Requirements. Students with entrance deficiencies, except special students (see below), must remove their deficiencies before their second year of residence.

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

In order to satisfy the specific subject requirements for entrance into his college (see above), the restricted freshman and special students must take the proficiency examination, and, if necessary, the noncredit course offered by the department concerned, see *English A, Mathematics A.* If a noncredit course is not offered by the department, college credit may be used. However, if the grade obtained in the college course is C or higher, the units need not be canceled, but may be used in a regular manner for college graduation.

Special Students

Persons of serious purpose and good character 21 years of age or more and residents of Nevada, who wish to enroll for study at the University but find that their credentials do not satisfy the entrance requirements, may, at the discretion of the Director of Admissions, be admitted as special students. They will be required to submit a program of the work which they wish to undertake at the University and to have the program approved by the dean of the college in which registration is sought. This approval will largely depend on the evidence which the student submits as to his ability to pursue successfully the desired course of study. If the applicant has attended other colleges or universities previous to making application here, an official transcript of such work must be submitted before the application will be considered.

Special students will usually be expected to register in not fewer than 10 hours in courses of elementary character. They will be permitted to register in advanced courses only upon the approval of their dean and the head of the department concerned. Special students are subject to all the rules related to registration and scholarship.

Obtaining Regular Status. A special student may obtain regular status by removing entrance deficiencies as described above, or he may be classified as a regular Junior if he has satisfied the *specific subject requirements* for entrance into his college (see

above), has satisfied all regular lower division requirements of his college course, and has successfully carried the regular prescribed course of his college during four semesters with an average of 2.5 grade points in all courses for which he has been registered, except cases of W, and has no unremoved conditions or failures. To retain the status of special student for a longer period than four semesters requires the permission of the dean of the college.

Students Not Candidates for a Degree

Non-Matriculated Students

Persons of serious purpose and good character 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 five semester hours of credit in any semester at the University may be registered as Non-Matriculated students. Formal admission and matriculation are unnecessary. These students shall be governed by University rules and pay $7.50 per credit hour 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.

Visitors

With the consent of the Dean and the Instructor concerned, visitors may be enrolled. They shall be governed by University rules and pay $5 per credit hour and laboratory fees. Visitors 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 for 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 a student may take (see *Graduation Requirements* below).

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

Registration in the fall semester for all new students includes a program of orientation during the first week.

Required Examinations and Photograph

All new students registering for 6 or more 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 pages 62, 63).

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 professor 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 provided the withdrawal meets with the approval of the instructor concerned, the adviser, and the dean of the college. If he withdraws during the first six weeks of the semester, W will be recorded; if he withdraws after the first six weeks, W will be recorded when the student is passing, F when the student is not passing. The symbol W is not a scholarship grade and shall not be used in any manner in determining a student's scholarship record.

A student who wishes to withdraw from any course shall first secure from the Registrar a withdrawal slip. He shall take this to the instructor in the course in question and to the adviser for their approval. He will then report to the dean of his college, who may grant a withdrawal from the class. The withdrawal slip must be filed by the student with the Registrar, who shall notify the instructors concerned. The student is not officially withdrawn from the class until the instructor has received notice from the Registrar. The date of withdrawal shall be the date on which the slip is filed with the Registrar.

Withdrawal from the University

Any student wishing to withdraw from the University during the first six weeks of the semester may do so, with the withdrawal to be recorded as W. After the sixth week of the semester a student who desires to withdraw from the University will report to each instructor for his grade. 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.

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 Junior Division ROTC may be exempted from first year basic training by making written application to the PMS&T, and satisfactorily passing a prescribed examination.
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 two 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.

Entrance Deficiencies

All but special students are required to remove entrance deficiencies before their second year of residence or they will be placed on probation. A freshman who fails to remove his entrance deficiencies may register on probation as a sophomore provided he includes in his schedule courses which will serve to cancel the deficiencies.

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*
Engineering	18
Mackay School of Mines	18
Agriculture	15½–17½
Arts and Science,	
freshman and sophomore years	15½
junior and senior years	16

Registering for a Reduced Number of Credits

Any student may enroll for a program one-half to three credits lower than the program usually required by his course. To reduce total credits by more than three 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.

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 one credit will be deduced. 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 three 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 two 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.

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.

Intramural Transfers

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
Arts and Science	28	59	91
Engineering	30	66	102
School of Mines	30	66	102
Agriculture	29	62	95

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

Requirements for Graduation

Credit Requirements

In the College of Arts and Science, 126 credits are required for graduation, except for the B.S. in chemistry and chemical technology which require 130.

In the College of Agriculture, the School of Agriculture requires 132 credits for graduation. The School of Home Economics requires 126 credits 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.*)

Residence Requirement

Students spending less than three years at the University must be in residence at Reno the last year to be eligible for graduation; students who have spent three years or more in residence may be allowed to complete a maximum of eight credits *in absentia* after their last registration. *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.*

If a student is in residence at the University for one year only, that year's work must be done in the college from which the degree is expected. No college faculty in the University will recommend a student for the bachelor's degree unless the student

has completed, in residence and in that college, credit equivalent to the requirements for one full year's work. Attendance at the freshman program in Las Vegas or the Summer Sessions is construed as resident study, three summer sessions at the University of Nevada being considered the equivalent of one semester's residence.

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

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, and Bachelor of Arts in Journalism.

Upon graduates of the College of Engineering are conferred degrees as follows: Graduates of the Schools of Mechanical Engineering, of Electric Engineering, or of Civil Engineering receive, respectively, the degree of Bachelor of Science in Mechanical Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Civil Engineering.

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

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

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 Committee for master's 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, *excellent,* is that quality of work which may generally be expected from approximately the best ten students out of one hundred in any given course or subject; B, *good,* that quality produced by the next best twenty students; C, *average,* the quality produced by the middle forty students; D, *passing,* the quality produced by the twenty students just below the middle forty. 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 examina-

tion 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 Academic Council, may be granted such dispensation as the Council 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.

Mid-Semester Reports

At mid-semester 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 credit.

To take an examination for credit the student must obtain an application from the Admission Office. 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 Admission 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.

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. Deficiency in grade points endangers scholastic standing and leads to the penalties described below.

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 who does not remove his entrance deficiencies before his second year of residence shall be placed on probation.
4. A student transferring from another institution where he is on probation is on probation when he enters the University of Nevada.

Conduct

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

Penalties for Probation

1. 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 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.

Release from Probation

A student is no longer on scholarship 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 proper authority.

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 disqualified from the University by action of the appropriate committee any time his conduct warrants such action.

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 Committee on Scholastic Standing, 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 eight credits and a grade-point average of 2.0 or better in those summer sessions.

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

Disqualification

Conditions Resulting in Disqualification

1. A student readmitted after 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, either in the regular or the summer sessions.

Appeal to Committee

Any student on probation or suspended or disqualified may appeal to the Committee on Scholastic Standing, which may grant a change of status if the student's unsatisfactory record is due to reasons for which he is not personally responsible.

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. The State provides its bounty for the earnest and industrious student. The indolent or the unworthy will not be retained in the University. Young men and young women who do not intend to give themselves up to the very highest demand of university life are advised to remain at home or to go elsewhere.

Rules on student conduct are outlined in the booklet, *Regulations for the Guidance of Students,* available from the Dean of Men or Dean of Women.

Student Self-Government

Students at the University of Nevada enjoy an unusual degree of self-government in which they gain valuable experience for democratic citizenship. Student affairs generally are in control of the Associated Students of the University of Nevada (A. S. U. N.), which delegates a part of its authority to the Associated Women Students (A. W. S.). This organization functions through a Senate, through committees appointed by it with the cooperation of the University administration, and through officers elected by the student body under its supervision. Among the more important committees through which the Senate functions are the Finance Control Committee, the Board of Athletic Control, and the Publications Board. Dormitories have their own legislative and disciplinary organizations.

The political activity of the student body is highly democratic. Anyone who fulfills the eligibility rules for students in good standing may aspire to any office in the gift of the student body, and young men and women from all walks of life do rise to positions of considerable authority and responsibility. The constitution and bylaws of A. S. U. N., A. W. S., Pan-Hellenic Council, and the Interfraternity Council of the University of Nevada are printed in *Regulations for the Guidance of Students.*

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 Publications

A variety of publications carry the name of the University, some because they are published directly by the University for organizational purposes or as a service to the State and the public, some because they are published by research bureaus more or less intimately associated with the University, some because they are the official publications of University students.

Student publications are under the general supervision of the A. S. U. N. Other University publications are coordinated through the Faculty Publications Committee, which undertakes to assure that all catalogues and publications are worthy of the name of the University. The Research Committee grants aid in research leading to publication, and in some cases supervises publication for the University. In addition, many individual faculty members are engaged in publication, submitting their work to commercial publishers.

A brief survey of publications associated with the University follows:

Official Publications

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

The Alumnus. The official publication of the Alumni Association.

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.

The physical welfare of the student is also provided for by the University Health Service, which maintains an infirmary on the campus with resident nurses and a resident physician. The service provides for a physical examination for all entering students and for routine medical care. Details of the service are described in the booklet *Regulations for the Guidance of Students.*

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 with universities of the West Coast and Mountain areas. Intercollegiate athletics are under the control of the Board of Athletic Control, composed of seven members chosen from the faculty, the student body, and the alumni.

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

Military Training

The University R. O. T. C. program provides, in addition to required basic training, advanced Infantry 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 *Awards and Scholarships,* available at the office of the Registrar or from the Committee on Scholarships and Prizes.

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. And the University itself, 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 scientific, scholarly, artistic, or humanitarian interests of students and of the faculty associated with the University. Some provide honorary recognition of achievement. Others are purely social, or combine learned interests with social recreation. Brief descriptions of these organizations follow.

The Alumni Association

The Alumni Association was organized on June 1, 1895, to perpetuate undergraduate ties, promote good fellowship, and to advance and protect the interests of the University of Nevada. On December 23, 1947, the Association was incorporated under the laws of the State of Nevada, and its official title is now The University of Nevada Alumni Association, Inc.

All graduates and former students of the University are eligible for membership in the Association. Active membership is maintained by payment of dues. Annual membership is $3, and a life certificate is $100. The Association now operates on a calendar year with a general meeting and election of officers held each Homecoming.

In 1945 the policy of establishing active chapters in the principal cities of Nevada was inaugurated. The first active chapter in the State was established on November 25, 1945, at Las Vegas. Chapters have also been chartered in Elko, Winnemucca, and Washoe County. In addition, there are chapters in Washington, D. C., and in Southern California (Los Angeles), and in the San Francisco Bay area.

The general affairs of the Association are managed by an Executive Committee composed of a maximum of 50 directors who are elected each Homecoming along with the Association officers. Regular meetings of the group are held on the third Wednesday of each month in the Alumni Office on the campus.

All matters pertaining to the Association should be addressed to: Alumni Association, University Station, Reno, Nevada.

American Association of University Professors

The Nevada Chapter of the American Association of University Professors meets informally seven or eight times during the University year to discuss questions of interest to the profession of university teaching and research. The objects of the association as defined in its constitution are: "To facilitate a more effective cooperation among teachers and investigators in universities and colleges, and in professional schools of similar grade, for the promotion of the interests of higher education and research, and in general to increase the usefulness and advance the standards and ideals of the profession."

For the profession of university and college teaching and research, the position and functions of the association are analogous to those of the American Bar Association and the American Medical Association in their respective fields.

The Associated Students

The student body is organized into an association called "The Associated Students of the University of Nevada." Through this association the students handle all matters relating to the student body as a whole. The officers of this association are elected by popular vote. By the payment of the student fee each semester a student receives the A. S. U. N. card which entitles him to a vote in the association and admission to all home varsity games, contests, or events under the University's management, and the subscriptions to the *Sagebrush* and the *Artemisia* and to the payment of his class dues. The A. S. U. N. operates the University Bookstore, contributing profits to the Student Union Building Fund.

The Associated Women Students

The Associated Women Students is an organization made up of all the women students registered at the institution. Its purpose is to bring all the women together in order to obtain more effective cooperation. The dues are 50 cents per semester, which is deducted from the amount paid into the A. S. U. N. treasury. The organization presents an annual scholarship of $50 to a woman student who possesses excellent character, good scholarship, and leadership ability.

The Astronomical Society of Nevada

The Astronomical Society of Nevada is an organization for all residents of Nevada interested in popular astronomy. The society holds monthly meetings on the campus with discussions by members, occasional addresses by prominent astronomers, and motion pictures on astronomical topics. One of the aims of the society is to build up the astronomical section of the University Library. The Society was founded in March 1935.

The Faculty Club

The Faculty Club is composed of the members of the staff and their wives. The meetings are held monthly in the home economics rooms of the Agriculture Building. At each meeting a lecture of general interest is given, followed by a social hour. The meetings are open to visitors.

The Humanities Group

The Humanities Group is an organization of men on the faculty actively engaged in research in language, literature, history, mathematics, philosophy, and social subjects. They meet once a month to read scholarly papers and to discuss methods of research in the humanities.

Sigma Xi Club

This organization is composed of members of the Society of the Sigma Xi, national honorary scientific society, whose purpose is the promotion of scientific research. Regular meetings are held throughout the year for the purpose of presentation and discussion of local research projects. Although active membership is limited to local faculty members and others who are members of the national society, the aim of the Club is to stimulate and foster research throughout the University. Each year the Club sponsors a lecture by a nationally known scientist.

Honorary Societies

Alpha Epsilon Delta—An honorary premedical fraternity whose purpose is to encourage excellence in premedical work by furnishing a goal toward which the student may strive during the early semesters of the premedical career. Its purpose is to bind together similarly interested students. Membership is open to all students preparing themselves for the study of medicine, dentistry, nursing, or closely allied professions who have completed at least the work of the freshman year with an acceptable scholastic record.

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

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

Cap and Scroll—A club organized for the purpose of developing the highest ideals on Nevada's campus by combining in

organized form the women of the University who are leaders in student life and activity.

Chi Delta Phi—A national literary society for women, whose purpose is to form a body of representative women who, by their influence and their literary interests, will uphold the highest ideals of liberal education. Open meetings are held for all those interested in the study of literature. The Nevada chapter received its charter in 1931.

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

Delta Delta Epsilon—An honorary musical fraternity for University band men and women which promotes and encourages better musicianship and scholarship in the band, assists in discovering new talent on the campus, sponsors loyal spirit and devotion to University events and promotes an increasing interest in University-Community music. Any student musician accepted as a permanent member of the band is eligible for election to the organization after serving one semester of apprenticeship. Honorary membership is extended to a few outstanding musicians associated with the campus who, by contributing their services, have rendered valuable service to the band.

Delta Sigma Rho—A national honor society composed of graduate and undergraduate forensics students. Admission is restricted to those who have achieved an outstanding record in intercollegiate forensic competition. Its prime object is to emphasize the value of effective and successful speech and debate. The Nevada chapter was established in 1948.

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

Kappa Tau Alpha—A national fraternity honoring scholarship in journalism in institutions offering work of recognized professional standing in this field. Students are elected from the highest ten percent of the junior-senior journalism group. The Nevada chapter was established in the spring of 1936.

Masque and Dagger—The Nevada chapter of this national honorary dramatic fraternity was established to recognize students who have shown ability in dramatic work. Election to membership is based upon work done in acting and backstage.

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

Phi Alpha Theta—A national honorary society whose purpose is to encourage excellence in history study, by furnishing a goal and stimulus for students in this field. Eligibility for election is based on completion of twelve hours or more of work in history with satisfactory scholastic average.

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

Sagens—An honorary women's service and pep organization, the purpose of which is to assist at all student body functions. Membership is limited to five upperclass women in each sorority and in the Independents.

Sagers—A local service organization, members of which are chosen from among outstanding upperclassmen. Its many campus activities include that of building the Homecoming bonfire. Membership in the Sagers serves as a stepping stone to membership in Blue Key.

Scabbard and Blade—A national honorary military society founded on the basic idea that military service is an obligation of citizenship. The active membership consists of selected cadet officers of the Reserve Officers' Training Corps at various institutions. Its purposes are: To unite the Departments of Military Science and Tactics of American Universities and Colleges into closer relationship; to preserve and develop the essential qualities of efficient officers; to promote good fellowship among cadet officers; and to prepare them to take an active and influential part in the community in which they may reside and to disseminate intelligent information concerning the military requirements of our national defense. The local unit, Company C, 7th Regiment, was organized May 14, 1929.

Sigma Delta Chi—A national professional journalistic fraternity. Members are elected annually from among upperclassmen

preparing for the profession of journalism and with above-average scholarship. The Nevada undergraduate chapter was chartered in the spring of 1948.

Sigma Delta Psi—A national honorary fraternity in athletics, under the direction of the Physical Education Department. Requirements for membership are the passing of thirteen physical tests, which include track, swimming, gymnastic, football, and baseball events. Membership is open to any student regularly enrolled in the University.

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

Departmental Clubs

The Aggie Club—Founded by the agricultural students in 1909, the Aggie Club is an active organization of men students and faculty members of the college. The club meets the last Wednesday of each month to carry on business and social activities.

American Institute of Electrical Engineers—The University of Nevada Branch, American Institute of Electrical Engineers, was organized in 1922. All students registered in electrical engineering are eligible to membership. Meetings are held monthly, at which time student technical papers are presented or the branch is addressed by some prominent member of the profession.

American Society of Civil Engineers—Its function is to promote closer relationship between the American Society of Civil Engineers and students. Membership is open to all students in the School of Civil Engineering. Meetings, which are in the form of lecture and discussion, are held monthly.

American Society of Mechanical Engineers—The University of Nevada Student Branch of the American Society of Mechanical Engineers was organized in January 1923. All students registered in mechanical engineering are eligible to membership. Meetings are held monthly to enable students to better understand the profession they have chosen. At the meetings student technical papers are presented and discussed, technical films are shown, or the branch is addressed by some prominent member of the profession. This Branch sends representatives to the annual group student meeting held each spring at one of the seven Pacific Southwest Student Branches.

Associated Engineers—A society which includes the students of the College of Engineering and the Mackay School of Mines.

The purpose is to plan such activities as Engineers' Day and meetings which are of interest to all engineering students.

The Chemistry Club—In 1941 the Chemistry Club applied for and received its charter as the University of Nevada Chapter of the Student Affiliates of the American Chemical Society. All students registered for the degree Bachelor of Science in Chemistry or in Chemical Technology or who are majoring in chemistry and whose chief academic interest is in the field of chemistry are eligible for active membership. Associate membership is open to a limited number of those who are interested in chemistry, but whose course of study does not make them eligible for active membership. The purpose of the organization is to keep its members in touch with present activities and development in the chemical field and to foster interest in the science of chemistry. From its membership, elections are made each year to the honor society, Sigma Sigma Kappa. Meetings are held on the second Tuesday of each month.

Cercle Francais—Open to students of the University who have studied French for three semesters, or who speak French well enough to profit from the meetings. Organized lectures on French culture are given throughout the year.

The Commerce Club—Open to any interested student, especially one following a course in economics or business. Leading businessmen discuss their particular fields at each of the monthly meetings.

The Crucible Club—A student organization of the Mackay School of Mines. The club meets once a month for addresses by visiting engineers on mining, metallurgical, and geological subjects. The Crucible Club is an affiliated student society of the American Institute of Mining and Metallurgical Engineers.

Fine Arts Club—Originated to promote interest in and appreciation of the arts among students. Exhibits of local and out-of-State artists are on display monthly in the gallery in the Art Buildings.

German Club—A club organized to awaken an interest in the knowledge and use of the German language and thereby to promote a study of German culture.

The Home Economics Student Club—A social and professional organization with membership in the National American Home Economics Association. Open to all students in Home Economics; meetings bimonthly.

International Relations Club—A group of students interested in bringing about better understanding and friendship among the foreign and American students at the University.

The Mathematics Club—An organization composed of students interested in mathematics. Meetings are held monthly at which talks are made by students or faculty members on subjects of common interest.

Musical Organizations—Organizations for the promotion of vocal and instrumental music are heartily encouraged. The groups at present are the University Singers, the Reno Civic Chorus and Orchestra, the University Band and small ensembles. Membership is open to both men and women in all these groups. In addition to the above-named groups, there are the Campus Music Association for the promotion of music interests among the students and the Listening Hour Group, devoted to the study of classics and modern musical literature as represented in the fine library of phonograph records.

Orchesis—This organization attempts to bring modern dance to the attention of Reno and its neighboring schools and communities. The group is also active in sponsoring concert artists in order to broaden the interest in modern dance.

Paniwallas—Open to any University student interested in developing ability in synchronized swimming. The group presents at least one acquacade or equivalent water exhibition annually.

Pems—Group of all physical education majors and minors, organized to promote friendship, good sportsmanship, and provide an organization for the management of matters concerning the general welfare of this specialized field.

The Nevada Polkateers—A social organization for the enjoyment of and participation in folk and square dancing. Membership is open to all students and staff of the University. Meetings are held weekly.

ROTC Corps of Sponsors—The Corps of Sponsors is an organization closely allied with the ROTC Corps of Cadets. They have a distinctive uniform, drill with the Cadets, and stage exhibition drills. The unit is limited to 45 girls and 5 alternates. Election and tryouts are staged during the month of September subsequent to the opening of school.

Ski Club—Organized to further the sport of skiing on the University of Nevada campus, through organized activities.

The University of Nevada Press Club—A professional and social organization of students in journalism and members of the staffs of the campus publications. Elections are held twice each year.

The University of Nevada Rifle and Pistol Club—An organization which sponsors all organized competitive shooting activities, indoors and outdoors. It is affiliated with the Nevada State Rifle and Pistol Association and with the National Rifle Association.

Women's Recreation Association—An organization which sponsors a varied program of all types of recreational activities, including archery, badminton, basketball, bowling, dancing, golf, hockey riding, rifling, softball, roller skating, swimming, tennis, and volleyball. Under the W. R. A. there are three honorary clubs for special activities: Orchesis, dancing; Paniwallas, swimming; and Saddle and Spurs, riding.

Religious Organizations

Banyan Club—Established on the Nevada campus in 1949 to promote good times and activities in wholesome surroundings, among friends who uphold the standards and ideals of the Church of Jesus Christ of Latter-Day Saints.

The Canterbury Society—The Nevada group of this nationwide organization was formed in September 1940 for Episcopal students and their friends. The group sponsors cultural and social programs.

The Newman Club—A nonsecret organization open to all students of the University. Its purpose is to impart religious instruction and to promote social contact among the Catholics who are enrolled at the University. There are approximately 250 Newman Clubs already established in colleges and universities of the United States.

The Pilgrim Fellowship—A society open to all students, although organized especially for the religious and social culture of students connected with the Presbyterian and Congregational churches. It holds fellowship with like societies in State institutions throughout the United States and Canada. Meetings are held each Sunday evening at the Manse.

Wesley Foundation—A national organization of Methodist college students, formed on the Nevada campus in 1940. Its purpose is to bring together Methodist students, and others who are interested, for social and religious development. Meetings, which are open to all students, are held the first and third Sundays of every month.

Y. W. C. A.—The Young Women's Christian Association has a branch organization among the students. The purpose of the association is the maintenance of high standards in all student

relations, mutual helpfulness and pleasure, and the promotion of Christian ideals.

Social Organizations

Artemisia Association—A group which consists of all women students residing in Artemisia Hall. The purpose of the Association is the student control of group living and social activities. The executive officers, elected by the girls, coordinate student government with University policies.

Fraternities—The following fraternities have chapters, the figures in parentheses giving the dates charters were established at this University: National fraternities—Sigma Nu (1914), Sigma Alpha Epsilon (1917), Phi Sigma Kappa (1917), Alpha Tau Omega (1921), Theta Chi (1925), Lambda Chi Alpha (1929); local fraternities—Sigma Rho Delta (1942), Delta Sigma Phi Colony (1948), Sigma Pi Colony (1947).

Independents— A social organization of unaffiliated men and women students, organized for social purposes, for securing representation in student government, and to further the interests of the University. Meetings are held each Monday evening.

Manzanita Association—This is comprised of the women residents of Manzanita Hall. The executive officers, elected by popular vote, direct the student government and social activities of the Association.

Sororities—The following sororities have chapters, the figures in parentheses giving the dates chapters were established at this University: National sororities—Delta Delta Delta (1913), Pi Beta Phi (1915), Gamma Phi Beta (1921), Kappa Alpha Theta (1922).

Sundowners of the Sagebrush—The organization is composed of men who are elected to membership because they have exhibited the characteristics of good fellowship. Membership is not restricted to undergraduate students.

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 in 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; 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 two to six 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 six credits in English 101-102[3] shall be required of all students.
3. A minimum of sixteen 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.

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[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 (see page 88) 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 three entrance units the requirements are three college credits in the same language or course 101-102 in another language.

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

With one 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 ten credits each in Groups 1 and 2 and six 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, geology, geography (courses 103 and 109), chemistry, physics, mathematics, meteorology.

GROUP 2. *Social Sciences:* Economics (except courses 356, 361, and 362), geography (except courses 103 and 109), history, political science (except courses 201 and 202), psychology, sociology (except courses 381 and 386), journalism (101, 102).

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 five credits per semester must be selected from courses fulfilling the above group requirements and requirements in language. Because of the variation in the language requirement it may be necessary for some students to complete as many as eight 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, Natural Science, Social Science, Humanities	5 to 8*	Language, Natural Science, Social Science, Humanities	5 to 8*
Electives	3 to 7	Electives	3 to 7
	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*
Electives	3 to 7	Electives	3 to 7
	15½		15½

Freshman Courses Which Satisfy Requirements

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.
Chemistry 101-102, 122, 124.
Geography 103, 109.
Geology 101, 102.
Mathematics 101, 102, 110.
Physics 101-102, 107, 117-118, 151-152, 153-154.
Zoology 101, 103.

GROUP 2—Social Sciences—
Economics 107, 110.
Geography 101.
History 101-102, 105-106.
Journalism 101, 102.
Political Science 101-102, 105-106.
Psychology 121, 201.
Sociology 102.

GROUP 3—Humanities—
Art 115, 261.
English (including speech) 131-132, 135, 141, 145, 171-172, 221-222, 231-232, 247-248, 253-254, 261, 267, 291.
Music 203, 204.
Philosophy 101, 102, 107, 108.

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.
Mathematics 140, 151-152, and courses numbered above 200.
Physics 103-104 and courses numbered above 200.
Zoology courses numbered above 200.

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

GROUP 2—Social Sciences—
Economics 201-202, 218, and courses numbered above 300 except 356, 361, and 362.
History courses numbered above 300.
Political Science courses numbered above 300.
Psychology courses numbered above 200.
Sociology 201 and courses numbered above 300 except 381 and 386.

GROUP 3—Humanities—
Art 359-360, 362.
English (including speech) courses numbered above 300 except 305-306, 311, 315, 317-318, 327, 385, 405-406, 413, 419-420.
French courses numbered above 300 except 355-356, 373-374, 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.
Portuguese courses numbered above 300 except 301-302.
Spanish courses numbered above 300 except 355-356, 379-380.

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 either Arts and Science or Agriculture. Engineers transferring to either of these two colleges must make 2½ more than the 126 credits required for graduation from arts and science and agriculture, respectively, for each semester they have been enrolled in engineering.

No student may transfer from the College of Agriculture, the College of Engineering, or the Mackay School of Mines 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 not to exceed twenty credits of such work shall 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 *forty credits* in courses numbered above 300.

2. Complete the requirements listed under *Prescribed Courses* above.

3. Complete requirements for a field of concentration[1] 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 twenty, from the other colleges of 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.

Teachers' Certificates

Students selecting one of the following fields of concentration who wish to qualify for a teacher's certificate should consult the School of Education concerning requirements.

[1]By action of the faculty, requirements for prescribed courses (see pp. 85-88) 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.

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 (6 credits); or 363, 364 (6 credits). *Related Subjects* (20 credits) in at least two of the following subjects chosen with the approval of the adviser: psychology, biology, philosophy, English, history, and foreign languages. Courses especially recommended are Psychology 121, 201, 205, 221, 361; Zoology 101, 103, 211; Philosophy 101, 351, 352; English courses numbered above 102; History 309, 371-372, 376, and courses numbered above 400; and Foreign Languages above Arts and Science requirements. *Additional Credits* (4)—Four additional credits in the major-interest subject or related subjects to be chosen with the approval of the adviser.

Biology

A student must have at least a C average in his biology course work in order to complete a field of concentration in this department.

Biology

Major-interest subject (37 credits)—Botany 103 (3 credits), 104 (4 credits), 495 or 496 (1 credit), and at least 8 additional credits in botany of which at least 4 must be in courses numbered above 300. Zoology 103 (4 credits), 209 (5 credits), 350 (3 credits), and 9 additional credits in zoology of which at least 4 credits must be in courses numbered above 300. *Related subjects* (13 credits)—Chemistry 101 (4 credits), 102, 242 (6 credits); and at least 3 additional credits to be assigned by adviser.

Botany

Major-interest subject (36 credits)—Botany 103 (3 credits), 104 (4 credits), 222 (4 credits), 231 (3 credits), 350 (3 credits), 355 (4 credits), 495-496 (2 credits), and at least 13 additional credits in botany. *Related Subjects* (14 credits)—Chemistry 101 (4 credits), 102 (2 credits), 242 (4 credits), Zoology 103 (4 credits).

Zoology

Major-interest subjects (33 credits)—Zoology 103 (4 credits), 209 (5 credits), 359 (4 credits), 346 (5 credits), 350 (3 credits), 364 (4 credits) and at least 8 additional credits in zoology. *Related Subjects* (17 credits)—Botany 103 (3 credits); Chemistry 101, 102, 242 (10 credits); and four credits to be assigned by adviser.

Preforestry

Students planning to take a preforestry course should consult 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	..	4
Mathematics 101 or 110, and 102	Algebra and Trigonometry	2	3
Military and Physical Education		1½	1½
Electives		2	2
		15½	15½

Sophomore Year

		1st Sem.	2d Sem.
Foreign Language	First Year	5	5
Zoology 209	Comparative Anatomy	5	..
Botany 222	Taxonomy	..	4
Chemistry 242	Introductory Organic	..	4
Military and Physical Education		1½	1½
Electives		4	1
		15½	15½

Junior Year

		1st Sem.	2d Sem.
Zoology 359	General Entomology	4	..
Zoology 337	Mammals	..	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	..	3
Electives		5	6
		16	16

Senior Year

		1st Sem.	2d Sem.
Zoology 335	Birds	..	3
Zoology 463	Game management	3	..
Zoology 492	Special problems in bird farm management and fish culture	..	3
Zoology 350	Genetics	..	3
Zoology 420	Limnology	..	3
Botany 475-476	Ecology	4	4
Electives		9	..
		16	16

Quantitative chemistry is strongly recommended for wildlife students.

Suggested electives are: Agronomy 216, 359, 360; Botany 355; Economics 201, 202; English 111, 112, 131, 132; Psychology 201.

Botany, See Biology

Business Administration, See Economics, Business, and Sociology

Chemistry

Major-interest subject (29 credits)—Chemistry 101, 102, 122 (9 credits); 233-234 (8 credits); 341-342 (8 credits); 353 (3 credits); and 387-388 (1 credit). *Related Subjects* (16 credits)—Mathematics 102, 110, 140 (8 credits); Physics 151-152, 153-154 (8 credits). *Additional credits*—5 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

	Credits			*Credits*	
First Semester	Chem.[1]	Chem. Tech.[2]	*Second Semester*	Chem.[1]	Chem. Tech.[2]
Chemistry 101	4	4	Chemistry 102, 122	5	5
English 101	3	3	English 102	3	3
Mathematics 151	5	5	Mathematics 152	5	5
Military and Physical Education	1½	1½	Military and Physical Education	1½	1½
Mechanical Arts 203	..	2	Mechanical Engineering 105	..	2
Art 107	..	1			
Social Science	3	..	Social Science	2	..
	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.

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 203, 205	5	5	Physics 204, 206	5	5
Economics 201 or Business Administration 241	3	..	Economics 202 or Psychology 201	3	..
Business Administration 241	..	3	Psychology 201	..	3
Military and Physical Education	1½	1½	Military and Physical Education	1½	1½
	16½	16½		16½	16½

Junior Year

First Semester	*Credits* Chem.[1]	Chem. Tech.[2]	*Second Semester*	*Credits* Chem.[1]	Chem. Tech.[2]
Chemistry 341	4	4	Chemistry 342	4	4
German 101	5	5	German 102	5	5
Chemistry 353, 355	4	4	Chemistry 354, 356	4	4
Chemistry 387	½	½	Chemistry 388	½	½
Electrical Engineering 323	..	2	Business Administration 366	..	3
Electives*	3	1	Electives*	3	..
	16½	16½		16½	16½

Senior Year

First Semester	*Credits* Chem.[1]	Chem. Tech.[2]	*Second Semester*	*Credits* Chem.[1]	Chem. Tech.[2]
German 103	3	3	German 104	3	3
Chemistry 461	..	3	Chemistry 462	..	2
Chemistry 487	½	..	Chemistry 488	½	..
Chemistry 497	2	..	Chemistry 498	2	..
Mechanical Engineering 353	..	3	Mechanical Engineering 472	..	2
Mathematics 341	..	3	Civil Engineering 372	..	3
Political Science 201	1	1	Political Science 202	1	1
Electives*	9	3	Electives*	9	4
	15½	16		15½	15

Drama, See English

[1]Refers to requirements for Bachelor of Science in Chemistry.
[2]Refers to requirements for Bachelor of Science in Chemical Technology.
*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.

Economics, Business Administration, 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.

Sociology

Major-interest subject (27 credits)—Sociology 201, 350, 352, 357, 371, 379, 380, 383, 490 (21 credits) and 6 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.

Business Administration

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

Freshman Year

First Semester	*Credits*	*Second Semester*	*Credits*
Economics 107	2	English 102	3
English 101	3	Foreign Language	5
Foreign Language	5	Mathematics or Science	3–5
Mathematics or Science	4–5	Military and Physical Educ.	½–1½
Military and Physical Educ.	½–1½	Electives	..
	15½		15½

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Economics 201	3	Economics 202	3
Business Administration 241	3	Business Administration 244	3
Business Administration 243	3	Foreign Language	3
Foreign Language	3	Mathematics or Science	5–6
Mathematics or Science	2–3	Military and Physical Educ.	½–1½
Military and Physical Educ.	½–1½		
	15½		15½

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
Business Administration 355	3	Business Administration 356	3
Economics 361	3	Business Administration 368	3
Mathematics or Science	3	Political Science 202	1
Political Science 201	1	Electives	9
Electives	6		
	16		16

Senior Year

First Semester	*Credits*	*Second Semester*	*Credits*
Economics 373	3	Business Administration 374	3
Business Administration 365	3	Electives	13
Business Administration 247	3		
Electives	7		
	16		16

Electives shall include a minimum of nine credits in courses numbered above 300, six of which shall be in business administration and three of which shall be in economics.

This selection should accord with the individual needs of the student. For students who expect to enter a business career, courses in mathematics or psychology are recommended; for those expecting to teach commercial subjects, courses in education are recommended; these latter students should elect Business Administration 353.

It is strongly advised that electives include Mathematics 210 and Psychology 201, 381, 382, 391. Electives must be so chosen as to satisfy the requirements of the College of Arts and 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 English 111 and 112.

M. J. Webster has been named as adviser for students wishing to prepare for social work.

English and Speech

Students will normally be expected to elect courses in accordance with at least one of the approved options which follow. Many students are able to fill requirements for more than one option.

Liberal Arts

Major-interest subject (30 credits)—English 281, 291 (6 credits), 451, 465, 493 (9 credits), four courses selected from 441, 461, 471, 475, 481, 485 (12 credits), one course selected from 442, 452, 462, 466, 469, 472, 476, 482, 486 (3 credits). *Related Subjects* (20 credits)—Each student should choose one of the four groups and select 20 credits from the

courses listed in it. a. *Artistic:* History 393-394 (4 credits); Philosophy 455 (2 credits), 14 credits, with at least one course from each of the departments designated, selected from Art 115, 261, 362; English 221-222, 321-322, 323-324, 423-424, 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); 4 credits selected from English 221-222, 421-422; History 371-372, 393-394; Philosophy 455; courses in foreign languages numbered above 300 (4 credits). c. *School Studies:* History 305, 306, or 341-342 (6 credits), 393-394 (4 credits); 10 credits selected from Economics 201, 363; English 315, 317-318, 321-322, 425-426; History 376, 427-428, 429-430; Philosophy 455; Psychology 361; Sociology 371, 380 (10 credits). d. *Special Interest:* For students having special interests not well reflected in one of the three groups above, 20 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 331, 333, 337, 339; 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 452, 461-462, 472, 475-476, 485-486 (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). (See also Foreign Languages.)

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 331, 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 Option 1 above.

Speech, Public Speaking, Argumentation, Radio Speech

Major-interest subject (23 credits)—English 111-112 (4 credits); 217-218 (4 credits); 221-222 (4 credits); 311 (3 credits); 315 (3 credits); 327 (3 credits); 411 (3 credits); 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* (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, 465, 485; History 303, 305, 306, 312, 393-394; Philosophy 107, 108, 221, 222; Psychology 201, 205, 361, 362.

Speech, Theater and Interpretation

Major-interest subject (27 credits)—4 credits selected from 111-112, 311; 4 credits selected from 217-218, 315; 3 credits selected from 411, 412; 12 credits selected from 121-122, 221-222, 321-322, 323-324, 423-424; 425-426 (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 253, 254, 291, 331-332, 337, 355, 356, 441, 442, 465, 466, 485; History 341-342, 371-372, 376, 393-394, 395; Philosophy 221, 455; Psychology 201, 221, 231, 301, 361, 441, 445.

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 2 admission units, courses 103-104 (6 credits), and the 12 credits in the courses numbered 300 or above as required for the respective language, in addition 8 credits to be selected from courses numbered 300 or above in the respective language, making a total of 28 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, Portuguese, 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.

General Literature

Major-interest subject (36 credits in Department of English and Foreign Languages)—Courses in foundations of language and literature, regularly taken in sophomore year English 281, 291 (6 credits); broad

courses selected from English 333, 335, 337, 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 452 (6 credits), 461-462, 472, 475-476, 485-486. 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. The 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) (8 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). (See also English.)

French, See Foreign Languages

General Literature, See English, Foreign Languages

Geography, See Geology-Geography

Geology-Geography

Major-interest subjects (Geology 23 credits and Geography 8 credits)—Geology 101, 102, 211, 212, 214, 351, 382, 477 and 3 credits electives in Geology. Geography 103, 109 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 (4 credits). *Suggested electives*—Economics 107 or 110; Mechanical Engineering 105; Physics 117-118; and Sociology 357.

German, See Foreign Languages

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 and 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; b. 20 credits in Art 115, 261, 362; Music 203-204, 303-304; Psychology 201, 361, 362; Philosophy 101, 102, 351, 352; Geography 101, 359, 455; 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, English 415, 416, 423, 424; 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, and history courses 341-342, 395, 405, 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; 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, 359, 455; Philosophy 101, 102, 107, 108, 351, 352, 353, 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 five or six additional credits chosen with the approval of the adviser from among journalism courses numbered 300 and above. *Related subjects* (14 credits)—3 credit hours in English literature, 9 credit hours in the social studies, and 2 credit hours 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.

General electives of students choosing a field of concentration in journalism should stress the social studies and the humanities.

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 concentration 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 five or six additional credits chosen with the

counsel of the department chairman from among journalism courses numbered 300 and above.

Group B—*English Literature*—Nine to twelve credits in English Literature.

Group C—*Social Studies*—Twenty-five credits in the social studies (history, political science, economics, business, sociology, philosophy, psychology and geography—except courses 103 and 109), selected so that they represent at least five of these subjects.

Group D—*Aesthetics*—Four credits in the fine arts.

The general requirements of the College of Arts and Science.

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

In each group, the following courses will be found to best furnish the student with a comprehensive background. Those starred are especially valuable:

Group A—*Journalism*—231*-232, 354*, 356*-357*, 361*-362*, 365-366, 368, 386.

Group B—*English Literature*—131*-132*, 141*, 145*, 231*-232*, 247*-248*, 253-254, 267*, 331-332, 337*, 345-346, 355-356, 441*-442*, 465*-466*, 471-472, 481, 482, 485-486.

Group C—*Social Studies*—Business 243-244, 247, 368*, 371*-372*; Economics 107*, 110*, 201*, 202*, 218, 351, 352, 365*; Geography 101*, 359, 455*; History 101*-102*, 105*-106*, 393*-394*, 421*-422*, 441*-442*, 451*-452*; Philosophy 101*, 351, 352, 353*-354*, 462, 482; Political Science 101*-102*, 105*-106*, 416*, 427, 431*-432*; Psychology 201*, 231, 361*, 362, 371*, 375, 381*, 441*; Sociology 102*, 201*, 350, 370*, 371*, 379*, 380*, 381, 383.

Group D—*Aesthetics*—Art 101-102, 105, 115*, 261, 362; English 221-222, 321-322, 323-324; Music 203*, 204*, 303*, 304*; Philosophy 455.

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 the skills basic to *all* fields in journalism.

In his electives in journalism, and in the various other offerings of the university, each student will wish to stress the subjects which will be most useful to him in the *special* field of journalism to which he is looking forward.

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, 368, 375, and 365.

Students interested chiefly in *community newspaper work* will wish to elect, in addition to the required courses, Journalism 354, 356-357, 365-366, 368, and 375. Certain courses in business also may well be elected.

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, in addition to the required journalism courses, to elect Journalism 356-357, 365-366, 368, and 386. Certain courses in business also are advised.

Through a suitable combination of courses, in addition to those required in journalism, a student may organize his studies in preparation for the teaching of journalism in high school, for magazine article free lancing, for publicity and public relations work, 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 course in journalism.

A number of courses in journalism are open to students specializing in other subjects. Some are designed for non-journalists, while others are arranged both for professionals and nonprofessionals.

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 two courses in each of two of the three branches:

Algebra: 371, 372.
Analysis: 351, 352, 425, 451, 501, 502.
Geometry: 391-392.

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, French 359-360, German 103-104, 359-360. 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 or 102 (3 credits), Philosophy 107 or 108 (3 credits), Philosophy 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: Psychology 201, 361; Political Science 101, 102, 369; Economics 201, 202; Sociology 201, 371; History 303, 305, 306; Art 115, 261, 362; English 131, 132.

Physical Education

Men's Division

Major-interest subject (27 credits)—Physical Education 101, 102, 201, 202 (2 credits), 110 (1 credit), 210 (3 credits), 301 (1 credit), 310 (2 credits), 340 (2 credits), 390 (3 credits), 410 (2 credits), 441 (2 credits), 452 (3 credits), and 6 additional credits in courses numbered above 300. *Related subjects* (23 credits)—Physics 101-102 (4 credits), Zoology 101, 211, 346 (12 credits), Psychology 201 (3 credits), English 111, 112 (4 credits).

Women's Division

Major-interest subject (31 credits)—Physical Education 161, 162, 261, 262 (3 credits), 163-164 (2 credits), 170 or 171 (1 credit), 361-362 (1 credit), 263 or 264 (1 credit), 111 (1 credit), 180 (2 credits), 281 or 440 (3 credits), 290 (2 credits), 372 or 471 (3 credits), 390 (3 credits), 452 (3 credits), and 6 additional credits in courses numbered above 300. *Related subjects* (19 credits)—Zoology 101, 211, 346 (12 credits); Psychology 201 (3 credits); English 111-112 (4 credits).

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	4	2
Social Science	2	4
	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	4	2
Social Science	2	6
	15½	15½

Political Science, See History and Political Science

Predental Curriculum, See Premedical and Predental

Prelegal Curriculum

Students who intend to study law will find it necessary to satisfy University requirements for the Bachelor's degree.

In the opinions of 118 eminent members of the legal profession, including the Chief Justice of the United States, the following subjects lead in probable usefulness to the student who anticipates entering a law school; subjects are here listed alphabetically and not always in order of importance: Economics, English, History, Latin, Mathematics, Philosophy, Physics, Political Science, Psychology and Sociology. It appears that descriptive rather than theoretical courses in Economics and Political Science are preferred. "A few subjects such as Commercial Law, Constitutional Law, Roman Law and Jurisprudence may be excluded on the ground that they are technical legal studies that may be much better pursued in law school."

Professors Hicks 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	4
Military and Physical Education	½–1½	Mathematics 102	2
Mathematics 110	3	Military and Physical Education	½–1½
Electives	..	Electives	..
	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 231	3	Chemistry 232	3
Zoology 209	5	Military and Physical Education	1½
Military and Physical Education	1½	Electives	..
Electives	..		
	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
Electives	4	Political Science 202	1
	16		16

Senior Year

Elective or approved credential from professional school.

Completion of the above curriculum plus Zoology 350 and 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 Richardson and Jones.

Pre Medical-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	4
Physical Education 101	1	Mathematics	2
Elective	4½	Physical Education 102	1
		Elective	½
	15½		15½

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Chemistry 231	3	Chemistry 242	4
Zoology 211	4	Botany 370	3
Psychology 201	3	Sociology 102	3
Physical Education 201	½	Physical Education 201	½
Elective	5	Elective	5
	15½		15½

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
Botany 351	4	Physics 152, 154	4
Physics 151, 153	4	Zoology 346	5
Political Science 201	1	Political Science 202	1
Zoology 322	3	Elective (300 or above)	6
Zoology 368*	2		
Elective (300 or above)	2		
	16		16

Completion of the above curriculum (including Zoology 368) plus Zoology 350 and 5 credits of additional botany course-work, will satisfy requirements for a field of concentration in biology.

A student completing the three-year pre medical-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 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	4
English 101	3	English 102	3
Chemistry 101	4	Chemistry 102-242	6
History 101	3	Physical Education 102	1
Physical Education 101	1	Elective	1½
Elective	1½		
	15½		15½

*Recommended, but not required.

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Zoology 211	4	Foreign Language	5
Foreign Language	5	Sociology 102	3
Sociology 201	3	Physical Education 202	½
Psychology 201	3	Elective	7
Physical Education 201	½		
	15½		15½

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
Botany 351	4	Zoology 346	5
English or Foreign Language	3	Home Economics	3
Elective (Courses 300 or above)	8	English or Foreign Language	3
Political Science 201	1	Elective (Courses 300 or above)	4
		Political Science 202	1
	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 or 415 (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), 205 (2 credits), 301 (3 credits), 361 (3 credits), 411 (3 credits), and 16 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

Spanish, See Foreign Languages

Speech, See English and Speech

Wildlife Management, See Biology

Zoology, See Biology

School of Education

Aim

The School of Education aims principally to provide for undergraduate students, on the foundation of the broad and liberal education furnished them by the College of Arts and Science, a professional course of studies to equip them for successful teaching in the public schools of the State. To a limited extent it seeks also to offer advanced training for teachers in service who desire either to increase their efficiency in their present positions or to prepare for new and larger positions of responsibility.

For the welfare of the State it aims to provide well-trained teachers for the schools and to stimulate in the teaching personnel and the public a deeper interest in the promotion of good teaching practices and sound educational policies.

Types of Training Provided

Elementary School Teaching

Because the teaching positions in Nevada are predominantly in the elementary schools, the most urgent responsibility of the School of Education is the preparation of teachers for rural and town elementary schools. It meets this responsibility by offering a broad training in the principles of elementary education and in teaching methods that equips the student for either the diverse tasks of the one-room school or the more specialized work of a single-grade room. Supervised teaching which constitutes the heart of all the teacher-training work is possible in the primary, intermediate, or junior high school grades.

High School Teaching

For students who desire to qualify for high school teaching, the School of Education provides in the junior and senior years courses in the principles and methods of secondary education and in supervised teaching in the important academic subjects in the high school.

Advanced Professional Training

Advanced courses are offered in the evening and during Summer Sessions for the benefit of teachers in service who desire to renew certificates, to qualify for a higher grade of certificate, or to work for a Master of Arts degree.

Applicants for the Master's degree proposing to submit Education as a major or a minor should confer with the Dean of the

School of Education before enrolling for graduate credit in any course. Failure to do so may mean enrollment in a course not approved for the Master's degree.

History and Organization

Training of teachers as a function of the University is almost as old as the University itself. In the first year of the University's life at Reno there were no courses for teachers, but before the year was over the Legislature passed an Act, approved February 7, 1887, providing for the establishment in the University of "a school for the instruction of teachers," and specifying that those 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 in 1887.

The School of Education as now organized includes the Department of Education and all members of other departments who give specialized courses for teachers. It is an integral part of the College of Arts and Science; all students who wish to qualify for teaching are enrolled as students of the College of Arts and Science and are required to meet all the requirements of that College, both as to entrance and to graduation.

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 in accordance with specific regulations, which will be briefly described below. To comply with these regulations students may enroll in courses in the Department of Education so far as facilities permit.

Certificates for Teaching in the Elementary School

The most satisfactory course for elementary teaching will require four years and entitle the student to a Bachelor's degree. Students entering the University with definite intent to remain four years and to take up 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 School of Education is urgently recommended to such students.

There are three types of elementary teachers' certificates issued.

Based on Four Years of Study

A first grade elementary certificate valid for three years is issued to graduates of the Universty if they have completed 18 hours of professional courses in education. These 18 hours must include four hours of methods of teaching the elementary school subjects, four hours of practice teaching in the elementary school, and a course in school law.

Based on Two Years of Study

A first grade elementary certificate is issued to students who have completed a specified two-year program of teacher preparation. Students at the University of Nevada will be recommended to the State Board of Education for this certificate upon the satisfactory completion of 62 hours of work in the College of Arts and Science, of which 30 must be professional courses in Education. Usually these professional courses include Education 111, 134, 186, 190, special method courses, and practice teaching.

For students entering the University with the expectation of qualifying for this certificate, the following program is suggested:

Freshman Year

First Semester	*Credits*	*Second Semester*	*Credits*
Education 111	2	Education 134	3
English 101	3	English 102	3
Physical Education (Women)	1	Physical Education (Women)	1
Physical Education (Men)	½	Physical Education (Men)	½
Military (Men)	1	Military (Men)	1
Education Electives	5–6	Education Electives	5–6
Arts and Science requirements	--	Arts and Science requirements	--
	16		16

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Practice teaching	5	Practice Teaching	5
Education 190	2	Education 186	2
Physical Education	½	Physical Education	½
Military (Men)	1	Military (Men)	1
Political Science 201	1	Political Science 202	1
Education Electives	1–2	Education Electives	1–2
Arts and Science requirements	--	Arts and Science requirements	--
	16		16

Based on One Year of Study

A second grade certificate, valid for two years but not renewable, is issued to students who have earned 31 hours of credit at the University of Nevada, of which 15 hours must be professional courses in education. Students planning to qualify for this certificate will take the courses specified in the first year of the

program outlined above, but must take also Education 190 and Political Science 201-202.

Certificates for Teaching in the High School

Vocational Certificates

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 *Vocational Home Economics* as outlined in the section in this catalogue entitled *The College of Agriculture.* Those who complete these courses at the University of Nevada also become eligible for the regular high school certificate described below. The professional courses in Education required for these vocational certificates are offered in the School of Education.

The Regular High School Certificate

The regular high school certificate, as distinguished from the vocational certificates above, permits the holder to teach any subject offered in the high school, except vocational agriculture and vocational home economics. The general requirements for this high school certificate are a bachelor's degree and the completion of 18 semester hours of specified courses in education.

As indicated above, the student who completes a field of concentration in secondary education with the Department of Education becomes eligible for the regular high school certificate. Other students will need to consult with the education staff on the proper courses to take in education in order to qualify for a high school certificate.

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 staff member of the Department 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.

Cooperating Teachers

For Secondary Certificates:

Helene Aldaz, Physical Education
Marilyn Amodei, English
Bud Beasley, Physical Education
Blythe Bulmer, English
E'Lois Campbell, Mathematics
Rex Daniels, English
Mary Eaton, Home Economics
Margaret Ernst, Mathematics
Clifford Gelmstedt, Agriculture
Mildred Klaus, Stenography
Florence Lehners, English
John Marean, Physics
Maie Nygren, Home Economics
Beverly Morey, Home Economics
William Orr, Social Studies
Marjorie Peck, Home Economics
Gene Scarselli, Spanish
Leroy Schank, Agriculture
Buelah Singleton, Social Studies
Agnes Sorenson, Home Economics

For Elementary Certificates:

Raymond Aiazzi, sixth grade
Martha Anderson, fifth grade
Pablo Arenaz, seventh grade
Alfred Artuso, eighth grade
Joseph Bashista, sixth grade
Angelina Birks, fourth grade
Adah A. Bowen, first grade
Betty Boyle, fifth grade
Kenneth Bradshaw, sixth grade
Barbara Broomhall, fourth grade
Lucille Byrd, sixth grade
Gladys Cafferata, eighth grade
Ernest Cicchese, fifth grade
Kathryn Clark, fourth grade
Dorothea Comer, first grade
Cecelia Daley, third grade
Angela DeNevi, fifth grade
Eileen Dillon, kindergarten
Esther Doyle, first grade
Helen M. Dunn, seventh grade
Juanita Elcano, second grade
Albina Elder, sixth grade
Ethel Figley, fourth grade
Alice Getto, fifth grade
Inez Gillies, fifth grade
Helen Shaw Glynn, first grade
Dolores Grady, fourth grade
Edward L. Kane, sixth grade
Melva Lauritzen, fourth grade
Alphonsine Liotard, third grade
Hilma Lyon, first grade
Duane Lysne, seventh grade
Jeanne Mason, fifth grade
Richard Miles, sixth grade

Eleanor Miller, fourth grade
Marguerite Nelson, fourth grade
Dorothea Nightingale, second grade
A. D. Nocciolo, seventh and eighth grades
Edith Peddicord, fourth grade
Lyle A. Roush, seventh grade
Alyce L. Savage, fourth grade
Rachel P. Shelley, first grade
Martha Sherman, fifth grade
Lucille Smith, second grade
Rachel Struve, kindergarten
Viola Jones Templeton, second grade
Lucylle Towner, fifth grade
Frances Trachok, fifth grade
Olivia Treanor, sixth grade
Vaol Ward, eighth grade
Nevada S. Warden, seventh and eighth grades
Laverne Weir, sixth grade
Sessions Wheeler, seventh grade
Harriet Wolfe, kindergarten
Helen Zoellern, third grade

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. Any 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 practice teaching in the elementary grades unless he has completed 15 semester hours of work at the University of Nevada including 8 hours of appropriate courses in education; four of these hours must be in appropriate methods. Candidates for practice teaching in the high schools must have completed 15 hours at the University of Nevada including 8 hours of secondary education, with at least one appropriate methods course and must have adequate preparation in the subject matter fields to be taught.

The Teacher Appointment Service

For the purpose of bringing school authorities who are looking for competent teachers into touch with promising candidates, the School of Education has maintained a teacher appointment service since 1923.

Only those candidates are accepted for enrollment with the appointment service whose ability and character are well known to the Department of Education. For those enrolled the appointment 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.

Fields of Concentration for Prospective Teachers

One of the requirements for graduation from the College of Arts and Science is the completion of a field of concentration in one of the departments of the College. Generally the student who wishes to prepare for teaching will best take his field of concentration in the Department of Education; he has a choice of three fields: kindergarten-primary, general elementary, and secondary.

If he selects and completes the kindergarten-primary, he will specialize in the kindergarten and the first three grades and will be eligible for a certificate to teach in the kindergarten and in any of the eight grades of the elementary schools in Nevada. If he selects and completes the general elementary, he specializes in the grades above the primary and becomes eligible for a certificate to teach in any of the eight grades of the elementary schools in Nevada. If he completes the secondary field of concentration, he must take certain courses in secondary education and must specialize in selected subject matter that is usually taught in the high schools of Nevada; he will then be eligible for a high school teaching certificate.

It is not mandatory, however, upon the student wishing to become a teacher, that he take his field of concentration in the Department of Education; he may take the field of concentration in any department he pleases. In doing so he must recognize that he must still meet the State regulations governing teaching certificates, and he must note the prerequisites of the practice teaching courses in the Department of Education.

Kindergarten Primary

Major-interest subject **(35 credits)—Education 117, 133, 134, 141, 149, 186, 190 (16 credits); 120 or 320, practice teaching in the kindergarten and in a primary grade (10 credits); 9 credits to be selected with the approval of the adviser, with at least one course from each of the following groups: a. Education 314, 315, 332; b. Education 348, 363.** ***Related Subjects*** **(15 credits)—To be selected in consultation with the adviser. The following courses are recommended: English 111 or 112, choice of 121, 221, 412, or 425, (6 credits); Music 101-102, 107 or 108, 113 or 114 (4 credits) unless already proficient in which case substitutions may be made: Physical Education for Women 170 and 281 (3 credits); Sociology 380 (2 credits).**

General Elementary

Major-interest subject (30 credits)—Education 111, 186, 190 (6 credits); 6 credits to be selected from 130, 131, 135, 136, 138 (6 credits); 121, 321, or 323 (5 credits); 13 credits to be selected from at least three of the following groups: a. An additional course from Education 121, 321, 323; b. Education 133, 134, 149 and course not selected from 130, 131, 135, 136, 138; c. Education 348; d. Education 388, 485-486; e. Education 266 (Psychology 221); f. Education 351, 352. *Related Subjects* (20 credits)—To be selected in consultation with the adviser. The following courses are recommended: English 111 or 112, 121, 412 or 425, 385; Geography 101, 359 or 455; History 331, 372, 376; Psychology 233.

Secondary Education

Major-interest subject (18 credits)—Education 190 (2 credits), 310 (2 credits), 471 (3 credits), 420 (4 credits), course in subject methods (2-4 credits), additional credits in courses in secondary education to be selected with the approval of the adviser (5-7 credits). *Related Subjects*—Academic preparation in high school teaching subjects: a. Specified credits in one of the titles in Group A below, plus one approved title in Group B; or, b. Specified credits in each of three titles in Group B. Candidates for teaching vocational home economics see page 128; candidates for vocational agriculture see page 121.

GROUP A

1. COMMERCIAL EDUCATION: Economics 201-202 (6 credits), Business Administration 243-244 (6 credits), Business Administration 247 (3 credits), Business Administration 241 (3 credits), Business Administration 353 (2 credits), and at least 6 additional credits selected from the following: Economics 353, 358, and Business Administration 355-356, 368. The student must also be able to pass a test of proficiency in stenography and typing.

2. ENGLISH, SPEECH, JOURNALISM: English 281 (3 credits), 291 (3 credits), 441 (3 credits), 465 (3 credits), one additional course numbered above 400 (3 credits), 385 (3 credits), 111-112 (4 credits), 121 (2 credits); Journalism 221 (3 credits), 387 (2 credits).

3. MATHEMATICS: Mathematics 101 (2 credits), 102 (2 credits), 110 (3 credits), 140 (3 credits), 231 (3 credits), 232 (3 credits), 391 (2 credits); and five credits selected from Mathematics 325, 371, 372, 392, 425, or from other upper-division courses approved by the Department of Mathematics. Students with sufficiently strong background may not be required to take 101 and 102.

4. SOCIAL SUBJECTS: History 105-106 (6 credits), 305-306 (6 credits), 331 (2 credits); Political Science 101-102 (6 credits); Economics 201 (3 credits); Sociology 201 (3 credits); Journalism 101 (3 credits).

5. SCIENCE COMBINATION OF BOTANY, ZOOLOGY, PHYSICS, AND CHEMISTRY: Botany 103 (3 credits), 104 (4 credits), Zoology 103 (4 credits), 335 or 337 (3 credits); Physics 151-152 (6 credits), 153-154 (2 credits); Chemistry 101 (4 credits), 102 (2 credits), 124 (2 credits).

6. CHEMISTRY, PHYSICS, AND MATHEMATICS: Chemistry 101 (4 credits), 102 (2 credits), 122 (3 credits); Physics 151-152 (6 credits), and 153-154 (2 credits); Mathematics 101 (2 credits), 102 (2 credits), 110 (3 credits), 140 (3 credits); and for students having high school credits for Mathematics 101, two credits from Math. 301, 371, 391, and 392.

7. OTHER COMBINATIONS: For students who have elected as their

field of concentration a subject usually important in high school curricula, and who may wish to qualify for a secondary teachers' certificate, it may be possible to arrange an acceptable program, provided the courses already completed and the electives still available make possible the completion of one of the titles in Group B.

GROUP B

1. CHEMISTRY–PHYSICS: Chemistry 101 (4 credits), 102 (2 credits), 122 (3 credits); Physics 151-152 (6 credits), 153-154 (2 credits).

2. MUSIC: Music 101-102 (2 credits), 301-302 (6 credits), 303 or 304 (2 credits), 111-112 or 117-118 (2 credits), and 3 credits selected from 103, 104, 107, 108, 113 and 114.

3. MATHEMATICS: Mathematics 101 (2 credits), 102 (2 credits), 110 (3 credits), 140 (3 credits), and 5 to 7 credits selected from 301, 371, 372, 391, 392, or from substitutions approved by the department of mathematics.

4. PHYSICAL EDUCATION FOR MEN: Physical Education 101-102 (1 credit), 201-202 (1 credit), 210 (3 credits), 301 (1 credit), 340 (2 credits), 430 (2 credits), 451 (3 credits), and 440 (3 credits).

5. PHYSICAL EDUCATION FOR WOMEN: Physical Education 161-162 (2 credits), 180 (2 credits), 261-262 (1 credit), 263-264 (2 credits), 281 (3 credits), 290 (2 credits), and 372 (3 credits).

6. BOTANY-ZOOLOGY: Botany 103 (3 credits), 104 (4 credits); Zoology 103 (4 credits), 335 or 337 (3 credits).

7. HISTORY: History 101-102 (6 credits), 105-106 (6 credits), 312 (2 credits), 331 (2 credits).

8. ART: Art 101-102 (4 credits), 103 (2 credits), 105 (2 credits), 115 (2 credits), and 6 credits of 251-252 or 257-258.

9. SPANISH: (1) For students entering with no Spanish in high school, Spanish 101, 102, 103, 104 (16 credits), 351-352 (4 credits); (2) for students entering with one year of high school Spanish, Spanish 102, 103, 104 (11 credits), 351-352 (4 credits), 355 or 356 (2 credits); (3) for students entering with two years of Spanish in high school, Spanish 103, 104 (6 credits), 4 credits in composition courses; 6 credits in literature courses numbered above 300.

10. ENGLISH: English 281 (3 credits), 291 (3 credits), 441 (3 credits), 465 (3 credits), 493 (3 credits).

11. SPEECH, DRAMATICS, AND JOURNALISM: English 111-112 (4 credits), 121 or 425 (2 credits), 217 (2 credits); Journalism 101 (3 credits), 221 (3 credits), 387 (2 credits).

The College of Agriculture

The School of Agriculture.
The School of Home Economics.

Aim

The aim of the College of Agriculture is to give 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, plant industry, 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 given 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.

Curricula in Agriculture

To complete a major in the College 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 Military	1	1
Physical Education 101-102	Developmental Exercises	½	½
General 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	General Zoology	..	4
Mathematics 101-102	Intermediate Algebra and Plane Trigonometry	2	2
		16½	16½

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 Infantry	4
Physical Education	Developmental Exercises	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
English 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
Botany 350-351	Genetics and Bacteriology	7
Zoology 103	General Zoology	4
Economics 201	Principles of Economics	3
Political Science 201-202	Constitutions of the U. S. and Nevada	2
Animal Husbandry courses		15
Plant Industry courses		15
Agricultural Economics courses		9
Agricultural Mechanics courses		6
Electives		29
		132

Students planning to go into Agricultural Extension work should take:

Journalism 370 Botany 364 Zoology 359

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 Infantry	4
Physical Education	Developmental Exercises	2
English 101-102	Composition and Rhetoric	6
English 111-112	Public Speaking	4
Botany 103	General Botany	3
Zoology 103	General Zoology	4
Mathematics 101, 102, 110	Algebra, Trigonometry	7
Chemistry 101-102	General Chemistry	6
Business 241 or Chemistry 242	Business Organization or Organic Chemistry	3 or 4
Business 243-244	Principles of Accounting	6
Business 247	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
Animal Husbandry Electives		5
Soils 106	Soils	3

		Credits
Agronomy 207	Field Crops	4
Plant Industry Electives		3
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		8
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 agricultural in rural high schools. In this curriculum, emphasis is given to practical farm expeirence, 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
Plant Industry courses including 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 four credits of observation and directed teaching, and a course in methods of teaching vocational agriculture.

Course Requirements in Agricultural Education

		Credits
Military	Basic Infantry	4
Physical Education	Developmental Exercises	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
English 111	Public Speaking	2
Mathematics 101-102	Algebra and Trigonometry	4
Botany 103, 222	General Botany and Taxonomy	7
Botany 350-351	Genetics and Bacteriology	7
Zoology 103	General Zoology	4
Economics 201	Principles of Economics	3
Political Science 201-202	Constitutions of United States and Nevada	2
Animal Husbandry courses		15
Plant Industry courses		15
Agricultural Economics courses		9
Agricultural Mechanics courses		8
Psychology 221	Educational Psychology	3
Education 190	School Law	2
Education 344	Methods in Adult Vocational Education	2
Education 420	Directed Teaching	6
Education 444	Methods in Teaching Farm Mechanics	2
Education 446	Problems in Agricultural Education	2
Education 447	Methods of Teaching Vocational Agriculture	3
Education 310	Problems in Secondary Education	2
Agricultural electives		12
Electives		11
		144

Animal Husbandry

The Animal Husbandry Department of the College of Agriculture gives, 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 Infantry	4
Physical Education	Developmental Exercises	2
Chemistry 101-102, 242, 271	General, Organic and Physiological Chemistry	13
Physics 151-152	General Physics	6
Botany 103, 222, 351	General Botany, Taxonomy, Bacteriology	11
Zoology 103, 209, 350	General Zoology, Comparative Anatomy, Genetics	12
Mathematics 101-102	Intermediate Algebra, Plane Trigonometry	4
Economics 201	Principles of Economics	3
Agricultural Economics 212	Agricultural Economics	3
Soils 106	Soils	3
English 101-102, 111	Composition, Rhetoric, Public Speaking	8
Political Science 201-202	Constitutions of the United States and Nevada	2
Agronomy 207	Field Crops	4
Range Management 359, 366	Principles of Range and Pasture Management; Range Condition Classification and Improvement	5
Agriculture 104, 357	Orientation in Agriculture; Methods in Agricultural Statistics	4

COURSE REQUIREMENTS IN ANIMAL HUSBANDRY—*Continued.*		*Credits*
Electives		15
Animal Husbandry Electives*		10
Required Animal Husbandry Courses—		
Animal Husbandry 101	Introductory 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	4
Animal Husbandry 405	Animal Breeding	3
Animal Husbandry 401-402	Animal Husbandry Seminar	2
		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.

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 Infantry	4
Physical Education	Developmental Exercises	2
English 101-102, 111	Composition, Rhetoric, Public Speaking	8
Chemistry 101-102, 122, 231, 242	General, Qualitative Analysis, Quantitative Analysis, Organic	17
Mathematics 101-102	Algebra, Trigonometry	4
Zoology 103, 209, 364	General Zoology, Comparative Anatomy, Embryology	13
Physics 151-152	General Physics	6
Restricted Electives†		12
		66

*Must include at least one production course.

†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.

Plant Industry

In the Department of Plant Industry instruction is given in general plant industry and in the divisions of agricultural mechanics, agronomy, horticulture, range management, and soils. The courses are designed primarily to give scientific and applied training in the problems of soil management and crop production and utilization on the irrigated farm lands and range lands of Nevada. Three majors are offered: General Plant Industry, Range Management, and Soils.

The major in general plant industry prepares the student for positions related to the production and improvement of crops with an option to place more attention on either the agronomic or the horticulture crops. Majors in range management receive training in the handling of range and pasture lands for their conservation and for the proper production and utilization of forages. The major in soils is designed to give the student a good foundation in the natural sciences along with technical training in soils so that he will be prepared for professional work in this field. The courses in agricultural mechanics are adapted primarily to the needs of the farm or ranch and includes such subjects as general mechanics, farm machinery and equipment, and irrigation principles and practices.

Each of the plant industry majors allows from 22 to 34 electives so that the student may select some courses of his own choice which may better fit him for a particular type of work or for going to a farm or ranch. Graduates will be well equipped for graduate study in their respective fields as well as for various types of technical employment.

Course Requirements in General Plant Industry

		Credits
Military	Basic Infantry	4
Physical Education	Developmental Exercises	2
English 101-102, 111	Composition and Rhetoric, Public Speaking	8
Mathematics 101-102	Algebra, Trigonometry	4
Economics 201	Principles of Economics	3
Chemistry 101-102	General Chemistry	6
Chemistry 242	Introductory Organic Chemistry	4
Physics 151-152	General Physics	6
Botany 103, 222	General Botany, Taxonomy	7
Botany 350	Genetics	3
Botany 355, 364	Plant Physiology, Plant Pathology	8
Zoology 103	General Zoology	4
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

COURSE REQUIREMENTS IN GENERAL PLANT INDUSTRY—*Continued.*		*Credits*
Agricultural Economics 357 or 476	Marketing or Farm Management	3
Plant Industry 346	Weeds and Weed Control	3
Plant Industry 355	Disease and Pest Control	2
Animal Husbandry 101	Elements of Animal Husbandry	3
Agricultural Mechanics 356	Irrigation	3
Agronomy 207	Field Crops	4
Horticulture 102	General Horticulture	3
Horticulture 353 or 356	Fruit Growing or Vegetable Growing	3
Soils 106, 211	Soils and Soil Management	6
Electives		34
		132

Suggested Electives:

Animal Husbandry 303-304.
Plant Industry 456.
Agronomy 354.
Agricultural Mechanics 220, 341.
Range Management 359, 366.
Horticulture 201, 203.
Botany 231, 317, 475, 476.
Agricultural Economics 355-356.
Geography 109.
Geology 101.
Journalism 370.
Humanities.
Social Sciences.

Course Requirements in Range Management

		Credits
Military	Basic Infantry	4
Physical Education	Developmental Exercises	2
English 101-102, 111	Composition and Rhetoric, Public Speaking	8
Mathematics 101-102	Algebra, Trigonometry	4
Economics 201	Principles of Economics	3
Chemistry 101-102	General Chemistry	6
Chemistry 242, 271	Introductory Organic and Physiological Chemistry	7
Physics 151-152	General Physics	6
Botany 103, 222	General Botany, Taxonomy	7
Botany 355, 475, 476	Plant Physiology, Plant Ecology	12
Zoology 103, 337	General Zoology, Mammals	7
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	4
Agronomy 207	Field Crops	4
Soils 106, 211	Soils and Soil Management	6

		Credits
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		25
		132

Suggested Electives:

Plant Industry 346.
Botany 317, 350.
Agricultural Economics 356.
Geography 109.
Geology 101.
Civil Engineering 241.
Humanities.
Social Sciences.

Course Requirements in Soils

		Credits
Military	Basic Infantry	4
Physical Education	Developmental Exercises	2
English 101-102, 111	Composition and Rhetoric, Public Speaking	8
Mathematics 101-102	Algebra, Trigonometry	4
Economics 201	Principles of Economics	3
Chemistry 101-102	General Chemistry	6
Chemistry 122, 231, 234	Qualitative and Quantitative Analysis	11
Chemistry 242	Introductory Organic Chemistry	4
Physics 151-152, 153-154	General Physics	8
Botany 103	General Botany	3
Botany 351	Bacteriology	4
Botany 355, 364	Plant Physiology, Plant Pathology	8
Zoology 103	General Zoology	4
Geology 101	Physical Geology	3
Political Science 201-202	Constitutions of the United States and Nevada	2
Agriculture 104	Orientation	1
Agricultural Economics 212, 476	Principles of Agricultural Economics and Farm Management	6
Animal Husbandry 101	Elements of Animal Husbandry	3
Agronomy 207	Field Crops	4
Agricultural Mechanics 220, 356	General Mechanics and Irrigation	5
Horticulture 102	Elements of Horticulture	3
Soils 106, 211	Soils and Soil Management	6
Soils 323	Soil Physics	3
Soils 324	Soil Genesis and Classification	3
Soils 417	Soil Fertility	3
Electives		21
		132

Suggested Electives:

Agriculture 357.
Plant Industry 355.
Range Management 359.
Soils 426.
Agricultural Mechanics 341.
Agricultural Economics 355-356.
Mathematics 110, 140.
Civil Engineering 241-242.
Geography 103, 109.
Geology 211.
Humanities.
Social Sciences.

School of Home Economics

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 order to meet individual needs: teaching, foods and nutrition, and general. The degree of Bachelor of Science in Home Economics is conferred upon satisfactory completion of 126 credits.

Vocational Home Economics

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 six hours 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	2	..
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 203 or 204	Music Appreciation	..	2

		1st Sem.	2d Sem.
Physical Edu. 161-162	Freshman Practice	1	1
Art 101	Freehand Drawing	2	..
Economics 218	Family Economics	..	3
Electives		..	1
		15	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 and Health	3	..
Home Economics 367	Clothing the Family	..	3
Education 190	School Law	2	..
Journalism 370	Agricultural Journalism	..	3
English 111	Public Speaking	2	..
Psychology 221	Educational Psychology	..	3
Art	Appreciation	2	..
Physical Edu. 261-262	Sophomore Practice	½	½
Electives		..	3
		16½	15½

Junior Year

Education 310	Problems in Secondary Education	2	..
Home Economics 475	Child Development	3	..
Home Economics 477-478	Child Guidance	2	2
Home Economics 366	Advanced Clothing	..	3
Home Economics 253	Care of Family Health	3	..
Home Economics 476	Family Living	..	3
Home Economics 255	Arts and Science of Meal Service	..	4
Home Economics 487	Home Decoration	3	..
Home Economics 486	Managing Homes	..	3
Political Science 201	Constitution of United States	1	..
Sociology 380	The Family	..	3
Electives		3	..
		17	18

Senior Year

Home Economics 402	Seminar	..	2
Home Economics 499	Demonstration	3	..
Education 489	Methods in Teaching Homemaking	..	3
Home Economics 488	Household Equipment	2	..
Education 448	Problems in Homemaking Edu	..	3
Education 420	Supervised Teaching in High School	..	6
Political Science 202	Constitution of Nevada	1	..
Education 482	Noninstructional Responsibility of High School Teacher	..	2
Elective		7	..
		13	16

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 pre-professional 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	2	..
Chemistry 242	Introductory Organic	..	3
Sociology 102		..	3
Physical Education 161-162		1	1
Electives		2	1
		15	16
Sophomore Year			
Physics 119		4	..
Home Economics 116	Textiles	..	3
Psychology 201	General	3	..
Psychology 241	Mental Hygiene	..	3
Philosophy 221	Ethical Theories	..	3
Economics 218	Consumer Economics	..	3
Economics 201		3	..
Physical Education 261-262		½	½
Electives		5	4
		15½	16½
Junior Year			
Chemistry 271	Physiological	5	..
Home Economics 334	Nutrition	..	3
Home Economics 499	Demonstration	3	..
Home Economics 493	Experimental Foods	2	..
English 315		..	2
Home Economics 255	Meal Planning	..	4
Zoology 346	Physiology	..	5
Electives		5	2
		15	16
Senior Year			
Home Economics 491	Education for Foods and Nutrition Majors	3	..
Home Economics 475-476	Child Development—Family Living	3	3
Home Economics 477-478	Child Guidance	2	2
Home Economics 436	Diet Therapy	..	3
Political Science 201-202	Constitutions of the United States and Nevada	1	1
Biology 351	Bacteriology	4	..

		1st Sem.	*2d Sem.*
Home Economics 498	Institution Organization and Management	..	3
Home Economics 496	Quantity Cooking	..	3
Home Economics 402	Seminar	..	2
Electives		4	..
		17	17

General

In addition to the two professional areas in the School of Home Economics (Teaching, 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.

Freshman Year		*1st Sem.*	*2d Sem.*
English 101-102	Composition and Rhetoric	3	3
Speech 111-112	Public Speaking	2	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
Sociology 102	Social Problems	..	3
Physical Edu. 161-162	Freshman Orientation	1	1
Electives		..	2
		15	16
Sophomore Year			
Home Economics 133-255	Nutrition for College Students: Art and Science of Meal Service	3	4
Home Economics 115	Clothing	3	..
Psychology 201-241	General: Mental Hygiene	3	3
Economics 218	Consumer Economics	..	3
Political Science 105-106	Comparative Government	2	2
Science (choice of Mathematics, Chemistry, Zoology, Botany)		3	..
Physical Edu. 261-262	Sophomore Activities (Swimming, Bowling, Tennis, etc.)	½	½
Electives		2	..
Elective	English	..	2
	Other	..	2
		16½	16½
Junior Year			
Home Economics 367-486	Family Clothing Problems: Home Management	3	3
Home Economics 253	Care of Family Health	3	..
Political Science 201-202	Constitutions of the United States and Nevada	1	1

Junior Year—Cont.		*1st Sem.*	*2d Sem.*
Sociology 379-380	Race 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 or 3	..
	Other	4 or 3	2
		15	15
	Senior Year		
Home Economics 475-476	Child Development	3	3
Home Economics 477-478	Child Guidance	2	2
Home Economics 487-402	Home Decoration: Home Economics Seminar	3	2
Philosophy 462	Philosophy of Religion	..	2
Philosophy 482	Philosophy of Political Problems	..	2
Elective	English	3	..
	Other	5	5
		16	16

Desirable Electives

Freshmen

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

Sophomores

Choose six credits: English 231, 232, 247, 248, 253, 254, 261; Music 203, 204; Philosophy 222; Art 251, 257; Business 221, 222; Commercial Education 243; Home Economics 116; Physical Education, individual sports or hygiene.

Juniors

Choose eight credits: English 335, 337, 345, 346, 355, 356; History 314; Music 313; Psychology 361; Art 362, 363; Business 353; Home Economics 366, 368; Physical Education, same activities as sophomores; Journalism 370.

Seniors

Choose seventeen credits: English 441; Psychology 405; Home Economics 488, 499; History 403, Journalism 370.

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 and Descriptive Geometry	2	..
Military 101	Basic Course	1	..
Physical Education	Developmental Exercises	½	..
[1]Elective			2 or 3
			17½ or 18½

[1]Must be chosen from Humanities and Social Sciences with approval of adviser.

Second Semester		LAB.	LEC.
English 102	Composition and Rhetoric	..	3
Chemistry 102	Metals	..	2
Chemistry 124	Qualitative	1	1
Mathematics 152	Mathematical Analysis	..	5
Mechanical Eng. 106	Engineering Drawing and Descriptive Geometry	2	..
Military 102	Basic Course	1	..
Physical Education 102	Developmental Exercises	½	..
[1]Elective			2 or 3
			17½ or 18½

Mechanical Engineering

Uniform Freshman Year (see page 133)

Sophomore Year—First Semester

Physics 203	General Physics for Engineers	..	4
Physics 205	Physical Measurements	2	..
Civil Engineering 241	Elementary Surveying	1	2
Mathematics 251	Engineering Calculus	..	4
English 111	Public Speaking	..	2
Military 201	Basic Course	..	1
Physical Education 201	Advanced Exercises	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	Basic Course	..	1
Physical Education 202	Advanced Exercises	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	..
Mechanical Eng. 351	Kinematics	1	2
Mechanical Eng. 355	Thermodynamics	..	3
Mathematics 351	Differential Equations	..	2
*Elective		..	2
			18

Junior Year—Second Semester

Mathematics 342	Analytic Mechanics	..	2
Civil Engineering 376	Mechanics of Materials	1	3
Civil Engineering 374	Metals Testing Laboratory	1	..

[1]See footnote, page 133.

*Electives in the freshman and sophomore years are to be chosen from the humanities and social sciences. Electives in the junior and senior years should preferably be chosen 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.

		LAB.	LEC.
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 U. S.	..	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 page 133)

Sophomore Year—First Semester

Physics 203	General Physics for Engineers	..	4
Physics 205	Physical Measurements	2	..
Mathematics 251	Calculus for Engineers	..	4
Civil Engineering 241	Surveying	1	2
English 111	Public Speaking	..	2
Military 201	Basic Course, second year	..	1
Physical Education 201	Advanced Exercises	½	..
*Elective	Humanities	..	2
			18½

Sophomore Year—Second Semester

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	Basic Course, second year	..	1
Physical Education 202	Advanced Exercises	½	..
*Elective	Humanities	..	3
			17½

*See footnote, page 134.

Junior Year—First Semester

		LAB.	LEC.
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	Mechanics	..	3
Business Adm. 241	Business Organization	..	3
Mathematics 351	Differential Equations	..	2
*Electives		..	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	Mechanics	..	2
*Electives		..	3
			18

Senior Year—First Semester

Electrical Engineering 461	Advanced Alternating Current Machinery	3	..
Electrical Engineering 463	Advanced Alternating Current Laboratory	..	2
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	2	1
Political Science 201	Constitution of the United States	1	..
*Electives		3	..
			18

Senior Year—Second Semester

Electrical Engineering 462	Electrical Design	2	1
Electrical Engineering 464	Advanced Alternating Current Laboratory	..	2
†Electrical Engineering 466 or	Generation and Distribution of Power	3	..
†Electrical Engineering 482	Electrical Communication	3	..
†Electrical Engineering 484	Communication Engineering Laboratory	..	1
Electrical Engineering 488	Seminar	1	..
Mechanical Eng. 353	Fundamentals of Thermodynamics	3	..
Mechanical Eng. 464	Mechanical Laboratory	..	2
Political Science 202	Constitution of Nevada	1	..
*Electives		3	or 2
			18

*See footnote, page 134.

†Electrical Engineering 466 and 482 are intended as options—*i. e.*, it is not intended that a student will take both 466 and 482. It will be permissible, with the consent of the adviser, to take one of the above courses as the "option" and the other as an "elective."

Civil Engineering

Uniform Freshman Year (see page 133)

Sophomore Year—First Semester

		LAB.	LEC.
Mathematics 251	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
English 111	Public Speaking	..	2
Military 201	Basic	1	..
Physical Education 201	Advanced Exercises	½	..
			18½

Sophomore Year—Second Semester

Mathematics 252	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	Basic	1	..
Physical Education 202	Advanced Exercises	½	..
			18½

Junior Year—First Semester

Mathematics 341	Analytical 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	Engineering Economics	..	3
Political Science 201	Constitution of United States	..	1
Elective		..	2
			17

Junior Year—Second Semester

Mathematics 342	Analytical Mechanics	..	2
Civil Engineering 491	Contracts and Specifications	..	2
Civil Engineering 366	Roads and Pavements	..	4
Civil Engineering 376	Mechanics of Materials	1	3
Civil Engineering 374	Metals Test—Laboratory	1	..
Civil Engineering 368	Fluid Mechanics—Laboratory	1	..
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

		LAB.	LEC.
Civil Engineering 484	Structural Design	2	2
Civil Engineering 486	Reinforced Concrete Design	2	1
Civil Engineering 488	Engineering Economy	..	2
Civil Engineering 490	Sanitary Engineering	..	3
Civil Engineering 492	Foundations	..	3
Elective		..	3
			18

Mackay School of Mines

Geology-Geography.
Metallurgy.
Mining.

Purpose

The Mackay School of Mines is one of the several colleges comprising the University of Nevada. Its purpose is to give the student professional training in the mineral technologies and sciences and at the same time provide a general education that will fit the student to become a worthy citizen of his country and a leader among its 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.

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 and many of its geologists are frequent visitors to 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.

Employment

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.

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. Scholarship requirements are high and competition is keen. Unless the student is willing to apply himself diligently he should not choose this field of endeavor.

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. It is generally 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. Whenever the elective hours are not sufficient to permit a military elective, permission will be granted to substitute a military subject in the curriculum.

The curricula, of 144 semester credits each, leading to the degree of Bachelor of Science in Geology, Geological Engineering, Metallurgical Engineering, or Mining Engineering are outlined below.

Curricula in Mackay School of Mines

Geology

The curriculum leading to the degree of Bachelor of Science in Geology is offered for those students who plan to take postgraduate 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.

Depending upon the student's high school preparation, there are 43 elective credits in the geology curriculum, of which 15 to 27 are *Restricted Electives* and must be chosen from specific fields as follows:

BIOLOGY: Two laboratory courses in biological sciences are required. Zoology 103 is specified; thus, the student must elect another laboratory course of three or more credits in Botany or Zoology.

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: 35 credits are required; of these, 32 are specified; thus, the student must elect three geology credits. The student will be permitted to elect as many as four additional geology credits, but he will not be permitted to present more than a total of 39 credits in geology.

SOCIAL STUDIES AND HUMANITIES: 12 credits are required. At least three credits must be in Economics. Econ. 203 is specified; however, the student is urged to substitute Econ. 201-202, if possible. Other recommended courses are: Eng. 231-232; Hist. 105-106; Pol. Sci. 357; Phil. 351, 352; Psych. 201; Soc. 201, 357. All credits must be taken within the following subjects: Art history and appreciation, economics, English literature, foreign literature, geography (except 103, 109), history, music history and appreciation, philosophy, political science (except 201, 202), psychology, speech history and interpretation, and sociology.

OPEN ELECTIVES: There are from 16 to 28 open elective credits. The student may use these for any courses that will assist him in his chosen field, or to satisfy any personal interest; however, the following work is recommended: Advanced chemistry, mathematics, or physics; Met. 204; Min. 461; C. E. 242; or additional work in economics, foreign language, geography, history, philosophy, or political science.

Freshman Year

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. 102, Plane Trigonometry	2	Eng. 102, Comp. and Rhetoric	3
Math. 110, College Algebra	3	Math. 140, Analytical Geometry	3
M.E. 105, Engineering Drawing	2	M.E. 106, Descriptive Geometry	2
Mil. 101, First Year Basic	1	Mil. 102, First-Year Basic	1
Min. 101, Introductory Mining	1	P.E. 102, Development Exer.	½
P.E. 101, Development Exer.	½	Elective (Social Studies)	3
	16½		16½

Sophomore Year

Geol. 101, Physical Geology	3	Geol. 102, Historical Geology	3
Geol. 211, Determin. Mineralogy	2	Geol. 212, Blowpipe Analysis	2
German (or French) First Year	5	Geol. 214, Descript. Mineralogy	2
Phys. 151, General Physics	3	German (or French) First Year	5
Phys. 153, General Physics Lab.	1	Phys. 152, General Physics	3
Mil. 201, Second-Year Basic	1	Phys. 154, General Physics Lab.	1
P.E. 201, Adv. Exercises	½	Mil. 202, Second-Year Basic	1
		P.E. 202, Adv. Exercises	½
	15½		17½

Junior Year

C.E. 241, Plane Surveying	3	Eng. 111, Public Speaking	2
Eng. 201, Advanced Composition	2	Geol. 352, Petrography	3
Geol. 351, Petrology	2	Math. 220, Mathematical Statistics	3
Geol. 382, Structural Geology	3	Zool. 103, General Zoology	4
Elective	8	Elective	6
	18		18

Summer Camp

*Geol. 471, Summer Field Geology.....6 cr.

Senior Year

Econ. 203, Economics for Engrs.	3	Geol. 478, Stratigraphy	3
Geol. 477, Paleontology	3	Geog. 109, Climatology	3
Pol. Sci. 201, U. S. Constitution	1	Pol. Sci. 202, Nevada Constitution	1
Elective	11	Elective	11
	18		18

*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.

Uniform Freshman Year for Engineering Curricula

The following first-year program is specified for curricula in geological engineering, metallurgical engineering, and mining engineering.

First Semester	*Credits*	*Second Semester*	*Credits*
*Art 107, Freehand Drawing	1	Chem. 102, Gen. Chem. Metals	2
Chem. 101, Gen. Inorganic Chem.	4	Chem. 124, Qualitative Analysis	2
Eng. 101, Comp. and Rhetoric	3	Eng. 102, Comp. and Rhetoric	3
Math. 151, Elem. Math. Analysis	5	Geol. 101, Physical Geology	3
M.E. 105, Engineering Drawing	2	Math. 152, Elem. Math. Analysis	5
Mil. 101, First Year Basic	1	M.E. 106, Descript. Geometry	2
Min. 101, Introductory Mining	1	Mil. 102, First Year Basic	1
P.E. 101, Developmental Exer.	½	P.E. 102, Developmental Exer.	½
	17½		18½

Summer Work

[1]Min. A., Practical Mining; Four Weeks. No credit.

Uniform Sophomore Year for Geological and Mining Engineering

First Semester	*Credits*	*Second Semester*	*Credits*
Chem. 231, Quantitative Analysis	3	Chem. 232, Quantitative Analysis	3
Geol. 102, Historical Geology	3	Geol. 212, Blowpipe Analysis	2
Geol. 211, Determin. Mineralogy	2	Geol. 214, Descript. Mineralogy	2
Math. 241, Calculus	3	Math. 242, Calculus	3
Mil. 201, Second Year Basic	1	Met. 204, Intro. Metallurgy	2
P.E. 201, Adv. Exercises	½	Mil. 202, Second Year Basic	1
Phys. 203, Gen. Physics for Engrs.	4	P.E. 202, Adv. Exercises	½
Elective	1	Phys. 204, Gen. Physics for Engrs.	4
		Elective	1
	17½		18½

*May substitute other courses by permission of department chairman or dean.

[1]Not required in Curriculum in Geological Engineering.

Geological Engineering

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
C.E. 241, Plane Surveying	3	C.E. 242, Plane Surveying	4
*Foreign Language, First Year	5	*Foreign Language, First Year	5
Geol. 351, Petrology	2	Geol. 352, Petrography	3
Geol. 370, Field Geology	1	Geol. 354, Geologic Reports	2
Geol. 382, Structural Geology	3	Geol. 360, Econ. Geol. Nonmetals	3
Min. 461, Mining Methods	3		
	17		17

Summer Camp

Geol. 471. Summer Field Geology.....6 Credits.

Senior Year

*Eng. 111, Public Speaking	2	*Geol. 430, Petroleum Geology	3
*Geol. 388, Sedimentation	3	Geol. 440, Geomorphology	3
Geol. 461, Econ. Geol. Metals	3	Geol. 478, Stratigraphy	3
Geol. 477, Paleontology	3	Geol. 479, Geology Project	2
Geol. 479, Geology Project	2	Geol. 485, Seminar	1
Geol. 480, Geol. Explor. Methods	3	Pol. Sci. 202, Nevada Constitution	1
Pol. Sci. 201, U. S. Constitution	1	Elective	3
	17		16

Metallurgical Engineering

Sophomore Year

First Semester	*Credits*	*Second Semester*	*Credits*
Chem. 231, Quantitative Analysis	3	Chem. 232, Quantitative Analysis	3
Geol. 211, Determin. Mineralogy	2	Geol. 212, Blowpipe Analysis	2
Math. 241, Calculus	2	Geol. 214, Descript. Mineralogy	2
Mil. 201, Second Year Basic	1	Math. 242, Calculus	3
P.E. 201, Adv. Exercises	½	Met. 204, Intro. Metallurgy	2
Phys. 203, Gen. Physics for Engrs.	4	Mil. 202, Second Year Basic	1
Phys. 205, Physical Measurements	2	P. E. 202, Adv. Exercises	½
Elective	2	Phys. 204, Gen. Physics for Engrs.	4
		Phys. 206, Physical Measurements	1
	17½		18½

*May substitute other courses by permission of department chairman or dean.

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
C.E. 241, Plane Surveying	3	C.E. 242, Plane Surveying	4
Math. 341, Analytic Mechanics	3	Geol. 360, Econ. Geol. Nonmetals	3
Met. 341, Pyro-Metallurgy Lab.	4	Met. 356, Prin. Physical Met.	3
Met. 358, Ferrous Metallurgy	2	Met. 366, Ore Dressing	2
Pol. Sci. 201, U. S. Constitution	1	Met. 368, Ore Dressing Lab.	2
Elective	3	Pol. Sci. 202, Nevada Constitution	1
		Elective	3
	16		18

Senior Year

Chem. 353, Physical Chemistry	3	Chem. 354, Physical Chemistry	3
Chem. 355, Physical Chem. Lab.	1	Chem. 356, Physical Chem. Lab.	1
C.E. 361, Hydraulics	3	C.E. 372, Strength of Materials	3
Met. 461, Pyro-Metallurgy	3	C.E. 374, Metals Testing Lab.	1
Met. 471, Hydro-Metallurgy	2	E.E. 375, Electricity in Mining	3
Met. 473, Hydro-Metallurgy Lab.	1	Met. 472, Electrometallurgy	2
Met. 479 Project	2	Met. 476, Problems and Seminars	2
Elective	3	Met. 480, Project	2
		Min. 474, Mineral Industry Econ.	3
	18		20

Mining Engineering

Junior Year

First Semester	*Credits*	*Second Semester*	*Credits*
C.E. 241, Plane Surveying	3	C.E. 242, Plane Surveying	4
Geol. 351, Petrology	2	Geol. 352, Petrography	3
Math. 341, Analytic Mechanics	3	or	
Met. 341 Pyro-Metallurgy Lab.	4	Met. 356, Prin. Physical Met.	(3)
Min. 351, Excavation	3	Geol. 360, Econ. Geol. Nonmetals	3
Elective	3	Met. 366, Ore Dressing	2
		Met. 368, Ore Dressing Lab.	2
		Min. 352, Mine Plant	3
	18		17

Senior Year

First Semester	*Credits*	*Second Semester*	*Credits*
C.E. 361, Hydraulics	3	C.E. 372, Strength of Materials	3
Geol. 461, Econ. Geol. Metals	3	C.E. 374, Metals Testing Lab.	1
Met. 461, Pyro-Metallurgy	3	E.E. 375, Electricity in Mining	3
Met. 471, Hydro-Metallurgy	2	Min. 472, Mine Administration	3
Met. 473, Hydro-Metallurgy Lab.	1	Min. 474, Mineral Industry Econ.	3
Min. 461, Mining Methods	3	Min. 480, Met. 480, or Geol. 479	2
Min. 479, Met. 479, or Geol. 479	2	Pol. Sci. 202, Nevada Constitution	1
Pol. Sci. 201, U. S. Constitution	1	Elective	3
	18		19

Graduate Study

Opportunity for Graduate Work

The University offers graduate work leading to the following advanced degrees: Master of Arts, Master of Science, and certain professional degrees in the College of Engineering and the Mackay School of Mines. Most of the departments in the College of Arts and Science 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 *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 the master's 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.

General Requirements for the Master's Degree

Undergraduate Prerequisite

Excepting the special case of senior undergraduates in residence at the University of Nevada (see *General Regulations* below) no student will be accepted for graduate work unless he has earned the bachelor's degree from an accredited college or university.

A student must have completed such undergraduate work as the department concerned, with the approval of the Graduate 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 head 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.

Course Requirements

The candidate for the Master's 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 six 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 committee more than the minimum may be required for either the major or the minor as conditions may require. Whatever number of the 24 credits is not required for the major and minor may be elected by the student in any department; they will normally be chosen to support the candidate's thesis.

II. He shall select a department which will constitute his 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.

Students should not enroll in any course for graduate credit without first securing the approval of the department head that such courses are acceptable toward a major or a minor. Not any six or twelve 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.

The Thesis

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's degree, great importance is assigned to it in determining the eligibility of the candidate for the degree. Gen-

erally 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.

Other general regulations concerning the thesis are described later.

Credits for the Thesis

When the candidate has been recommended by the Graduate Committee and approved by the Faculty for the master's degree, six credits will be recorded on his official scholarship record for the work completed on the thesis.

Residence Requirements

A thesis and a total of 24 semester credits in graduate courses (for definition see *Graduate Courses* below) 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.

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 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.

Procedure for Becoming a Candidate for the Master's Degree

Submission of Undergraduate Transcript

Graduates of recognized colleges or universities who desire to become candidates for the master's degree at the University of Nevada should submit to the chairman of the Graduate Committee, considerably in advance of the registration date, an official transcript of his complete undergraduate record with official evidence that the bachelor's degree has been conferred.

Application for Candidacy

Before registering for any graduate course the candidate should receive from the chairman of the Graduate Committee an application blank for admission to candidacy, 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 Committee before registration is begun.

Registration

At the date of registration, the graduate student whose application has been approved by the departments concerned and by the Graduate Committee, will (a) secure his registration coupons from the Registrar, (b) secure the signature of the professor for each course in which he wishes to enroll, with the notation that the course is for graduate credit, (c) secure the signature of the chairman of the Graduate Committee, (d) make out his class cards, writing "graduate credit" on each card that represents a course signed for graduate credit,* (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.

Graduate Courses

Graduate courses consist of those numbered 500 and above, and of such courses numbered 300 to 500 as the department concerned may accept for graduate credit. To be acceptable for graduate credit such courses will require such additional and

*It is the responsibility of the student to see that each course is properly signed for graduate credit on the registration card and that each class card carries the notation "graduate credit." Neglect in doing this may result in failure to receive graduate credit.

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. The thesis, or a course offered in the thesis, is not counted as part of the 24 credits required for the degree.

Fees

Graduate students are subject to the payment of the following fees:

Graduate students are required to pay Matriculation, Registration, Library, Laboratory, Tuition, and Summer Sessions fees as specified (see pp. 44–48). 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.

Thesis Regulations

Date of Submission

The thesis must be completed in typed form, unbound, 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 chairman of the Graduate Committee.

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 Committee.

Copies for Deposit

Three bound copies of the thesis must be submitted to the Graduate Committee; not all 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 Education Department 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 Examining Committee

The examining committee which passes upon the thesis and conducts the final examination consists of five members of the faculty: a representative of the major department, a representative of the minor department, a member of the Graduate 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 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 fourteen credits of graduate work in any semester, nor for more than six in any five weeks 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 five calendar years immediately preceding the granting of the degree.

5. The head 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. Candidates for the master's degree may not at the same time be candidates for any other degree.

8. Undergraduates at the University of Nevada who lack less than 15 credits to complete the requirements for the bachelor's degree may enroll in approved courses for graduate credit, pro-

vided such credit is requested by the student and approved by the professor at the time of enrollment.

9. Members of the University staff who are employed on full-time salary may not register for more than six credits during one semester.

10. Veterans must carry a minimum number of nine hours of graduate work to be eligible for full veterans' benefits. Veterans actually carrying on their thesis preparation while in residence may register for as many hours of thesis credit, to a maximum total of six for all semesters, as the chairman of the major department may approve; it must be understood that such thesis hours can not be included in the 24 hours of required graduate course work, and that final credit for such registered hours 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 Chairman of the Graduate Committee, with the approval of the professor directing his thesis, the date that he expects to be ready for his final examination.

Engineering Degrees

The Engineering degrees—Engineer of Mines (E.M.), Geological Engineer (Geol.E.), Metallurgical Engineer (Met.E.), Mechanical Engineer (M.E.), Civil Engineer (C.E.), and Electrical Engineer (E.E.)—may be conferred upon graduates who have taken corresponding courses in the College of Engineering or the Mackay School of Mines 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 presentations of the work of others.

The engineering degrees may also be conferred upon graduates of the College of Engineering of the University of Nevada and upon graduates of other engineering colleges of equal standing, who, after graduation, have been engaged for a period of at least one year in honorable and successful engineering work in a position of responsibility, and who subsequently complete successfully one year of graduate work in engineering, including thesis,

at the University of Nevada. Graduates of other institutions must include in their graduate work any subjects in the corresponding undergraduate curricula which are required by the College of Engineering or the Mackay School of Mines of the University of Nevada, but whose equivalents were lacking in their undergraduate courses.

Formal application for an engineering degree must be filed with the Registrar not later than the beginning of the second semester of the year in which the degree is sought, and approved in turn by the Engineering or Mines Faculty and the Graduate Committee. The application must be accompanied by detailed and satisfactory evidence as to the extent and character of the applicant's professional work. The thesis shall have the general form prescribed for the 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 Engineering or Mines Faculty and to the Graduate Committee at least eight weeks before the date set for conferring the degree. The diploma fee for an engineering degree is $6.

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 basic military (See *Required Courses*) and infantry 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, 303.
   Senior Year—Second-Year Advanced Military 401, 402.

2. Satisfactorily complete four years' college level work.
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

Students desiring commissions in branches other than the Infantry must meet the requirements specified below and obtain the approbation of the PMS&T. These commissions will be tendered within the quota limitations as prescribed by the Department of the Army.

1. Pursue technical or scientific field of study applicable to the branch desired.
2. Successfully complete ROTC Summer Camp of the appropriate branch, and the advance courses Military 301, 302, 401, 402.

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 Universial Military Training and Service Act of 1951 (Public Law 51, 82d Congress) all male students 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 non-attendance which must be approved by the PMS&T.

7. Students must execute a deferment agreement.

If the date of graduation from the University is later than the date of completion of the Advanced Course, deferment continues until graduation provided the University course does not take more than five years. The development of military leaders by means of the ROTC program is so important to the Nation that provision is made for continued deferment, except that members of the Enlisted Reserve Corps or National Guard enrolled in a basic course may be called to active duty.

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 taking drill, $5 from each basic who is not taking drill, and an undetermined amount (not over $10) from each first-year advanced student when it becomes necessary to provide a guarantee to supplement this uniform allowance.

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 (for fiscal year 1952, 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 for 18 months).

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 advance 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.

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

1. The capital letters, A, B, C, etc., designate noncredit courses.
2. 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 201-299 are used for courses *primarily* for sophomores.

3. The numbers 301-499 designate upper-division courses.
4. The numbers 501-599 designate courses *primarily* for graduate students, but to which juniors or seniors of superior scholastic standing may be admitted upon approval of the instructor and department chairman concerned.
5. For courses extending beyond one semester, an odd number designates the first part of the course.
6. 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.
7. Numbers joined by a hyphen (101-102, 315-316, etc.), indicate that the course extends through two semesters.

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. Second semester. One credit. Agricultural Staff.

357. METHODS IN AGRICULTURAL STATISTICS. Application of statistical methods to experimentation and research in agriculture.

First semester. Three credits. Little.

Agricultural Economics

Professors TITUS, WITTWER (Chairman of Department).

106. AGRICULTURAL RESOURCES. A survey of the agricultural resources of the world, the United States, and Nevada, including a study of the economic relationship of soil, climate, and topography to types of farming.

Second semester. Three credits. Staff.

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.

353. Farm Appraisal. A study of the principles of farm appraisal and valuation, with the practical application of these principles. A comparison of different systems of appraisal.
Prerequisite: Agricultural Economics 212. *First semester. Three credits. Two lectures; one laboratory period.* Fee $3. 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. 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. 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. 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. 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. 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.

484. EXTENSION ORGANIZATION AND METHODS. A study of extension and research organization and methods, with emphasis on economics and marketing problems. Project planning, methods of collecting information, organizing data, preparing and presenting reports will be emphasized.

Second semester. Three credits. Wittwer.

591. THESIS COURSE IN AGRICULTURAL ECONOMICS.

Either semester. Credit to be arranged. Staff.

Agricultural Mechanics, See Plant Industry

Agronomy, See Plant Indusrty

Animal Husbandry

Associate Professor KIDWELL (Chairman of Department); MR. KEY, MR. REED, MR. MALONEY, MR. WALKER.

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. Fee $5. Staff.

102. BREEDS OF LIVESTOCK. The origin, development, distribution, characteristics and adaptability of the modern breeds of livestock. An elementary study of the genetic structure of the breeds.

Prerequisite: Animal Husbandry 101. *Second semester. Two credits.* Kidwell.

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.

First semester. Two laboratory periods. Two credits. Fee $5. Kidwell.

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.

Prerequisites: Zoology 103, Chemistry 101. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Staff.

203. FARM MEATS. Slaughtering of domestic and game animals and cutting and curing of meats. Carcass grading and selection.

Prerequisite: Animal Husbandry 101. *First semester. One lecture; two laboratory periods. Three credits.* Fee $10. Kidwell.

204. MEAT SELECTION. Wholesale and retail cuts of meat. Meat selection. Meat preservation, curing, smoking, freezing, etc. This course is designed for Agricultural and Home Economics students.

Second semester. One lecture; two laboratory periods. Three credits. Fee $10. Kidwell.

301. ADVANCED LIVESTOCK JUDGING. A continuation of course 201 with emphasis on grading.

Prerequisites: Animal Husbandry 101, 201, *First semester. Two laboratory periods. Two credits.* Fee $10. Kidwell.

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.

Prerequisites: Animal Husbandry 101, Chemistry 242, Agronomy 207. *First semester. Three credits.* Staff.

304. LIVESTOCK PRODUCTION. A study of the application of the several sciences underlying livestock production to purebred and commercial livestock management. Beef cattle, dairy cattle, sheep, swine, horses and poultry will be considered.

Prerequisite: Animal Husbandry 303. *Second semester. Three lectures; one laboratory period. Four credits.* Fee $5. 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.* Fee $10. Walker.

306. 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; physiology of digestion and absorption.

Prerequisites: Animal Husbandry 303, Zoology 209, Chemistry 271. *Second semester. Three credits.* Staff.

307. PHYSIOLOGY OF DOMESTIC ANIMALS. The physiology of the neuromuscular, central nervous, circulatory, respiratory, digestive, endocrine, reproductive and excretory systems.

Prerequisites: Zoology 209, Chemistry 242, recommended Chemistry 271. *First semester. Three lectures; one laboratory period. Four credits.* Fee $5. Key.

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.

Prerequisites: Zoology 209, Botany 351. *Second semester. Three credits.* Key.

310. REPRODUCTION IN DOMESTIC ANIMALS. The anatomy and physiology of the reproductive organs and associated endocrines; pregnancy tests, estrus and the estrus cycle, gestation; parturition; lactation; sperm physiology; artificial insemination. Factors affecting fertility; sterility.

Prerequisites: Zoology 209, Chemistry 271, Zoology 350, Botany 351. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $10. Kidwell.

401–402. ANIMAL HUSBANDRY UNDERGRADUATE SEMINAR. A review of current literature and research pertinent to animal husbandry. Each student to present at least one seminar during the semester.

Prerequisite: Senior standing. *Both semesters. One credit.* Staff.

405. 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.

Prerequisites: Zoology 209 and 350, Agriculture 357. *First semester. Two lectures; one laboratory period. Three credits.* Fee $5. 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.

Prerequisites: Animal Husbandry 306, 307, 405, Range Management 359. *Second semester. Three lectures; one laboratory period.* Students must be prepared to take several weekend field trips. *Four credits.* Fee $10. Kidwell.

497–498. SPECIAL STUDY FOR ADVANCED UNDERGRADUATES. Independent research on some problem pertinent to Animal Husbandry.

Prerequisite: Second semester. 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.

Both semesters. One to six credits. Staff.

Art

Assistant Professor SHEPPARD (Chairman of Department); Mrs. JOSLIN.

A total laboratory fee of $10 per course will be charged to all visitors.

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. Also rapid figure sketching in several art media.

Two credits each semester. Fee $3. Sheppard.

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. Fee $3. Sheppard.

107. FREEHAND DRAWING. *Designed for Engineers.*

First semester only. One credit. Fee $3. Sheppard.

115. ART APPRECIATION. Lecture 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.

Either semester. Two credits. Fee $3. Sheppard.

121–122. FREEHAND DRAWING. Evening Class. Sketching from models and still life.

Either semester. One credit per semester. Fee $3. Sheppard.

133. MODERN TRENDS IN ART EDUCATION. See Education 133.

251–252. WATERCOLOR PAINTING. The technique and handling of watercolor in still life and landscape.

Three credits each semester. Fee $3. This course may be repeated for credit as Art 351-352.

253–254. ADVANCED FREEHAND 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.

Three credits each semester. Fee $3. This course may be repeated for credit as Art 353-354.

257–258. OIL PAINTING. The technique and handling of oil colors in still life, portrait, figure, and landscape.

Three credits each semester. Fee $3. This course may be repeated for credit as Art 357-358. Sheppard.

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. Fee $3. Staff.

351–352. Continuation of Art 251–252.

353–354. Continuation of Art 253–254.

355–356. COMMERCIAL ART. Lecture and laboratory. Practical modern methods of reproduction used in commercial art. Poster, illustration, billboard, and magazine advertisements. Problems in color and black and white, in various media: wash, pen and ink, show card, air brush, etc. Class is handled as much like an advertising agency as possible to give students actual working problems.
Prerequisites: Art 101-102, 251-252. *Three credits each semester.* Fee $3. Sheppard.

357–358. Continuation of Art 257–258.

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. Fee $3. To be arranged. Staff.

362. HISTORY OF EUROPEAN ART. Lecture and slides. The study of the related arts, painting, sculpture, and architecture of Europe from the Renaissance to the Moderns.
Three credits. Fee $3. Staff.

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. To be arranged.
Three credits each semester. Fee $5. This course may be repeated for credit as Art 463-464. Sheppard.

Astronomy, See Physics 107

Biology

Associate Professors BILLINGS (Chairman of Department); RICHARDSON; Assistant Professors JONES, LARIVERS, LITTLE; Mr. COONEY.

Botany

103. GENERAL BOTANY. An introduction to the classification, structure, and physiology of the flowering plants.
Either semester. Two lectures; one laboratory period. Three credits. Fee $5. Billings, Little, and Staff.

104. SURVEY OF THE PLANT KINGDOM. The structure and life cycles of representative types of algae, fungi, mosses, ferns, gymnosperms and angiosperms.
Prerequisite: Botany 103. *Second semester. Two lectures; two laboratory periods. Four credits.* Fee $5.

222. TAXONOMY. A systematic and comparative study of the principal families of flowering plants represented in the local flora and the identification of plants by means of manuals.
Prerequisite: Botany 103. *Second semester. Two lectures; two laboratory periods. Four credits.* Fee $5. Billings.

231. PLANT ANATOMY. Structure and development of major cell types and tissues; comparative anatomy of roots, stems, and leaves of the higher plants.
Prerequisite: Botany 103. *First semester. One lecture; two laboratory periods. Three credits.* Fee $5. Alternates with Botany 370. Cooney.

307. 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.
Prerequisites: Botany 103 and Botany 222 or Botany 231. *First semester. Two credits.* Little.

315. DENDROLOGY. The intensive study of the taxonomy, silvics, and practical identification of the important North American forest trees.
Prerequisite: Botany 222. *Second semester. One lecture; two laboratory periods. Three credits.* Fee $5. Alternates with Botany 317. Billings.

317. RANGE AGROSTOLOGY. The study of grasses, and practice in identification. Particular emphasis is given to range grasses.
Prerequisite: Botany 222. *Second semester. One lecture; two laboratory periods. Three credits.* Fee $5. Alternates with Botany 315. Billings.

350. GENETICS. A study of the fundamental principles underlying the inheritance of structural and physiological characters in plants and animals.
Prerequisite: Botany 103 or Zoology 103. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $3. Little.

351. 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 or Botany 103. *First semester. Two lectures; two laboratory periods. Four credits.* Fee $10. Jones.

355. PLANT PHYSIOLOGY. Intensive study of the basic physiological processes in plants: photosynthesis, digestion, respiration, absorption, transpiration, nitrogen metabolism, mineral

deficiencies, growth-promoting and growth-inhibiting substances.
Prerequisites: Botany 103 and Chemistry 242. *First semester. Three lectures; one laboratory period. Four credits.* Fee $10. Billings.

364. Mycology and an Introduction to Plant Pathology. The study of fungi. Diseases of economic plants, their causes, identification and control.
Prerequisite: Botany 103 and preferably Botany 222. *First semester. Two lectures; two laboratory periods. Four credits.* Fee $10. Cooney.

370. Microtechnique. The preparation of materials and permanent slides of plant and animal tissues for microscopic study.
Prerequisites: Junior standing and at least six credits in biology. *First semester.* Alternates with Botany 231. *One lecture; two laboratory periods. Three credits.* Fee $10. Cooney.

375. Wood Technology. The structure of economic woods with emphasis upon the identification of these woods by their physical properties and minute anatomy.
Prerequisite: Botany 231. *Second semester. One lecture; two laboratory periods. Three credits.* Fee $5.

475–476. Plant Ecology I and II. Intensive study of the relationships between plant growth and the factors of the environment. Problems of plant distribution. Structure and dynamics of vegetation. Plant species and vegetation as indicators of environmental conditions and trends.
Prerequisite: Botany 222. *Both semesters. Four credits each semester. Three lectures; one laboratory period or field trip.* Fee $10 each semester. Billings.

480. 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 limited areas, with special attention to basic field problems in fish and game management, conservation, and agriculture. 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.* Course may be repeated for credit. Staff. 1951, LaRivers and Richardson. Fee to be arranged. Same as Zoology 480.

491–492. Botanical Problems. Special problems in some field of botany. Assigned readings and reports.
Prerequisite: The equivalent of two years of botany. *One to three credits each semester.* Student is limited to a total of eight credits in Botany 491-492. Fee $5. Billings and Staff.

495–496. Botanical Seminar. The presentation by students of reviews and discussion of assigned reports of research in botanical literature.
Prerequisite: Nine hours of botany and consent of instructor. *One meeting per week. One or two credits each semester.* Course may be repeated for credit. Billings and Staff.

599. THESIS COURSE FOR GRADUATES.
Fee to be determined by nature of the problem.

Zoology

101. SURVEY OF ZOOLOGY. A course introducing the fields of zoology and main groups of animals, and emphasizing their relations to human interests and welfare as in the subjects of functioning of the body, disease, evolution, and heredity. Laboratory study of different animal types. Designed for general students.

First semester. Two lectures; one laboratory period. Three credits. Fee $5. Richardson and Staff.

Zoology 101 and 103 cannot both be taken for credit.

103. GENERAL ZOOLOGY. An introductory course dealing with the general principles of animal biology. The laboratory work consists of the study of the structure and habits of species representing the principal animal groups.

Second semester. Two lectures; two laboratory periods. Four credits. Fee $5. Richardson and Staff.

Zoology 101 and 103 cannot both be taken for credit.

209. 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. *First semester. Three lectures; two laboratory periods. Five credits.* Fee $10. Richardson.

211. HUMAN ANATOMY. Designed primarily for the physical education, nursing, and medical technologist curricula. Mostly gross anatomy, but with some microscopic work. Laboratory work consists of the human skeleton, dissection of the cat, and parts from other mammals.

Prerequisite: Zoology 101 or 103. *First semester. Two lectures; two laboratory periods. Four credits.* Fee $10. Jones.

322. PARASITOLOGY. An introductory study of disease-producing animals of medical, veterinary and wildlife importance.

Prerequisite: Zoology 103. *First semester. Two lectures; one laboratory period. Three credits.* Fee $5. LaRivers.

333. FISHES, AMPHIBIANS, AND REPTILES. A course especially designed for field workers, teachers, and naturalists. It includes a study of the classification, variety, habits, and economic importance of fishes, amphibians, and reptiles. Regular field trips are taken for the careful identification and observation of local forms.

Prerequisite: Zoology 103. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. LaRivers.

335. BIRDS. A course especially designed for field workers, teachers, and naturalists. Plan of study similar to Zoology 333.

Prerequisite: Zoology 101 or 103. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Alternates with Zoology 337. Richardson.

337. MAMMALS. A study especially of Nevada mammals, including big game, fur bearing, and predatory species. Plan of study similar to Zoology 333.
Prerequisite: Zoology 101 or 103. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Alternates with Zoology 335. Richardson.

346. PHYSIOLOGY. The functioning of animal bodies, with special reference to human physiology.
Prerequisites: Zoology 103 or 211 and one year of Chemistry. *Second semester. Three lectures; two laboratory periods. Five credits.* Fee $10. Jones.

350. GENETICS.
Same as Botany 350.

355. 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. Two lectures. Two credits.* Alternates with Zoology 463. Richardson.

359. ENTOMOLOGY. An introduction to the principles of entomology: life histories, morphology, physiology and classification of insects and a brief introduction to insect control. Each student will make an insect collection, with appropriate field data, and those desiring to do their collecting the summer preceding the course should make such arrangements during the spring semester.
Prerequisite: Zoology 103. *First semester. Two lectures; two laboratory periods. Four credits.* Fee $10. LaRivers.

364. EMBRYOLOGY. The development of vertebrates, with laboratory work on the frog, chick, pig, and human embryos.
Prerequisite: Zoology 103. Zoology 209 is recommended. *Second semester. Two lectures; two laboratory periods. Four credits.* Fee $5. Jones.

368. HISTOLOGY. A brief survey of the microscopic structure of animal tissues and organs, most of the material being from man and other mammals.
Prerequisites: Zoology 103 and Zoology 209 or 211. *First semester. One lecture; one laboratory period. Two credits.* Fee $3. Jones.

370. MICROTECHNIQUE.
Same as Botany 370.

420. 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.
Prerequisites: Chemistry 101-102, Zoology 333 and 359. A course in

qualitative chemical analysis (Chemistry 122 or 124) is recommended. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $10. LaRivers.

463. 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.

Prerequisites: Zoology 335, 337, and Botany 222. *First semester. Two lectures; one laboratory period. Three credits.* Alternates with Zoology 355. Fee $5. Richardson.

480. 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 limited areas, with special attention to basic field problems in fish and game management, conservation, and agriculture. 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.* Course may be repeated for credit. Staff. 1951, LaRivers and Richardson. Fee to be arranged. Same as Botany 480.

491–492. ADVANCED ZOOLOGY. Special zoological problems. Students specializing in zoology may select some problem for investigation under the direction of the instructor. Library reading, laboratory work, and reports.

Credits to be arranged. Student is limited to a total of eight credits in Zoology 491-492. Fee $5. Staff.

591. THESIS COURSE FOR GRADUATES. Fee to be determined by nature of the problem.

496. ZOOLOGY SEMINAR. The presentation by students of reviews and discussion of assigned reports of research in zoological literature.

Prerequisites: Nine hours of zoology and consent of instructor. *One meeting per week. One or two credits, second semester.* Staff.

Business, See Economics, Business and Sociology

Chemistry

Professors DEMING, MOOSE (Chairman of Department); Associate Professor WILLIAMS; Assistant Professors MORRIS, SEIM; Mr. FALK, Mr. JENSEN.

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. One lecture, two recitations, two two-hour laboratory periods. Four credits. Fee $10. 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.* Fee $10. 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.* Fee $5. 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.* Fee $10. Staff.

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.* Fee $10. Staff.

233. QUANTITATIVE ANALYSIS. A lecture and laboratory course dealing with the fundamental principles and techniques of acurate 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.* Fee $10. Staff.

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. *Second semester. Two lectures; two laboratory periods. Four credits.* Fee $10. Staff.

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.* Fee $5. Morris.

271. PHYSIOLOGICAL CHEMISTRY. A lecture and laboratory course dealing primarily with the compounds of carbon that are essential to physiological processes.
Prerequisite: Chemistry 242. *First semester. Three lectures; two laboratory periods. Five credits.* Fee $10. Morris.

312. ADVANCED INORGANIC CHEMISTRY. A lecture and laboratory course dealing with some of the more difficult chemical reactions and laboratory techniques in the preparation of inorganic substances.
Prerequisite: Chemistry 333. *Second semester. One lecture; two laboratory periods. Three credits.* Graduate credit given with consent of instructor. Fee $10. Moose.

333. ADVANCED ANALYTICAL CHEMISTRY. A lecture and laboratory course designed to give the students a knowledge of some of the more difficult methods of analysis and a familiarity with instrumentation.
Prerequisite: Chemistry 232. *First semester. One lecture; two laboratory periods. Three credits.* Fee $10. Williams.

341–342. ORGANIC CHEMISTRY. A lecture and laboratory sequence dealing with the fundamental principles of the chemistry of carbon and carbon compounds.
Prerequisite: Chemistry 232. *Two lectures; two laboratory periods. Four credits each semester.* Fee $10. Morris.

353. PHYSICAL CHEMISTRY. A lecture course dealing with atomic and molecular structure, and the properties of solutions of electrolytes.
Prerequisite: Chemistry 234. *Three credits. First semester.* Deming.

354. PHYSICAL CHEMISTRY. A lecture course dealing with the properties of gases, liquids, solids, solutions of non-electrolytes, and the Phase Rule.
Prerequisite: Chemistry 234 and one year college calculus and physics. *Three credits. Second semester.* Deming.

355. PHYSICAL CHEMISTRY LABORATORY. A laboratory course designed to accompany the lecture course, 353.
Prerequisite: Same as 353. Must be taken concurrently with or following Chemistry 351. *One laboratory period. One credit.* Fee $5. Deming.

356. PHYSICAL CHEMISTRY LABORATORY. A laboratory course designed to accompany the lecture course, 354.
Prerequisite: Same as 354. Must be taken concurrently with or following Chemistry 354. *One laboratory period. One credit.* Fee $5. Deming.

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-half credit each semester.* Staff.

391. 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. *Either semester. Two laboratory periods. Two credits.* Fee $10. Moose and Staff.

415. 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.* Graduate credit given with consent of instructor. Williams.

443. 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.* Graduate credit given with consent of the instructor. Fee $10. Moose.

455. INTRODUCTION TO CHEMICAL THERMODYNAMICS. A lecture course designed to apply the laws of thermodynamics to the subjects discussed in Chemistry 353 and 354, and derive all equations used in these courses.

NOTE: The combination of courses 353, 354, 355, 356, and 455 constitutes the standard "year" of Physical Chemistry.

Prerequisites: Chemistry 353 and 354. *Two credits. First semester.* 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 362. *First semester. Three credits.* Moose.

462. 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.

Prerequisites: Chemistry 341, 354. *Second semester. Two credits.* Moose.

482. HISTORY OF CHEMISTRY. A lecture course based upon the historical development of the ideas and concepts of the science of chemistry.

Prerequisite: Three years of college chemistry. *Second semester. Two credits.* Deming.

487–488. 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.* Graduate credit given with consent of department chairman. Staff.

497–498. THESIS COURSE FOR UNDERGRADUATES. 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.* Fee $10. Moose and Staff.

514. CHEMISTRY OF THE LESS FAMILIAR ELEMENTS. A lecture course designed to cover the chemistry of the less familiar elements not included in other inorganic chemistry courses.
Prerequisite: Chemistry 415. *Second semester.* Not given concurrently with Chemistry 516. *Two credits.* (Open to seniors with consent of the instructor.) Staff.

516. ADVANCED INORGANIC TOPICS. A lecture course designed to cover advanced topics and recent developments in inorganic chemistry.
Prerequisite: Chemistry 415. *Second semester.* Not given concurrently with Chemistry 514. *Two credits.* (Open to seniors with the consent of the instructor.) Staff.

544. ADVANCED ORGANIC CHEMISTRY. A lecture course of 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 consent of instructor.) Morris.

546. ADVANCED ORGANIC CHEMISTRY. Advanced topics in organic chemistry. A continuation of Chemistry 544. (Not offered concurrently with Chemistry 544.)
Prerequisite: Chemistry 544. *Second semester.* (Open to seniors with consent of the instructor.) Morris.

553–554. ADVANCED PHYSICAL CHEMISTRY. A discussion and laboratory course dealing with special topics in phase rule and electrochemistry.
Prerequisite: Chemistry 455. *One discussion; one laboratory period. Two credits each semester.* (Not given concurrently with Chemistry 555 and 556.) Fee $5. Deming.

555–556. 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. *Two credits each semester.* Deming.

591. THESIS COURSE FOR GRADUATE STUDENTS. Special prob-

lems for research chosen in consultation with some member of the department and carried on under his direction.

Prerequisites: Four years of chemistry and graduation from an approved college. *Either semester. Maximum of six credits.* Fee $5 per credit hour, according to work. Moose and Staff.

Civil Engineering

Professor BLODGETT (Chairman of Department); Assistant Professors BONELL, 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.* Fee $5.

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.* Fee $10.

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. Civil and Mechanical Engineering students enroll for Civil Engineering 367.

Prerequisite: Mathematics 252. *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.* Fee $5.

364. HYDROLOGY. The fundamental principles of hydrology and its related problems of climatology, steam-flow, run-off, 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.* Fee $10.

368. FLUID MECHANICS LABORATORY. A laboratory course designed to exemplify the principles studied in Civil Engineering 367.

Prerequisite: Civil Engineering 367. *One laboratory period. One credit.* Fee $10.

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.

Prerequisites: Mathematics 252 and Civil Engineering 246. *One laboratory period. One credit.* Fee $10.

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 laboratory period. One credit.* Fee $10.

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.

Prerequisites: 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; two drawing room periods. Three credits.*

487. 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.
Prerequisites: 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.
Prerequisites: Civil Engineering 364, 367. *Three credits.*

490. SANITARY ENGINEERING. The collection, treatment, and distribution of storm and domestic sewage and industrial wastes. The Public Health aspects are contemplated.
Prerequisite: Civil Engineering 489. *Three credits.*

491. CONTRACT 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.
Two credits.

492. FOUNDATIONS. A study of the principles and practices of the design and construction of foundations for engineering structures, with an introduction to soil mechanics.
Prerequisites: Civil Engineering 378, 485. *Three credits.*

494. 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.
Prerequisites: Civil Engineering 364, 367, 481, 485. *Three credits.*

510. HYDRAULICS OF OPEN CHANNELS. Elective. An advanced study of the flow of water through open channels.
Prerequisite: Civil Engineering 367. *Two credits.*

511. HYDRAULIC MACHINERY. Elective. The theory, construction, operation, and characteristics of hydraulic turbines, pumps, and other hydraulic machinery.
Prerequisite: Civil Engineering 367. *Two credits.*

514. ADVANCED HYDRAULIC PROBLEMS. Elective. Offers an opportunity for the superior student to undertake detailed studies in the field of hydraulics not dealt with in other courses.
Prerequisite: Civil Engineering 367. *Credits to be arranged.*

520. ADVANCED STRUCTURAL DESIGN. Elective. 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.
Prerequisites: Civil Engineering 484, 486. *Three credits.*

521. ADVANCED STRUCTURAL DESIGN. Elective. A continuation of Civil Engineering 520 affording the superior student an opportunity for specialized study in the field of structural design and stress analysis.
Prerequisite: Civil Engineering 520. *Credits to be arranged.*

524–525. SPECIAL ENGINEERING PROBLEMS. Elective. This makes catalogue provision for 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.

591. GRADUATE RESEARCH OR THESIS. This course makes catalogue provision for 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

Professor WEBSTER (Chairman of Department); Assistant Professor PLUMLEY; Mr. AXILROD, Mr. BARSALOU, Mr. HOYT, Mr. JAMES, Mr. SHELLEY.

Economics

107. ECONOMIC GEOGRAPHY. Resources and industries of the

world with special reference to their bearing on geographic specialization and international trade.
First semester. Two credits. Open to freshmen. Staff.

110. ECONOMIC HISTORY OF THE UNITED STATES. Introductory historical treatment of the economic development of America.
Second semester. Two credits. Open to freshmen. Staff.

201. PRINCIPLES OF ECONOMICS. An introduction to economic theory. A discussion of economic problems together with economic principles applicable to their solutions.
Prerequisite: Sophomore standing. *Either semester. Three credits.* Staff.

202. PRINCIPLES OF ECONOMICS. A continuation of economics 201.
Either semester. Three credits. Staff.

203. ECONOMICS FOR ENGINEERS. Consideration of economic problems and principles with special emphasis on the engineering point of view. College of Engineering students only.
First semester. Three credits.

218. CONSUMER ECONOMICS. A study of the consumer from the standpoint of family buying and financial management, marketing and income distribution. No credit to students who have credit in Economics 201 or 203.
Second semester. Three credits.

351. PUBLIC FINANCE. Public expenditures and sources of public revenue.
Prerequisite: Economics 201-202. *First semester. Three credits.*

352. STATE AND LOCAL FINANCE. Public revenue and expenditures on the State and local basis.
Prerequisite: Economics 351 or Economics 357. *Second semester. Two credits.*

353. MONEY AND BANKING.
Prerequisite: Economics 201-202. *First semester. Three credits.* Plumley.

354. GOVERNMENTAL REGULATION OF INDUSTRY. The development, organization, characteristics and legal status of public service enterprises.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

356. INSURANCE.
Prerequisites: Economics 201-202, Business 241. *Second semester. Two credits.* (Offered in even-numbered years.) Plumley.

357. ADVANCED ECONOMIC THEORY.
Prerequisite: Economics 201-202. *First semester. Three credits.*

358. INTERNATIONAL TRADE. Theory of international trade. Tariffs and tariff history.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

361. STATISTICAL METHODS. Elementary statistical methods as used in business and in the social sciences.
Either semester. Two lectures and one laboratory period per week. Three credits. Plumley.

362. TRANSPORTATION. The growth and development of transportation in the United States with emphasis on bases of rate structures and regulation.
Prerequisites: Economics 201-202. Business 241. *Second semester. Two credits.* (Offered in odd-numbered years.) Plumley.

363. ECONOMIC HISTORY OF EUROPE. The economic background of national and international development during ancient, medieval and modern times.
First semester. Two credits.

365. 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.* Plumley.

366. SPECIAL LABOR PROBLEMS. Employer-employee relationships, unemployment compensation.
Prerequisite: Economics 365. *Second semester. Three credits.* Plumley.

373. BUSINESS CYCLES.
Prerequisite: Economics 201-202. *First semester. Three credits.* Plumley.

492. HISTORY OF ECONOMIC THEORY.
Prerequisite: Economics 201-202. *Second semester. Three credits.*

Business

241. FUNDAMENTALS OF BUSINESS ORGANIZATION. An introductory survey of problems and methods of business administration.
Prerequisite: Sophomore standing. *Either semester. Three credits.* Hoyt.

243–244. ELEMENTARY ACCOUNTING. Accounting theory and practice. Problems and practice sets.
Prerequisite: Sophomore standing. *Two lectures and one laboratory period per week. Three credits each semester.*

247. 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.

353. OFFICE MANAGEMENT. A study of general clerical and office practice, includes a study of filing, general business forms,

procedures governing the handling of mail, duplicating machines, general business machines.
First semester. Two credits. (Offered in even-numbered years.)

355–356. ADVANCED ACCOUNTING. Advanced theory of accounts and its application. Selected problems and readings.
Prerequisite: Business 243-244. *Three credits each semester.*

363. REAL ESTATE. Principles of real property ownership and real estate practice. Property management, subdividing and developing, zoning and its effects.
First semester. Two credits. (Offered in odd-numbered years.)

365. ADMINISTRATION OF FINANCE. Principles and problems of financing business enterprises.
Prerequisite: Business 241. *First semester. Three credits.*

366. INDUSTRIAL MANAGEMENT. Internal organization and control of different forms of business enterprises.
Prerequisite: Business 241. *Second semester. Three credits.*

367. PERSONNEL MANAGEMENT. Selection, placement, and efficiency of personnel. Employer-employee relationships.
Prerequisite: Business 241. *First semester. Two credits.*

368. MARKETING. A study of distribution methods and costs together with advertising and sales promotion methods.
Prerequisites: Economics 201-202, Business 241. *Second semester. Three credits.*

370. INVESTMENTS. Selection, appraisal, and shifting of capital investments.
Prerequisites: Business 241, Business 365, Economics 201, 202. *Second semester. Three credits.* Plumley.

371. MERCHANDISING. Operation of retail stores treating specifically store organization, lay-out, and principles of salesmanship and customer service.
First semester. Two credits.

372. ECONOMICS OF ADVERTISING. Methods of evaluation, criticism, purchase and control of advertising by the business man; social and economic aspects of advertising; organization and research in advertising; selection of media and planning of campaigns; social control of advertising. (Psychology 381 recommended.)
Second semester. Two credits.

374. ADVANCED BUSINESS LAW. An advanced course in business law for those who are specializing in a preparation for business.
Prerequisite: Business 247. *Second semester. Three credits.* Skinner.

385–386. COST ACCOUNTING. A comprehensive study of all elements of manufacturing cost accounting.
Prerequisite: Business 243-244. *Three credits each semester.* Staff.

388. FEDERAL TAX ACCOUNTING. Study of the history of the Federal income tax; Federal revenue Acts and their interpretation. Actual preparation of individual, partnership and corporation income tax returns, important Treasury Department decisions on income tax problems.
Prerequisite: Business 243-244. *Second semester. Two credits.* Staff.

492. AUDITING. The principles and practice of auditing. Practice problems.
Prerequisite: Business 243-244. *Second semester. Three credits.* Staff.

Sociology

102. SOCIAL PROBLEMS. The major problems of modern social life and their remedies.
Either semester. Three credits.

201. PRINCIPLES OF SOCIOLOGY. The fundamentals of social processes and evolution.
Prerequisite: Sophomore standing. *Either semester. Three credits.*

350. RURAL SOCIOLOGY. Rural life and problems with special reference to Nevada conditions.
Second semester. Two credits. Webster.

352. JUVENILE DELINQUENCY. Causes, conditions and prevention of juvenile crime.
Second semester. Two credits. Webster.

357. CULTURAL ANTHROPOLOGY. Primitive cultures as a basis for modern social organization.
First semester. Two credits. Webster.

370. SOCIAL CONTROL. The social processes providing control of behavior.
Second semester. Three credits. Webster.

371. SOCIAL ORGANIZATION. The structure, forms, functions and development of major social groups and institutions.
First semester. Three credits. Webster.

379. RACE PROBLEMS. The social significance of race and racial minorities.
First semester. Two credits. Webster.

380. THE FAMILY. Forms and functions of the family as a social institution. Emphasis on present trends.
Second semester. Two credits. Webster.

381. PUBLIC WELFARE. Emphasis on welfare of children.
First semester. Two credits.

383. POPULATION. The social and economic significance of numbers and quality of population. Migration.
First semester. Two credits. (Offered in even-numbered years.) Webster.

386. METHODS IN SOCIAL WORK. Principles and methods in applied sociology.
Prerequisites: Sociology 102 and 201. *Second semester. Two credits.*

390. METHODS OF GATHERING SOCIOLOGICAL DATA.
Second semester. Two credits. James.

490. ADVANCED SOCIAL THEORY. Emphasis upon modern schools of social thought.
Prerequisite: Sociology 201. *Second semester. Three credits.* Webster.

Education

Professors TRANER (Chairman of Department), BROWN, IRWIN, TITUS, WOOD; Associate Professors RUEBSAM, SCRANTON, WILLIAMS; Assistant Professors HICKMAN, LANGFORD, RUSSELL, SCHAEFER; Mrs. BROWN, Mr. BUNTEN, Mrs. FARRAR, Mrs. JOSLIN, Miss KLAUS, Mr. ROSS.

Kindergarten-Primary Education

117. KINDERGARTEN–PRIMARY EDUCATION. Kindergarten-primary education as a unified experience, emphasizing the history, theory and curriculum.
First semester. Three credits. Ruebsam.

120. SUPERVISED TEACHING IN KINDERGARTEN-PRIMARY GRADES. Opportunity for teaching open to freshmen and sophomores desiring to qualify for the elementary teaching certificate.
Prerequisite: Students enrolled must have completed 15 hours in the University including 8 hours of primary education and must have had or be taking Education 134. *Either semester. Five credits.* Ruebsam.

125. OBSERVATION OF TEACHING. Observation and discussion of specific classroom work in the kindergarten-primary grades.
First semester. One credit. Ruebsam.

134. THE TEACHING OF LANGUAGE ARTS IN THE PRIMARY GRADES. Includes beginning reading, activities, seat work, picture studies, stories, dramatization.
Second semester. Three credits. Ruebsam.

141. CONSTRUCTIVE ACTIVITIES FOR KINDERGARTEN–PRIMARY GRADES. A consideration of the materials by means of which the child organizes and expresses his ideas.
First semester. Two credits. (Given in alternate years beginning in 1947.) Fee $3. Ruebsam.

314. AUXILIARY SUBJECTS IN THE KINDERGARTEN–PRIMARY

CURRICULUM. The contribution of arts and crafts, music, games and rhythms, to the education of the kindergarten and primary child.

Second semester. Two credits. (Given in alternate years beginning in 1948.) Ruebsam.

315. CONTENT MATERIAL IN KINDERGARTEN–PRIMARY GRADES. Study of objectives, methods, and desirable experiences in the fields of arithmetic and social science.

Second semester. Two or three credits. (Given in alternate years beginning in 1947.) Ruebsam.

320. SUPERVISED TEACHING IN KINDERGARTEN-PRIMARY GRADES. Opportunity for teaching open to juniors and seniors desiring to qualify for the elementary teaching certificate.

Prerequisite: Students enrolled must have completed 15 hours in the University including 8 hours of primary education and must have had or be taking Education 134. *Either semester. Five credits.* Ruebsam.

332. LITERATURE IN THE KINDERGARTEN – PRIMARY GRADES. Children's stories and poetry as a background to literature, with practical guidance in selection and teaching; dramatizations, and simple puppetry.

Second semester. Two credits. Ruebsam.

363. EARLY GROWTH AND DEVELOPMENT OF THE SCHOOL CHILD. The factors affecting the physical, motor, intellectual, social, and emotional development of the child through the primary grades. Primarily for teachers in service.

First semester. Two credits. (Given in alternate years beginning in 1948.) Ruebsam.

General Elementary

111. PRINCIPLES OF ELEMENTARY EDUCATION. A discussion of objectives, curriculum and procedures in the modern elementary school and the problems of the elementary school teacher.

First semester. Two credits. Ruebsam.

121. SUPERVISED TEACHING IN THE INTERMEDIATE GRADES. Opportunity for teaching, open to freshmen and sophomores desiring to qualify for the first grade elementary teaching certificate.

Prerequisite: Students enrolled must have completed 15 hours in the University including 8 hours of elementary education of which 4 must be elementary methods. *Either semester. Five credits.*

130. TEACHING SOCIAL SUBJECTS. Emphasis upon all phases of social development of children for democratic living, and particular emphasis on teaching geography and history.

Second semester. Three credits. Langford.

131. THE TEACHING OF ARITHMETIC. Emphasis on diagnostic and remedial treatment of pupil difficulties; content, pupil

readiness to learn arithmetic, and the principal objectives of arithmetic.

Second semester. Two credits.

133. MODERN TRENDS IN ART EDUCATION. Techniques of handling art media—finger paint, clay, easel paint, chalk, water color, etc. Planned especially for elementary school teachers who wish to use new methods in art teaching.

Either semester. Two credits. Fee $5.

135. THE TEACHING OF LANGUAGE. A study of the principles, materials, and methods involved in the teaching of the language subjects in the intermediate and upper grades.

Second semester. Two credits.

136. THE TEACHING OF READING. The improvement of reading ability in the intermediate and grammar grades, the diagnosis of reading difficulties and remedial procedures, and the developing of interest in broad reading for comprehension and pleasure.

First semester. Two credits.

138. TEACHING ELEMENTARY SCIENCE. A course designed to give teachers help in building functional science concepts and how to use science equipment in performing simple experiments.

First semester. Two credits. Langford.

149. TEACHING OF MUSIC. The aims and principles of music teaching in the kindergarten, elementary, and upper grades. Group technique, song leading, interpretation, rhythmic activities. Care of the voice through various periods of development. Music materials, rote exercises for improving pitch defects and tone quality. Music materials, rote songs, unison and descant songs, part songs, records, radio, and methods of approach for the listening period.

First semester. Two credits. Hickman.

186. NONINSTRUCTIONAL PROBLEMS OF THE CLASSROOM TEACHER. Extra-class responsibilities and requirements of the elementary teacher such as reports, records, daily program, types of school furniture, equipment and supplies, school lunches, and community relations.

Second semester. Two credits. Langford.

190. STATE SCHOOL ORGANIZATION AND SCHOOL LAW. The principles of State school organization and school law as revealed by a study of the school code of the State; meets all certification requirements for school law.

Either semester. Two credits. Brown.

321. SUPERVISED TEACHING IN THE INTERMEDIATE GRADES. Opportunity for teaching, open to juniors and seniors desiring to qualify for the elementary teaching certificate.

Prerequisite: Students enrolled must have completed 15 hours in the

University including 8 hours of elementary education of which 4 must be elementary methods. *Either semester. Five credits.* Langford.

323. SUPERVISED TEACHING IN SEVENTH AND EIGHTH GRADES. This course provides opportunity for teaching specific subjects in the seventh and eighth grades. Credits apply to elementary certificates.

Prerequisite: Students enrolled must have completed 15 hours in the University including 8 hours of elementary education of which 4 must be elementary methods. *Either semester. Four or five credits.* Brown.

348. AUDIO–VISUAL AIDS IN ELEMENTARY SCHOOLS. The purpose of this course is to consider the various uses of audio-visual aids available for elementary schools. Study and evaluation of material and equipment. Selection of material for grade levels.

Credit will not be allowed if Education 345 has been taken for credit. *First semester. Lectures and laboratory. Three credits.* Fee $1.50.

388. EDUCATION TESTS AND MEASUREMENTS. The most serviceable tests and scales for measuring the elementary subjects; the course will involve giving and scoring of the tests.

First semester. Two credits. (Given in alternate years beginning in 1948.) Fee $3.

485–486. GUIDANCE AND PUPIL ADJUSTMENT IN THE ELEMENTARY SCHOOL. A study of the fundamental principles and methods of guidance. Emphasis on basic growth concepts, case history, tests, interviews, and questionnaires to discover the mental, physical, social, and emotional needs of elementary school children.

Credit will not be allowed if Education 381-382 has been taken for credit.

Each semester. Three credits.

Secondary Education

303. WORKSHOP IN VOCATIONAL EDUCATION. Summer conferences concerning the curriculum and other problems of vocational home economics, agriculture, and trades and industries, as organized under the direction of the State Department of Vocational Education; for in-service teachers of these subjects.

One credit.

310. PROBLEMS OF SECONDARY EDUCATION. The place and extent of secondary education in our school system; the purpose of education in a democracy; and the organization and content of a curriculum based on that purpose.

First semester. Two credits.

330. TEACHING OF HIGH SCHOOL SOCIAL STUDIES. Treatment of subject matter and materials of high school social studies with particular reference to history and American government.

Second semester. Two credits.

331. TEACHING OF HIGH SCHOOL MATHEMATICS. Selection and organization of subject matter and procedures in teaching.
First semester. Two credits. (Given in alternate years beginning in 1949.) Wood.

335. TEACHING HIGH SCHOOL ENGLISH. Acceptable material and methods in oral and written composition and in literature.
First semester. Two credits.

338. TEACHING OF HIGH SCHOOL SCIENCE. A study of the most suitable subject matter for the various sciences and of methods of teaching.
Second semester. Two credits. Williams.

339. THE TEACHING OF SECRETARIAL SUBJECTS. This course presents a study of the curriculum, methods of teaching, objectives, standards, grading, etc., in the subjects of typewriting, shorthand, and office practice.
Prerequisites: A knowledge of the theory of shorthand and typewriting. *First semester.* (Given in alternate years beginning in 1947.) *Two credits.* Klaus.

340. THE TEACHING OF BOOKKEEPING, GENERAL BUSINESS TRAINING, AND ALLIED SUBJECTS. The curriculum, methods of teaching, objectives, standards, grading, etc., in the teaching of bookkeeping, general clerical practice, consumer education, etc.
First semester. Two credits. (Given in alternate years beginning in 1948.) Klaus.

341. ADMINISTRATION AND ORGANIZATION OF HIGH SCHOOL ATHLETICS. A course covering high school competition in general, methods of organizing athletic associations and administration of same.
Second semester. Three periods each week. Two credits. Scranton.

344. METHODS OF VOCATIONAL EDUCATION FOR ADULTS. Designed for the vocational teacher as a help in methods of organizing, selecting content, and promoting work in adult groups as a part of the teacher's community activities.
Either semester. Three credits. Schaefer.

345. AUDIO–VISUAL AIDS IN SECONDARY SCHOOLS. A study of the function of audio-visual aids in education, showing advantages, limitations, and practical uses of various types of audio-visual aids. Critical appraisal of films, slides, film strips, and transcriptions, operation of equipment and selection of material.
Credit will not be allowed if Education 348 has been taken for credit.
Second semester. Lectures and laboratory. Three credits. Fee $1.50.

347. ORGANIZATION AND ADMINISTRATION OF GIRLS' PHYSICAL EDUCATION. 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. (Identical with Physical Education 347.) *Two credits.*

349. HIGH SCHOOL MUSIC. Practical consideration of problems involved in various phases of high school music. Assembly singing, conduction, choral groups, instrumental groups, etc. Applicant must be a junior or senior taking courses in music. Active participation in band, orchestra, or chorus required.

Second semester. (Same as Music 349.) *Two credits.* Hickman.

381-382. GUIDANCE AND COUNSELING IN SECONDARY SCHOOLS. A study of the history and meaning of guidance and counseling, clinical and group guidance, principles, procedures, and techniques in counseling, and the place of the high school teacher in the guidance program. This course will also include a study of problems in vocational guidance, interests and aptitudes, placement, and the cumulative record.

Credit will not be allowed if Education 485-486 has been taken for credit. *Each semester. Three credits.*

420. SUPERVISED TEACHING IN THE HIGH SCHOOL. Teaching in grades nine to twelve in subjects in which the student is specializing. Required of all candidates for the high school teachers' diploma. Students enrolled must have had or be taking methods courses.

Prerequisite: Students enrolled must have completed 15 hours in the University including 8 hours in secondary education, with at least one methods course and must have adequate preparation in the subjects listed under concentration in secondary education on page 116.

Either semester. Two to six credits. Brown.

444. METHODS OF TEACHING FARM MECHANICS. 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.

First semester. Two credits. Titus.

446. 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 agricultural certificate.

Second semester. Two credits.

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.

448. PROBLEMS IN HOMEMAKING EDUCATION. Curricula, methods of teaching, and 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 the vocational home economics certificate.

Second semester. Three credits. Schaefer.

449. METHODS 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. Schaefer.

471. GENERAL METHODS OF HIGH SCHOOL INSTRUCTION. Various methods of presenting subject matter and such topics as the assignments, school discipline, reviews, motor skills, testing the results of teaching and the teacher's personality. To be taken in the senior year.

First semester. Three credits. Brown.

482. NONINSTRUCTIONAL RESPONSIBILITIES OF THE HIGH SCHOOL TEACHER. Growth and advancement in the profession, ethical responsibilities, satisfactory administration and professional relations.

For seniors only. *Second semester. Two credits.*

General Education

266. ELEMENTARY EDUCATIONAL PSYCHOLOGY. A consideration of the application of psychology to educational problems. Identical with Psychology 266.

Prerequisite: Psychology 201. *Either semester. Three credits.* Irwin.

319. THE ELEMENTARY SCHOOL CURRICULUM. A study of basic, present day, curriculum needs of children with emphasis on philosophy, how children learn, and planning a curriculum reorganization program.

Prerequisite: Students enrolled should have had considerable training in elementary education, including methods courses and practice teaching or experience. *First semester* (Given in alternate years beginning in 1951). *Two credits.* Langford.

351. HISTORY OF EDUCATION. General course. The development of educational thought and practice viewed as a phase of social progress.

Two credits. First semester. (Given in alternate years beginning in 1951.)

352. HISTORY OF EDUCATION IN THE UNITED STATES. A study of factors and conditions which have been influential in the shaping of educational ideals, theories, and practices of present day American education.

Two credits. Second semester. (Given in alternate years beginning in 1951.)

354–355. COMPARATIVE EDUCATION. A comparative study of national ideologies, philosophies, and systems of education in North and South America, Europe, and Japan.

Two credits. Each semester.

363. EARLY GROWTH AND DEVELOPMENT OF THE SCHOOL CHILD. The factors affecting the physical, motor, intellectual, social, and emotional development of the child through the primary grades of school. Primarily for teachers in service.

First semester. (Given in alternate years beginning in 1948.) *Two credits.* Ruebsam.

367. PSYCHOLOGY OF THE ELEMENTARY SCHOOL SUBJECTS. The scientific experiments and investigations relating to learning and teaching of the elementary branches; psychological problems of immediate concern to the teacher in the classroom.

Second semester. (Given in alternate years beginning in 1949.) *Two credits.* Langford.

369. THE EDUCATION OF EXCEPTIONAL CHILDREN. The problems of teaching retarded, gifted, and the physically handicapped child with emphasis on psychology, methods, and evaluation.

First semester. (Given in alternate years beginning 1952.) *Two credits.* Langford.

374. HEALTH INSTRUCTION. See Physical Education 374.

392. THE ADMINISTRATION OF THE ELEMENTARY SCHOOLS. Designed to acquaint teachers, administrators, and prospective principals of elementary schools with such problems as grouping

children for instruction, pupil progress, library services, curriculum, cumulative records, health and community relations.
Second semester. (Given in alternate years beginning in 1950.) *Two credits.* Langford.

421. SUPERVISED TEACHING FOR TEACHERS-IN-SERVICE. Preparation of lesson plans, observation and evaluation of teacher's presentation, reading and discussion on curriculum and method.
Either semester. Three credits. Staff.

Commercial Education

101–102. TYPEWRITING. Touch typing. Rhythm drills; dictation exercises; arrangement of business letters. Students with one year of high school typing may not take Commercial Education 101 for credit. Credit allowed only upon attainment of prescribed production requirements.
Two credits each semester. Fee $5 per semester.

111–112. STENOGRAPHY. Gregg Shorthand. Students must also take Commercial Education 101–102, unless they have had equivalent training. Students who have had one year of high school shorthand may not take this course for credit.
Two credits each semester.

211–212. ADVANCED STENOGRAPHY. Speed and accuracy development in Gregg Shorthand. Study of stenographic duties and techniques essential for business employment.
Prerequisite: Commercial Education 111-112. *Two credits each semester.* Fee $5 per semester.

Graduate Courses

502. INDEPENDENT STUDY FOR GRADUATE STUDENTS. The intensive study of some specific educational problem of particular interest to the student, involving an exhaustive survey of research and previous study, original research, and a written report of the study.
Intended primarily for candidates for the Master's degree. *Two to six credits.* May be repeated for a total of six credits. Members of the Staff.

590. SUPERVISION IN HOME ECONOMICS. Intended for supervisors of student teaching in home economics. Analysis of objectives, techniques, and experiences which promote student-teacher growth.
First semester. Two or three credits. Schaefer.

591. GRADUATE THESIS. Preparation of the thesis for the Master's degree.
Open only to candidates for the M.A. degree in Education. *Credits to be arranged.* Members of the Staff.

Electrical Engineering

Professors S. G. PALMER, SANDORF (Chairman of Department); Associate Professor HENDRIKS; Mr. SEYMOUR.

231–232–233–234. 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.* A fee of $10 per credit may be required, depending on nature of project undertaken.

323. ELEMENTS OF ELECTRICAL ENGINEERING. An elementary course in electric circuits, machinery, electronics, and measurements. Includes lectures and demonstrations. Designed primarily for students not taking electrical engineering, the course will be adapted to needs of the students.

Both semesters. 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.

Prerequisites: 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 prerequisites.

First semester. Two credits. Fee $10.

354. ALTERNATING CURRENT MACHINERY LABORATORY. This course is normally accompanied or preceded by Electrical Engineering 352.

Second semester. Two credits. Fee $10.

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.

Prerequisites: 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.

Prerequisites: Electrical Engineering 355, Mathematics 351. *Second semester. Three 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.* Fee $5.

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. Designed primarily for students not taking Electrical Engineering.
Prerequisite: College Physics. *Either semester. Two credits.*

375. ELECTRICITY IN MINING. The study of the theory and application of electrical equipment commonly used in mining and associated fields.
Second semester. Lectures and laboratory. Three credits. Fee $5.

391–392–393–394. 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. A fee of $5 per credit may be required.

457. ADVANCED ELECTRIC CIRCUITS. A continuation of E. E. 356 including filters, and other networks, and transients in linear systems.
Prerequisite: Electrical Engineering 356. *First semester. Two credits.*

461. ADVANCED ALTERNATING CURRENT MACHINERY. A continuation of Electrical Engineering 352.
Prerequisites: Electrical Engineering 352 and 356. *First semester. Three credits.*

462. ELECTRICAL DESIGN. Study of the fundamental principles underlying the design of electrical equipment. An inspection trip to Hoover Dam is included as part of the course. Lectures and computation periods.
Prerequisite: Electrical Engineering 461. *Second semester. Three credits.* Fee $10.

463. ADVANCED ALTERNATING CURRENT LABORATORY. A continuation of Electrical Engineering 353 and 354, normally accompanied by Electrical Engineering 461.
First semester. Two credits. Fee $10.

464. ADVANCED ALTERNATING CURRENT LABORATORY. A continuation of Electrical Engineering 463.
Second semester. Two credits. Fee $10.

466. 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.
Prerequisites: Electrical Engineering 356 and 368. *First semester. Three credits.*

482. ELECTRICAL COMMUNICATION. The principles of communication by wire and radio, including microphones, loudspeakers, and microwave systems.
Prerequisites: Electrical Engineering 457, 481. *Second semester. Three credits.*

483. ADVANCED ELECTRONICS LABORATORY. A laboratory course normally accompanying Electrical Engineering 481, and having the same prerequisites as the latter.
First semester. One credit. Fee $10.

484. COMMUNICATION LABORATORY. A laboratory course normally accompanying Electrical Engineering 482.
Second semester. One credit. Fee $10.

487–488. SEMINAR. Discussion of technical articles appearing in current periodicals.
Prerequisite: Senior standing. *One credit.*

495–496. THESIS. The subject and its scope must have the approval of the instructor.
One to three credits. A fee of $5 per credit may be required.

English Language and Literature

Professors ELDRIDGE, GRIFFIN, HUME, LAIRD; Associate Professors GORRELL (Chairman of Department), MILLER; Assistant Professors DALEY (on leave), MORRISON, RICHARDS; Mr. DICKINSON (Las Vegas), Mr. GIBBY, Mr. HOUSTON, Mr. SIGWORTH.

Language and Literature

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.

One semester. No credit. 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. In no case may a course be used to meet both first-year and second-year requirements.

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.

135. INTRODUCTION TO SCIENTIFIC LITERATURE. Reading and study of writing on scientific subjects from ancient times to the present.

Three credits. 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.

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.
Three credits each semester. Staff.

253–254. THE DRAMA OF TODAY. The reading of a variety of modern plays as an introduction to drama.
Two credits each semester. Staff.

261. INTRODUCTION TO POETRY. A study of selected poems for the purpose of increasing ability to understand, appreciate, and evaluate poetry.
Three credits. Staff.

267. INTRODUCTION TO THE ESSAY. A study of important English and American essayists and of the essay as a form of literature.
Two credits. 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 405–406.
Prerequisite: The submission of a sample of superior creative work.
Two credits each semester. Staff.

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. Same as Foreign Languages 331–332.
Three 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.
One semester. 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 methodolgy.
One semester. Two credits. Laird.

345–346. THE ENGLISH NOVEL. A study of the development of the novel in England from the eighteenth century to the present.
Three credits each semester. Hume and Gorrell.

355–356. 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.
One semester. Three credits. Laird and Eldridge.

405–406. Continuation of 305–306.
Two credits each semester.

441–442. AMERICAN LITERATURE. English 441 is a survey of the development of American literature from the beginning to the present; 442 is an intensive study of special problems in American literature.
Three credits each semester. Eldridge and Hume.

451–452. 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 special emphasis on Chaucer; 452 is a study of special problems in the period.
Three credits each semester. Laird.

461–462. THE RENAISSANCE. English 461 presents a broad view of English literature from the end of the Middle Ages to the Restoration, with special attention to influences from abroad; 462 considers in detail special topics in literature of the period.
Three credits each semester. Gorrell and Daley.

465–466. SHAKESPEARE. English 465 is a general survey of Shakespearean drama, based upon a study of about fifteen of the dramatist's best known plays; 466 considers some of the less commonly studied plays and special problems of Shakespeare study.
Three credits each semester. Gorrell.

469. MILTON. A study of the representative writings of John Milton.
One semester. Three credits. Hume and Gorrell.

471–472. THE AGE OF REASON. English 471 is a survey of English literature from Dryden to Burke, with attention to continental influences; 472 is a study of special problems in eighteenth-century literature.
Three credits each semester. Hume.

475–476. THE ROMANTIC MOVEMENT. English 475 is a survey of the rise of romanticism in the eighteenth century and its

flowering in the nineteenth, with special attention to the English romantics; 476 studies special problems in the period.
Three credits each semester. Laird.

481–482. THE VICTORIAN AGE. English 481 is a study of the social and artistic movement of the nineteenth century as exemplified in English poetry and prose; 482 is an intensive study of individual writers or problems in the period.
Three credits each semester. Laird and Morrison.

485–486. MODERN LITERATURE. English 485 is a survey of modern writing with emphasis on contemporary American and British literature; 486 is an intensive study of selected figures in modern literature.
Three credits each semester. Eldridge and Hume.

493. SURVEY 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.)
One semester. Three credits. Laird and Staff.

495–496, 497–498. INDEPENDENT STUDY.
Open to junior and seniors specializing in English with permission of the instructor. Hours to be arranged with individual students. *One credit a semester.* Staff.

501–502. SEMINAR.
Open only to graduate students. Hours and credits to be arranged with individual students. Staff.

591–592. THESIS COURSE.
Open only to candidates for a 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.
One credit. May be repeated without credit. Richards.

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.

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. Staff.

221–222. INTERPRETATION. The oral interpretation of the forms of literature with special attention directed to diction.
Two credits each semester. Staff.

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. Staff.

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: English 111-112 or 217-218. *Three credits.* Richards.

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: English 217-218. *One or two credits each semester.* Richards.

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: English 221-222, or the consent of the instructor. *Two credits each semester.*

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.
Two credits each semester. Miller.

327. RADIO SPEAKING. Practice and discussion of radio speaking and production.
Prerequisite: English 111-112 or other elementary work in speech. *Three credits.* Richards.

411. PHONETICS. A study of the phonetics of American English treating with the sounds of the International Phonetics Alphabet, as applied to English. Primary consideration will be

given to the manner in which the speech mechanism produces sounds and integrates them into meaningful patterns, with a brief consideration of physiological and acoustical principles involved in voice production.

Prerequisite: Consent of instructor. *Three credits.* Richards.

412. 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.

Three credits. Richards.

413. PARLIAMENTARY LAW AND PRACTICE. Study and practice of the parliamentary rules and procedure governing deliberative assemblies.

Two credits.

415–416. 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.

Registration with instructor's permission. *Two credits.* Richards.

417. MODERN 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.

419–420. PRE-LEGAL ARGUMENTATION. Study and practice, especially for pre-legal 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.

423–424. HISTORY OF THE THEATER. A study of the development of the theater from its earliest beginning to contemporary theater.

Two credits each semester. Miller.

425–426. PLAY DIRECTING. The reading, study, and production of representative and modern plays, with lectures, readings and reports.

Prerequisite: Consent of instructor. *Two credits each semester.* Miller.

Foreign Languages

Associate Professors GOTTARDI, MELZ (Chairman of Department); Assistant Professors DANDINI, KLINE; Mrs. BROWN, Mrs. GIBBY, Mr. PAOLOZZI, Mr. SORENSON.

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 group meeting per week and individual conferences. *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.

351–352. THE FRENCH NOVEL. Rapid reading of masterpieces of French fiction: Balzac, Sand, Mérimée, Zola, Daudet, etc.
Prerequisite: French 103-104. *Two credits each semester.*

353–354. FRENCH POETRY. A study of the French lyric poets from Villon to contemporary writers.
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.*

357–358. 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.*

359–360. SCIENTIFIC FRENCH. Readings from standard French works on science and from recent numbers of French scientific magazines. This course is particularly recommended to premedical students and to those who intend to specialize in any one of the scientific fields.
Prerequisite: French 103-104. *Two credits each semester.*

369–370. 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.*

371–372. 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.*

381–382. 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 in charge.

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.

351–352. 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.

357–358. 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.*

369–370. GERMAN CLASSICS. Reading and technical study of representative works of Lessing, Schiller, and Goethe.
Prerequisite: German 103-104. *Both semesters. Two credits each semester.*

371–372. 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.

375–376. GOETHE. *First semester:* Der junge Goethe (1749–1775). Poems, *Götz von Berlichingen, Werther, Dichtung und Wahrheit.* Lectures on Goethe and "Sturm und Drang." *Second semester: Faust.* Complete reading of part I. Selected readings and discussions of part II. Lectures on Goethe in Weimar (1775–1832).
Prerequisite: German 103-104. *Both semesters. 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.*

351–352. 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.

381–383. 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. Staff.

103. CICERO. Orations. Study of Roman law and government.
Prerequisite: Latin 102 or two years of high school Latin. *First semester. Three credits.*

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.*

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. (This course is also listed under English.)

351–352. ADVANCED LATIN. Selected readings of Latin prose. History of Latin literature. Composition.
Prerequisite: Latin 104 or four years of high school Latin. *Two credits each semester.*

353–354. LATIN LYRIC POETRY. Horace and Catullus.
Prerequisite: Latin 104 or four years of high school Latin. *Two credits each semester.*

Portuguese

301–302. PORTUGUESE. An intensive rapid reading course in Portuguese based on the language as spoken in Brazil. Grammar, composition, and conversation. Offered only as a free elective and may not be counted in a field of concentration or towards meeting the language requirement.
Prerequisite: Course 103-104 in any romance language or Latin or the equivalent. *Three credits each semester.* Gottardi.

373–374. PORTUGUESE-AMERICAN LITERATURE. This course is based on a study of literary works by Brazilian writers. Discussions of the general cultural, social, and economic phases of Brazilian life are included.
Prerequisite: Portuguese 361-362 or the equivalent. *Two credits each semester.*

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.*

351–352. 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.

357–358. 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.

359–360. "THE ENSAYISTAS." A study of representative critical and esthetic prose revealing Spanish thought from the eighteenth century to modern times.
Prerequisite: Spanish 103-104. *Two credits each semester.* Dandini.

367–368. 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.

369–370. 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.

371–372. 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.*

373–374. 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.

Geology and Geography

Professor GIANELLA (Chairman of Department); Assistant Professors LARSON, LINTZ, SLEMMONS; Mr. KERSTEN.

Geography

101. SURVEY OF WORLD GEOGRAPHY. A study of the natural environment and human use regions of the world and their interrelationships with emphasis on map work and place location.
Either semester. Three credits. Kersten.

103. PHYSICAL GEOGRAPHY. A survey of climatic phenomena, land forms, vegetation, soils, and natural resources with special reference to the significance of these factors on man's activities. Satisfies natural science requirements.
First semester. Three credits. Kersten.

109. CLIMATOLOGY. An outline of climatic elements, and a study of world climates with emphasis on their geographic significance. Satisfies natural science requirements.
Second semester. Three credits. Kersten.

359. GEOGRAPHY OF NORTH AMERICA. A regional analysis of the interrelationships of the physical setting, agriculture, transportation and marketing, mineral industries, and manufacturing. Special emphasis on the United States.
Prerequisites: Geography 101, 103, or by permission. *First semester. Three credits.* Kersten.

455. GEOGRAPHY OF ASIA. An analysis of the natural resources, agriculture, industry, and potential of the Asiatic Countries with special emphasis on China and the Soviet Union. The Soviet Union is dealt with here in its entirety even though it is not wholly on the Asiatic Continent.
Prerequisites: Geography 101, 103, or by permission. *Second semester. Three credits.* Kersten.

461. SPECIAL PROBLEMS IN GEOGRAPHY. Study of selected problems of a geographical nature, including research and written reports.
Prerequisites: Geography 101 or 103, 359. *Either semester. One to three credits; graduate credit arranged.* Kersten.

Geology

101. PHYSICAL GEOLOGY. An elementary study of the forces on or within the earth, dealing chiefly with the dynamic and structural aspects of the subject. The interpretation of topographic maps.
Either semester. Three credits. Staff.

102. HISTORICAL GEOLOGY. An outline of the origin and history of the earth, including the diastrophic changes, stratigraphic

relationships, and the description of the physical geography and life of the successive geological periods with especial reference to the North American continent.

Prerequisite: Geology 101. *Either semester. Three credits.* Larson, Lintz.

211. DETERMINATIVE MINERALOGY. The first few weeks are devoted to elementary crystallography followed by the determination of the more common minerals, chiefly by means of their physical properties.

Prerequisite: Chemistry 101, 102, or the equivalent. *First semester. Two laboratory periods. Two credits.* Fee $5. Slemmons.

212. BLOWPIPE ANALYSIS. The determination of minerals by blowpipe analysis.

Prerequisites: Chemistry 101, 102, or the equivalent, and Geology 211. *Second semester. Two laboratory periods. Two credits.* Fee $5. Slemmons.

214. DESCRIPTIVE MINERALOGY. Lectures and recitations on the classification, characteristic properties, occurrence, association, genesis, and uses of the more important minerals, illustrated by typical specimens.

Prerequisite: Geology 211. *Second semester. Two credits.* Slemmons.

325. ADVANCED MINERALOGY. Advanced study of either blowpipe analysis, crystallography, or the determination of minerals by their optical properties.

Prerequisites: Geology 211, 212, and 214. *Either semester. Two credits.* Additional problems may be taken as 325a, 325b, etc. Fee $3. Slemmons.

351. PETROLOGY. Laboratory study of rocks and rock-forming minerals in hand specimens. Lectures on the character, origin, and classification of rocks.

Prerequisites: Physics 151-152 or 203-204, Geology 101, 102, 211, and 212. *First semester. One lecture; one laboratory period. Two credits.* Fee $3. Slemmons.

352. PETROGRAPHY. Lectures on the genesis of rocks, and the study of thin sections of rock-forming minerals and rocks under the petrographic microscope.

Prerequisite: Geology 351. *Second semester. One lecture; two laboratory periods. Three credits.* Fee $5. Gianella.

354. GEOLOGICAL REPORTS. Study and practice in the preparation, illustration, and oral presentation of geological reports.

Prerequisite: Geology 351. *Second semester. Two credits.* Gianella.

360. ECONOMIC GEOLOGY OF THE NONMETALS. Geology of ground water and the occurrence, distribution, origin, and economic value of other nonmetals.

Prerequisites: Geology 101, 211, 212, and 214. *Second semester. Three credits.* Lintz.

370. FIELD GEOLOGY. Instruction in field methods and investigation of geologic features of several areas. Transportation is provided by the S. Frank Hunt Foundation.
Prerequisites: Geology 211, 212, 214. *First semester. One laboratory period. One credit.* Fee $5. Staff.

382. STRUCTURAL GEOLOGY. A study of the deformation of the earth's crust.
Prerequisites: Geology 102, 211. *First semester. Three credits.* Larson.

388. SEDIMENTATION. A course dealing with the agents and processes that form, transport and deposit sediments. Emphasis is placed on the relation of sediments to mountain building processes.
Prerequisites: Geology 351, 382. *First semester. Three credits.* Larson.

430. PETROLEUM GEOLOGY. Principles of the occurrence and accumulation of petroleum.
Prerequisite: Geology 351. *Second semester. Three credits.* Lintz.

440. GEOMORPHOLOGY. Development and interpretation of the relief features of the earth.
Prerequisites: Geology 101 and 102. *Second semester. Three credits.* Slemmons.

451. ENGINEERING GEOLOGY. An advanced course considering 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 control of erosion and sedimentation by rivers and oceans.
Prerequisites: Geology 101, 351, and 382. *Three to four credits.* Gianella, Scheid.

461. ECONOMIC GEOLOGY OF THE METALS. The geology of ore deposits, including distribution, origin, mode of occurrence, and alteration; with special reference to the more important mining districts of North America.
Prerequisites: Geology 211, 212, 214, and 351 (Geology 352 recommended). *First semester. Three credits.* Gianella.

471. SUMMER FIELD GEOLOGY. (S. F. Hunt Geologic Foundation.) A six-weeks' course in geological field methods. Students will prepare pace and compass and plane table maps with accompanying reports on an area in Nevada.
Prerequisite: Senior standing and/or approval of the department chairman. *Six credits.* Fee (including registration) $75. In addition, $100 to cover cost of board will be assessed in advance. Larson.

477. PALEONTOLOGY. A course in invertebrate paleontology. Emphasis is placed on morphology and the application of paleontology to stratigraphic problems.

Prerequisite: Geology 102. A knowledge of zoology is desirable. *Three credits. Two lectures; one laboratory period. First semester.* Fee $5. Lintz.

478. STRATIGRAPHY. A short course in the stratigraphy of North America. Emphasis is placed on principles and the relationship of stratigraphy to tectonics.
Prerequisite: Geology 477. *Three credits. Second semester.* Fee $3. Larson.

479. GEOLOGY PROJECT. Original investigation of a geologic problem.
Prerequisites: Geology 351, 352, and 360, or equivalent training. *Either semester. Two credits.* Additional projects may be taken as 479a, 479b, etc. Staff.

480. GEOLOGICAL EXPLORATION METHODS. A course in geological surface and subsurface methods.
Prerequisites: Geology 351 and 382, Mathematics 151-152, and Physics 203-204. *First semester. Three credits.* Slemmons.

485. SEMINAR. Library work and reports on topics of geologic interest.
Second semester. One credit. May be repeated for credit as 485a, b, etc. Staff.

579. ADVANCED GEOLOGIC INVESTIGATION.
Credits and fee to be arranged according to work undertaken. *Either semester.* Staff.

591–592. MINERAL INDUSTRY SEMINAR. Same as Mining 591–592.

599. THESIS.
Either semester. Six credits. Fee to be arranged according to work undertaken. Staff.

German, See Foreign Languages

History and Political Science

Professors HICKS (Chairman of Department), SMITH; Associate Professor HUTCHESON; Assistant Professor ELLIOTT; Mr. SHEPPERSON.

History

101–102. UNITED STATES. Colonial times to the present: Social, political and diplomatic.
Three credits each semester. Open to freshmen and sophomores. Hicks, Hutcheson, Elliott.

105–106. EUROPEAN CIVILIZATION. The development of civilization in Europe from the dawn of history to the present.
Open to freshmen and sophomores. *Three credits each semester.* Shepperson.

303. 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. Elliott.

304. 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.
Second semester. Three credits. Elliott.

305. UNITED STATES; CONFLICT, RECONSTRUCTION, AND INDUSTRIALIZATION, 1850–1896. Drifting toward disunion; the Civil War; and reconstruction; urban-industrial America; the Populist Revolt.
First semester. Three credits. Elliott.

306. 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.
Second semester. Three credits. Elliott.

309. 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. 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.
Second semester. Two credits. Elliott.

314. 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. NEVADA HISTORY. From early exploration to the present.
Two credits each semester. Hutcheson.

341–342. AMERICAN CONSTITUTIONAL HISTORY. A narrative and interpretative study of the origin and growth of the institutional forms and principles which have crystallized into the American constitutional system.
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.

371–372. ANCIENT CIVILIZATION. Origins of Western civilization in the Near East, Greece, and Rome: art, culture, society, and politics.
Two credits each semester. Hutcheson.

375–376. 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 enlightment and an examination of its flowering into the Renaissance.
Two credits each semester. Shepperson.

393–394. 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.
Two credits each semester. Hutcheson.

395. 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. 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.
First semester. Three credits. Shepperson.

408. EUROPE SINCE 1914. A detailed study of an age of conflict and its interludes of peace.
Second semester. Three credits. A continuation of 407. Shepperson.

411–412. THE FRENCH REVOLUTION AND NAPOLEON. An intensive study of the great epoch extending from 1789 to 1815.
Two credits each semester.

421–422. HISTORY OF RUSSIA. Foundations of the Russian state and society. The imperial and revolutionary eras.
Three credits each semester.

427–428. EUROPE 1415–1815. An economic, political, social, and intellectual study of the rise, growth, and institutional changes of European states.
Two semesters. Three credits each. Shepperson.

429–430. EUROPE 1815–1914. (A continuation of 427–428.) Shepperson.

431–432. MODERN GERMANY AND AUSTRIA. The problem and achievement of unification; Germany as a world factor.
Three credits each semester.

441–442. LATIN AMERICA. History of Spanish and Portuguese America from the age of discovery to the present: domestic and international.
Two credits each semester. Hicks.

451–452. 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.
Credits arranged. Staff.

501–502. GRADUATE SEMINAR.
Credits arranged. Staff.

591–592. GRADUATE THESIS.
Credits 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. 101, federal government; 102, state and local.
Open to freshmen and sophomores. *Three credits each semester.* Smith.

105–106. COMPARATIVE GOVERNMENT. A study of the frameworks, functions and motivating ideals of various representative democratic and totalitarian governments.
Open to freshmen and sophomores. *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. 201, United States Constitution; 202, Nevada Constitution.
One credit each semester. Not open to freshmen. Staff.

357. 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.
First semester. Three credits. Smith.

369. 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.
First semester. Two credits. Smith.

404. INTERNATIONAL LAW AND ORGANIZATION. The elements of international law, and a study of organizational forms as they relate to international law and procedure.
Second semester. Two credits. Smith.

416. POLITICAL PARTIES. The party system in the United

States; the history, composition, and functions of parties—their organization and methods.
Second semester. Three credits. Smith.

418. PUBLIC PERSONNEL ADMINISTRATION. A study of methods of recruiting, examining, training, and of other techniques utilized in the management of employees in government service.
Second semester. Two credits. Smith.

427. AMERICAN DIPLOMACY. Governmental machinery for the conduct of American foreign relations; traditional policies; current problems and practices; impending changes.
First semester. Two credits. Smith.

431–432. PRINCIPLES OF PUBLIC ADMINISTRATION. Principles and problems of public administration; the budget; forms of administrative action; types of control; administrative law.
Two credits each semester. Smith.

497–498. UNDERGRADUATE SEMINAR.
Credits arranged. Staff.

501–502. GRADUATE SEMINAR.
Credits arranged. Staff.

591–592. GRADUATE THESIS.
Credits arranged. Smith.

Home Economics

Professor SWIFT (Chairman of Department); Associate Professor POPE; Assistant Professors CARROLL, MARSH.

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:

Freshmen	*Sophomore*
Orientation, 103	Food and Nutrition, 250
Foods, 131-132	Care of Family Health, 253
Clothing, 115-116-117	Art and Science of Meal Service, 255
	Nutrition and Health, 334
Junior	*Senior*
Nutrition, 334	Child Development, 475-476
Cookery for Men, 357	Child Guidance, 477-478
Tailoring, 366	Home Management, 486
Family Clothing Problem, 367	Home Decoration, 487
Costume, 368	Household Equipment, 488
	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. Two lectures. Two credits. Swift.

115. CLOTHING. A study of the college girl's budget, good grooming, clothing selection and construction of garments made by hand and machine.
First semester. One lecture; two laboratory periods. Three credits. Fee $5. Pope.

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.
First semester. Two lectures; one laboratory. Three credits. Fee $5. Pope.

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. Fee $5. Pope.

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 breakfasts and lunches.
First semester. One lecture; two laboratory periods. Three credits. Fee $10. 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. Fee $10. Staff.

133. NUTRITION FOR THE COLLEGE STUDENT. Relation of food to physical fitness.
First semester. Three credits. Fee $3. Marsh.

250. FOOD AND NUTRITION. Designed for the prenurse. This course deals with food preparation, service and applied nutrition.
Second semester. Alternate years. Two lectures; one laboratory. Three credits. Fee $5. Marsh.

253. CARE OF FAMILY HEALTH. A study of State and Community Agencies building good-health programs and care of health in the home.
First semester. Two lectures; one laboratory. Three credits. Fee $3. Marsh.

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: 131-132 or equivalent. *One lecture; three laboratory periods. Four credits.* Fee $15. Swift.

334. 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. Given 1952. Three credits. Fee $3. Marsh.

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. Fee $10. Marsh.

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. Fee $5. Pope.

367. THE FAMILY CLOTHING PROBLEMS. Study of wardrobe needs of the family and problems relating to purchase, care and construction of the family clothing.

First semester. One lecture; two workshops. Three credits. Fee $5. Pope.

368. COSTUMING. Application of color and design to creative costuming. Helpful to students in physical education and the elementary grade teacher.

Second semester. Two lectures. Two credits. Given alternate years. Offered 1950. Pope.

402. HOME ECONOMICS SEMINAR.

Second semester. Two credits. Hours to be arranged. Staff.

436. DIET THERAPY. A study of the adaption of diet in disease in which nutrition is a primary concern. Continued application of material in 334. For nutrition majors.

Second semester. Offered alternate year with 334. Two lectures; one laboratory. Three credits. Fee $3. Marsh.

475. 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. CHILD DEVELOPMENT. 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. CHILD GUIDANCE. Child guidance based on actual experience with the preschool group.

First semester. One lecture; one laboratory. Two-four credits. Fee $3. Carroll.

478. CHILD GUIDANCE. Child guidance based on actual experience with the preschool group.
Second semester. One lecture; one laboratory. Two-four credits. Fee $3. Carroll.

483–484. SPECIAL PROBLEMS IN FOODS. Field work for seniors or graduates.
Hours to be arranged. Three credits. Fee $10. Swift.

486. HOME MANAGEMENT. This gives men and women an opportunity to study family goals and choices, the wise use of time, skills, and kitchen arrangement; the limitations and uses of family income; the scientific attitude for the present and future security.
Second semester. Three credits. Marsh.

487. HOME DECORATION. A study of house plans, suitable furnishings, with appreciation of art principles. Cost and care of furnishings and accessories. Field trips.
First semester. One lecture; two laboratory periods. Three credits. Fee $3. Pope.

488. HOUSEHOLD EQUIPMENT. Selection of household equipment. Points of construction, operation, cost, care and repair.
Given in alternate years. Offered 1951. Second semester. One lecture; one laboratory. Two credits. Fee $3. Pope.

491. EDUCATION FOR FOODS AND NUTRITION MAJORS. This course meets the requirements of the American Dietetic Association.
Given alternate years. Offered 1952. First semester. Three credits. Swift.

494. EXPERIMENTAL COOKERY. Development of experimental methods; application to investigations in cookery. Preparation for independent investigation.
Prerequisites: Home Economics 131, 132. *Second semester. One lecture; one laboratory. Two credits.* Fee $18. Swift.

495. SPECIAL PROBLEMS IN CLOTHING. Field work for seniors or graduates.
Second semester. Hours to be arranged. Three credits. Fee $5. Pope.

496. QUANTITY COOKERY. Meal planning, food production, purchasing and service for large groups.
Prerequisites: Home Economics 131, 132. *Offered 1952. Second semester. One lecture; two laboratory periods. Three credits.* Fee $10. Marsh.

498. INSTITUTION ORGANIZATION AND MANAGEMENT. A study of equipment, furnishings, floor plans, cost control, personnel, labor and sanitation laws governing food preparation in institutions.
Offered 1592. Second semester. Three credits. Marsh.

499. DEMONSTRATION. Principles and techniques for commercial and classroom demonstrations. Audiences—campus and community.

First semester. One lecture; two laboratory periods. (Given in alternate years.) *Three credits.* Fee $15. Swift.

Horticulture, See Plant Industry

Italian, See Foreign Languages

Journalism

Professor HIGGINBOTHAM (Chairman of Department); Assistant 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, Radio Station KWRN, 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.

Prerequisites: Sophomore standing and the consent of instructor. *Three credits each semester.* Janulis.

231–232, 361–362, 491–492. ADVANCED INTERPRETATION OF THE DAY'S NEWS. Study and interpretation, upon 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. *Both semesters. One or two credits each semester.* Higginbotham and Janulis.

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.

Prerequisites: Journalism 221-222 and the consent of the instructor. *Two or three credits each semester.* Janulis.

353. 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. *Three credits.* Higginbotham.

354. 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. *Three credits.* (Alternate years.) Higginbotham.

356–357. ADVERTISING AND ADVERTISEMENT COPY WRITING. Study of the principles of advertising (first semester) and their practical application in the writing of copy for newspapers, magazines, and radio stations (second semester).

Open to juniors and seniors. *Two credits each semester.* (Alternate years.) Janulis.

365–366. 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. *Two credits each semester.* (Alternate years.) Janulis.

367. 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 and the consent of the instructor. *Two or three credits.* (Alternate years.) 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 and demonstrated skill in writing. *Two credits.* (Alternate years.) Janulis.

370. AGRICULTURAL JOURNALISM. The writing of news stories and feaure articles on agricultural 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. *Two or three credits.* (Alternate years.) Janulis.

372. 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. *One or two credits.* Higginbotham.

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. *Two credits.* (Alternate years.) Janulis.

379. 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 the consent of the instructor. *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. *Two or three credits.* (Alternate years.) Janulis.

387. 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 in English preparing to teach in Nevada high schools.

Not acceptable for the field of concentration in journalism or the four-year Course in Journalism. *Two credits.* (Alternate years.) Janulis.

393–394, 395–396. INDEPENDENT STUDY. Aspects of journalism not covered by other courses.

Open only to juniors and seniors in the Course in Journalism or in the field of concentration in journalism who have attained an average grade of B in all their work. Hours to be arranged with individual students. *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; or news or advertising work with Radio Station KOH or Radio Station KWRN.

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. Open to sophomores, juniors, and seniors in the College of Arts and Science. 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.

Either semester. Two credits. Hill.

Mathematics and Mechanics

Professors HARRIS, WOOD; Associate Professor BEESLEY (Chairman of Department); Assistant Professors DAVIS, DEMERS; Mrs. VAN DYKE.

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.

Prerequisite: A knowledge of calculus is prerequisite to all mathematics courses numbered above 300 except 371, 372 and 391.

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. Credits acquired in this course cannot be used to fulfill the credit requirements for graduation in any of the colleges.

Each semester. Four credits. Van Dyke.

B. PLANE GEOMETRY. This course carries no university credit but may be used to remove entrance deficiencies.

Not offered in 1952-1953.

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.

Prerequisites: Plane geometry and one unit of high school algebra. *Each semester. Two credits.* Staff.

110. COLLEGE ALGEBRA. Progressions, binomial theorem, loga-

rithms, 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.

Prerequisites: Mathematics 110, 102. *Second semester. Three credits.* Davis.

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 is 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.

Mathematics 151, *first semester, five credits.* Mathematics 152, *second semester, five credits.* Staff.

202. Spherical Trigonometry. A study of the spherical triangle with applications in astronomy and navigation. This course will furnish a background for study of modern methods in celestial navigation.

Prerequisite: Mathematics 102. Offered when requested by a sufficient number of students. *Two credits.*

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 Mathematics 210 and the instructor's permission. *Second semester. Three credits.* Offered when requested by a sufficient number of students. Davis.

231–232. Differential and Integral Calculus. The elements of the calculus with applications. Designed for students in the College of Arts and Science.

Prerequisites: Mathematics 110, 102, 140, or Mathematics 151-152. Mathematics 231, *first semester, three credits.* Mathematics 232, *second semester, three credits.* Staff.

241–242. CALCULUS. A unified course in differential and integral calculus, with special emphasis upon the applications. Required of all engineering students in the Mackay School of Mines.

Prerequisite: Mathematics 151-152. Mathematics 241, *first semester, three credits.* Mathematics 242, *second semester, three credits.* Staff.

251–252. ENGINEERING CALCULUS. A more extensive course than Mathematics 241–242. Required of all students in the College of Engineering. Other engineering students who plan to take mathematics courses beyond Mathematics 342 should substitute this for Mathematics 241–242.

Prerequisite: Mathematics 151-152. Mathematics 251, *first semester, four credits.* Mathematics 252 *second semester, four credits.* Beesley and Staff.

290. SURVEY. Assigned reading and reports on topics of mathematical interest not covered in the usual courses. The group will meet weekly for presentation and discussion of reports. Open to students who have a definite interest in mathematics and who, in the opinion of the Staff, possess sufficient background to undertake the work.

One-half credit each semester. May be repeated for credit as 290a, 290b, and 290c. Staff.

301. HISTORY OF MATHEMATICS. Lectures and assigned readings on the history of mathematical science. Recommended for students preparing to teach mathematics in high school. Cannot be used for graduate credit.

First semester. Two credits. Not offered in 1952-1953.

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.

Prerequisites: Mathematics 242 or 252; Physics 203. Mathematics 341, *first semester, three credits.* Mathematics 342, *second semester, two credits.* Harris.

351. DIFFERENTIAL EQUATIONS. A study of techniques for the solution of ordinary differential equations with emphasis on geometrical and physical applications.

First semester, two credits. Davis.

352. 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. 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.

First semester, three credits. Given in alternate years. Not offered in 1952-1953. Davis.

372. 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. Three credits.* Given in alternate years. Not offered in 1952-1953. Davis.

391–392. 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.

Mathematics 391, *first semester, two credits.* Mathematics 392, *second semester, two credits.* Given in alternate years. Offered in 1952-1953. Beesley.

401–402. PROJECTIVE GEOMETRY. The synthetic development of the more fundamental projective properties of conic sections, including also an elementary treatment of involutions, anharmonic ratios, and the principle of duality.

Mathematics 401, *first semester, two credits.* Mathematics 402, *second semester, two credits.* Not offered in 1952-1953.

425. 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. 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 550a, 550b, 550c. Except under special circumstances, total credits will be limited to four.

591. THESIS COURSE FOR GRADUATE STUDENTS.
Six credits. Staff.

COLLOQUIM. Bi-weekly meetings are held for the presentation of original work by members of the staff and by graduate students as well as for the study of known results taken from mathematical literature.

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. Required of all engineering students. *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.

Prerequisites: 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.

Prerequisites: Physics 203 and 204 and Mathematics 251 and 252. *First 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.

Prerequisites: Physics 203 and 204, Mathematics 251 and 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.

Prerequisites: Mathematics 341-342; Civil Engineering 376; Mechanical Engineering 351. *First semester. Three credits.*

458. MACHINE DESIGN. A continuation of M. E. 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. 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.* Fee $15.

464. MECHANICAL ENGINEERING LABORATORY. Use and calibration of instruments; study of oils; calorimetry; presentation of data and the writing of reports.

Prerequisites: Mechanical Engineering 355 and 356. Required of all Mechanical Engineering students. *First semester. Two credits.* Fee $15.

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. Required of all Mechanical Engineering students. *Second semester. Two credits.* Fee $15.

471. HEAT-POWER ENGINEERING. Power plants, fuels, combustion, steam generators, turbines, and steam generator accessories.
Prerequisite: Mechanical Engineering 356. *First semester. Two credits.*

472. 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. 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.
Prerequisites: Mathematics 341-342, Mathematics 351, Physics 203-204, Civil Engineering 376. *Second semester. Three credits.*

477. 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.
First semester. Two credits. Fee $10 per credit.

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. *First semester. One or two credits.* Fee $10 per credit.

207. MACHINE SHOP. An advanced course in general machine work for students wishing to develop projects in connection with thesis or special work.
Prerequisite: Mechanic Arts 203. Also for students desiring to fill in a program in which case the work will consist of problems arising in the repair and maintenance of laboratory and shop equipment. *First semester. One or two credits.* Fee $10 per credit.

220. WELDING AND HEAT TREATING. Shop practice in oxy-

acetylene and electric arc welding, stress relieving, annealing, and heat treating.

First semester. One credit. Fee $15.

226. MANUFACTURING PROCESSES. A study of processes, machines, and tools used in manufacturing. Demonstrations and visual aids are used.

Second semester. One credit. Fee $10.

Metallurgy

Professors W. S. PALMER (Chairman of Department), SMYTH; Assistant Professor HAMMOND.

204. INTRODUCTION TO METALLURGY. Fundamental principles relating to the properties, uses, and production of metals and alloys. Emphasis upon such topics as thermochemistry, combustion, heat transfer, calorimetry, pyrometry, refractories, slags, and the general application of scientific principles pertaining to the practices in the field of metallurgy.

Prerequisites: Chemistry 102 and 242; Physics 151 or 203. *Second semester. Two credits.* Smyth.

206. ENGINEERING MATERIALS AND PROCESSES. For students of electrical and mechanical engineering. A general course stressing properties of metals, theory and use of alloys, heat treatment, corrosion, pyrometry, production of ferrous metals, and shaping metals.

Prerequisites: Chemistry 101, Physics 203. *Second semester. Two credits.* Nelson.

341. PYRO-METALLURGY LABORATORY. Lectures and laboratory work in theory and practice of fire assaying, fuels, combustion, roasting, and smelting.

Prerequisites: Geology 212, Chemistry 232. *First semester. One lecture; three laboratory periods. Four credits.* Fee $20. Smyth and Nelson. Students who do not complete their laboratory work during the regular periods are required to pay an additional fee to cover the extra cost of such work. This fee will be $1 per laboratory period for each period the furnaces are used, plus the cost of any chemicals and supplies used.

356. PRINCIPLES OF PHYSICAL METALLURGY. A study of the structure and properties of metals and alloys. The fundamentals of heat treatment, equilibrium diagrams, plastic deformation, and other subjects concerned with alloys and their properties. Metallographic techniques, corrosion, and the shaping and forming of metallic materials.

Prerequisite: Metallurgy 204. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Palmer.

357. PHYSICAL METALLURGY. A continuation of Metallurgy 356. The study of ferrous and nonferrous alloys based on the fundamentals of physical metallurgy. Special emphasis is given to heat treatment and many related topics such as pyrometry and heat transfer.

Prerequisite: Metallurgy 356. *First semester. Two lectures; one three-hour laboratory. Three credits.* Fee $5. Palmer.

358. FERROUS METALLURGY. Lectures and recitations on the principles and practice of producing iron and steel, the properties and uses of the ferrous metals, the iron-carbon diagram, mechanical and heat treatment of steel, and alloy steels.

Prerequisite: Metallurgy 204. *First semester. Two credits.* Smyth.

366. ORE DRESSING. A course devoted to the theory and practice related to the principles of preparation and concentration of ores including crushing, grinding, classification, gravity and magnetic concentration, and flotation.

Prerequisites: Metallurgy 204, Geology 212 and 214. Course to be taken only with Metallurgy 368. *Second semester. Two credits.* Hammond.

368. ORE DRESSING LABORATORY. A laboratory course to be taken with Metallurgy 366. General practice in the use of ore dressing equipment; test work including screen analysis, classification, gravity concentration, and flotation.

Prerequisites: Chemistry 232, Metallurgy 341. *Second semester. Two laboratory periods. Two credits.* Fee $10. Hammond.

461. PYRO-METALLURGY. A course devoted to the theory and practice of extracting and refining common nonferrous metals by fire methods, including problems related to the operations. The chief metals covered will be copper, lead, zinc, mercury, and nickel.

Prerequisites: Geology 211 and Metallurgy 204 and 341. *First semester. Three credits.* Palmer.

462. METALLURGY OF THE MINOR AND RARE METALS. Metallurgy of minor and rare metals including the following: Antimony, arsenic, aluminum, bismuth, molybdenum, platinum, tin, and tungsten.

Prerequisites: Metallurgy 461 and 471. *Second semester. One credit.* Palmer.

468. ADVANCED ORE DRESSING LABORATORY. This is a continuation of Metallurgy 368 with emphasis on the flotation and gravity concentration of the nonmetallic minerals and a consideration of the more recent advances in this field of ore dressing.

Prerequisite: Metallurgy 368. *Second semester. Two laboratory periods. Two credits.* Fee $10. Hammond.

471. HYDRO-METALLURGY. Course covers the various hydrometallurgical methods used in the recovery and refining of the

metals gold, silver, copper, lead, and zinc, and problems connected with these operations.

Prerequisites: Metallurgy 341 and 366, Chemistry 232. *First semester. Two credits.* Fee $5. Hammond.

472. ELECTROMETALLURGY. Lectures and problems dealing with the principles and practice of electric smelting and the electrolytic processes involved in the metallurgy of the common and precious metals.

Prerequisites: Metallurgy 461 and 471. *Second semester. Two credits.* Palmer.

473. HYDRO-METALLURGY LABORATORY. Laboratory exercises on the various hydro-metallurgical methods used in the recovery of gold, silver, copper, lead, and zinc from their ores.

Prerequisite: To be taken only with Metallurgy 471. *First semester. One credit.* Fee $5. Hammond.

476. PROBLEMS AND SEMINARS. Mathematical and economic study of metallurgical processes and plants and discussion of metallurgical literature.

Open only to students after they have completed metallurgical subjects to the second semester of the senior year. *Second semester. Two credits.* Smyth.

479, 480, 481. PROJECT. Two laboratory periods weekly devoted to individual problems in metallurgy. Stress is placed upon amplifying the subject matter of previous metallurgy courses, and in the methods of searching for, summarizing, and presenting the data gathered and worked out.

Prerequisite: Metallurgy courses to the senior year and taken with Metallurgy 461 and 471. *Both semesters. Two credits.* Fees: $5 for library project, $10 for laboratory project. Palmer and Hammond.

591–592. MINERAL INDUSTRY SEMINAR. Same as Mining 591–592.

Military Science and Tactics

Prof. Lt. Col. LOEWUS (Chairman of Department); Assistant Professors Capt. BASTA, Lt. BRAMBILA, Lt. LEMBERES; M/Sgt. BYRD, SFC BRUNETTI, SFC DRIVER, M/Sgt. GRADY, SFC GRIFFIN, M/Sgt. HEIL, M/Sgt. MCFEATERS.

101–102. FIRST YEAR BASIC INFANTRY. Two hours drill and two hours conference per week. Required of all first-year men not specifically exempted.

Military 101 is not a prerequisite for Military 102. Military 101, *first semester.. One credit.* Military 102, *second semester. One credit.* Deposit to insure texts and equipment, $5; to insure military uniforms, $15.

201–202. SECOND YEAR BASIC INFANTRY. Two hours drill and two hours conference per week.

Military 201 is not a prerequisite for Military 202. Military 201,

first semester. One credit. Military 202, *second semester. One credit.* Deposit to insure texts and equipment, $5; to insure military uniforms, $15.

301–302. First Year Advanced Infantry. Five hours conference per week. These are the first two numbers of an elective group consisting of 301, 302, 303, 401 and 402, which must be taken in that order. 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. Initial enrollments at midyear are not accepted.

Prerequisites: Military 101, 102, 201, and 202, or their equivalent. Military 301, *first semester. Three credits.* Military 302, *second semester. Three credits.*

303. Infantry Camp. All who take advanced Infantry training are required to attend a six-week summer camp immediately following 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 Infantry. Two hours drill and three hours conference per week.

Prerequisites: Military 301, 302, 303; except that selected veterans in their senior year and selected nonveterans in their senior year may enroll in 303, 401, 402, and be commissioned upon satisfactorily completing the course. Military 401, *first semester. Three credits.* Military 402, *second semester. Three credits.*

Military Band. The University Band functions as an ROTC Band by participating in ceremonies and other formations as needed. A student enrolled in Military 101, 102, 201, 202, may substitute band training for the two weekly drill periods for either one of the two years basic training provided prior approval is obtained from the department chairman. Band training is not acceptable as a substitute for any part of the work in advanced military courses. For each semester in which he substitutes band for drill, the student may receive one credit in military training and one-half credit in band.

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 one month, and a satisfactory report must be prepared upon it.

Freshman, sophomore, or junior vacation. Required for graduation. No credit.

101. INTRODUCTORY MINING. Lectures designed to orient the student to college life and to interest him in the mineral industry. *First semester. One credit.* Staff.

351. EXCAVATION. The principles and practice of earth and rock excavation; including drills, explosives, quarrying, tunneling, shaft sinking, and boring.
Prerequisites: Physics 203, Chemistry 101 and 102. *First semester. Three credits.* Nelson.

352. MINE PLANT. The principles and practice of underground and surface haulage, hoisting, air compression, and mine drainage.
Prerequisites: Physics 203 and 204. *Second semester. Three credits.* Nelson.

453. 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 352. *Two laboratory periods. Two credits.* Nelson.

461. MINING METHODS. The prospecting, development, and exploitation of mineral deposits with stress on underground metal mining methods.
Prerequisite: Mining 351 and 352, or permission of instructor. *First semester. Three credits.* Nelson.

470. NONMETALLICS. Mining, preparation, and sale of nonmetallic minerals; stressing those of importance in Nevada and the Pacific Coast states.
Prerequisite: Geology 211 and 212. *Second semester. Three credits.* Smyth.

472. MINE ADMINISTRATION. Administrative problems including organization of staff, Federal and State laws, social security measures, welfare, wages, power, and supplies.
Prerequisite: Mining 351 or 461. *Second semester. Three credits.* Smyth.

473. PLACER MINING. Lectures on occurrence, sampling, and exploitation of placer deposits; including dry, hydraulic, and dredging methods.
Prerequisite: Mining 351 or permission of instructor. *First semester. Two credits.* Smyth.

474. MINERAL INDUSTRY ECONOMICS. Economic problems of mining and metallurgy; including incorporation, securities, depreciation, depletion, amortization, taxes, assessments, dividends, and cost accounting.
Prerequisite: Mining 351 or Metallurgy 366. *Second semester. Three credits.* Nelson.

475. MINE SAFETY AND VENTILATION. Accident prevention,

insurance, and compensation; the theory and practice of mine ventilation and atmospheric and dust control.
First semester. Two credits. Nelson.

476. MINE SURVEYING. A study of surveying and mapping methods for underground and surface mines.
Prerequisite: Civil Engineering 241 and 242. *Second semester. Two laboratory periods. Two credits.* Fee $10. Nelson.

478. 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 credits. Smyth.

479, 480, 481. MINING PROJECT. Field trips and individual investigations and reports on mining problems.
Prerequisite: Mining 351 and 352. *Both semesters. Two laboratory periods. Two credits each.* Fee $5. Smyth.

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.

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 men and women students who pass the entrance tests.
*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.

115–116. RENO CIVIC ORCHESTRA. The orchestra assists in the performance of Handel's "Messiah" and other works for chorus and orchestra. In addition, one or more public concerts are given each year. Open to all men and women students who play orchestral instruments, subject to approval of the director.
*One credit each semester.** Hickman.

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.

NOTE—A student enrolled in Military 101, 102, 201, or 202 may substitute band training for the two weekly drill periods for either of the two years of basic military training, if prior approval is secured from the chairman of the Department of Military Science and Tactics. For each semester in which he makes this substitution he may receive one credit in military training and one-half credit in band.

149. TEACHING OF MUSIC. See Education 149.

*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.

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, Hayden, Mozart, and Beethoven. Historical and biographical background. Illustrations from the Carnegie University Library of records and scores.

Open to all students and visitors. No previous experience necessary. *First semester. Two credits.* Hickman.

204. NINTEENTH 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 material for observation and study.

Open to all students and visitors. No previous experience necessary. *Second semester. Two credits.* Hickman.

209. JAZZ AND SWING MUSIC. Origin and evolution of the American popular idiom. Analyses of styles. Influence of African and Latin-American rhythms and dance forms on jazz. The influence of our popular jazz and swing music on the contemporary classical music of today. Music of Morton, Carmichael, Gershwin, Gould, Kern, Rogers and others, with illustrations from recordings.

Open to all students and visitors. No previous experience necessary. *First 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 Russion "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. No previous experience necessary. *First semester. Two credits.* Post.

304. 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. No previous experience necessary. *Second semester. Two credits.* Post.

305–306. UNIVERSITY CHAMBER MUSIC ENSEMBLE. For description see Music 105–106.
*One credit each semester.** Hickman.

310. 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.

315–316. RENO CIVIC ORCHESTRA. For description see Music 115–116.
*One credit each semester.** Hickman.

317–318. UNIVERSITY BAND. For description see Music 117–118.
*One credit each semester.** Hickman.

349. HIGH SCHOOL MUSIC. See Education 349.

401–402. 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.

Philosophy

Mr. ERICKSEN (Chairman of Department), Mr. PETRIDES.

101. INTRODUCTION TO PHILOSOPHY. A brief study of the problems of philosophy with the solutions suggested by the various schools. Designed both for the student who wishes a perspective for further work in philosophy, and for the student who desires a general knowledge of the scope and methods of philosophy.
Open to freshmen. Either semester. Three credits.

102. SOCIAL ETHICS. An introduction to the fundamental principles of social ethics, followed by a critical study of the moral standards of America's primary social institutions.
Three credits. Ericksen.

107. DEDUCTIVE LOGIC. Terms, definition, division, syllogism and fallacies. Text, lecture and exercises.
Open to freshmen. First semester. Three credits.

108. INDUCTIVE LOGIC. The assumption of induction methods

*See footnote, page 233.

of scientific investigation, fallacies, the tests of truth. Text, lectures and exercises.

Open to freshmen. Second semester. Three credits.

201. IDEOLOGICAL CONFLICTS. An introduction to ideal and value conflicts in contemporary world cultures. An analysis of the differing ideological assumptions of the major peoples and cultures is made with a view toward the theoretical solution of these conflicts.

Open to Sophomores. *First semester. Two credits.*

221. ETHICAL THEORIES. A study of the leading theories of moral principles and ideals. Among the topics discussed will be the concept of the good, duty, egoism, altruism, freedom, responsibility, and the doctrine of virtues.

Open to Sophomores. *First and second semesters. Two credits.*

351. HISTORY OF ANCIENT PHILOSOPHY. A study of Greek and Roman philosophy, and of Medieval philosophy to the decline of scholasticism.

Prerequisite: One course in philosophy. *First semester. Three credits.*

352. HISTORY OF MODERN PHILOSOPHY. A study of the problems and concepts of philosophy from Descartes to the present time.

Prerequisite: One course in philosophy. *Second semester. Three credits.* Graduate credit given with consent of the instructor.

354. PHILOSOPHICAL TENDENCIES OF THE PRESENT. Special attention is given to absolutism, pluralism, pragmatism, and the philosophy of James.

Prerequisite: One course in philosophy. *Second semester. Two credits.* Graduate credit given with consent of instructor.

455. AESTHETICS. A philosophic analysis and appraisal of the aesthetic experience to determine the meaning of beauty and of ugliness. Special consideration will be given to the origin and nature of art; its significance for religion, morality, and social life. Contemporary theories of aesthetics will be analyzed and their standards of criticism evaluated.

Prerequisite: Junior standing. *First semester. Two credits.* Graduate credit given with consent of the instructor.

461. INTRODUCTION TO RELIGION. A study of the forms and psychological aspects of religious experience with special reference to typical historic religions.

Prerequisite: One course in philosophy. *First semester. Three credits.*

462. PHILOSOPHY OF RELIGION. The meaning of validity of religious experience. Among the topics discussed will be the religious conception of God, the world, revelation, faith, prayer, evil, immortality.

Prerequisite: One course in philosophy. *First semester. Two or three credits according to the work done.* Graduate credit given with the consent of the instructor.

482. PHILOSOPHY OF POLITICAL PROBLEMS. The metaphysical basis of the State, the State and its citizens, the State and other States, sovereignty, freedom, democracy, fascism and communism, are among the problems discussed.

Prerequisites: Junior standing and one course in philosophy. *Second semester. Two credits.* Graduate credit given with the consent of the instructor.

483. ECONOMIC JUSTICE IN AMERICAN DEMOCRACY. A study of economic justice as it has developed through the cultural patterns of American democracy. Special attention will be given to the conflicts of economic and professional groups as factors in the formulation of the moral judgment.

Two credits.

484. METAPHYSICS. A constructive study of the problems of being, unity, order, and individuality, with practical applications of the theory developed.

Prerequisites: Two courses in philosophy. *Second semester. Two credits.* Graduate credit given with consent of the instructor.

499. RESEARCH COURSE. The thesis may be selected in any field of philosophy. For seniors only.

Prerequisite: Fifteen credits in philosophy. *Either semester. Two credits.* Graduate credit given with consent of the instructor.

Physical Education

Professor MARTIE (Chairman of Department); Associate Professor SCRANTON; Assistant Professors BROTEN, RUSSELL; Miss BRIGGS, Miss PRICE.

Men

101. DEVELOPMENTAL EXERCISES. Physical examinations are required at the beginning of the semester. Practical work consists in mass athletics; games selected with a view of developing alertness, coordination, muscular control, vigor and rhythm.

Freshman year (required). *First semester. Two periods per week. One-half credit.* Scranton.

102. DEVELOPMENTAL EXERCISES. Continuation of course 101 with addition of calisthenics and light apparatus.

Second semester. One-half credit. Scranton.

201. ADVANCED EXERCISES. Practical work consists in mat work, tumbling, heavy apparatus using long and short horse and buck.

Sophomore year (required). *First semester. Two periods per week. One-half credit.* Broten.

202. ADVANCED EXERCISES. Continuation of course 201. Heavy apparatus consisting of work with parallel bar, low and high bar, ladder and stall bars.

Second semester. One-half credit. Broten.

NOTE—By consent of the department chairman, a student may elect any of the following sports as a substitute for the practical work in courses 101, 102, 201, 202: Football, basketball, track, tennis, cross-country, boxing, wrestling, tumbling.

103–104, 203–204. SPECIAL CORRECTIVE EXERCISES. Corrective work for all whose physical examination shows they are unfitted to take the required physical education.

One-half credit each semester up to and including four semesters. Martie.

110. GENERAL HYGIENE. Principles of health promotion, individual hygiene, disease prevention and control.

Either semester. One credit.

210. FIRST AID AND TREATMENT OF ATHLETIC INJURIES. The first six weeks will be devoted to the Red Cross 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. Three credits. Martie.

301. APPARATUS AND TUMBLING. Advanced exercises for increasing skills on the mats, bars, horse, and springboard.

First semester. One credit. Broten.

310. INTRODUCTION TO PHYSICAL EDUCATION AND HEALTH. Consideration of aims and objectives of physical education and health; the principles underlying the curriculum, standards for selection of activities and criteria for judging the work.

Second semester. Two credits. Broten.

320. 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. One lecture and one laboratory period per week. Two credits. Scranton.

321. BASKETBALL IN THEORY AND PRACTICE. A course of lectures and practical demonstrations.

Second semester. One lecture and one laboratory per week. Two credits. Martie.

322. TRACK AND FIELD ATHLETICS. Lectures and demonstrations of each track and field event.

Second semester. One lecture and one laboratory per week. Two credits. Scranton.

325. OFFICIATING MAJOR SPORTS. A careful study of the rules

of football, basketball, and track with interpretations, methods of officiating and characteristics of officials.
First semester. Two credits. Scranton.

340. PHYSICAL EDUCATION METHODS. A teachers' course in physical education. To develop squad leaders and to assist men to qualify for a State Certificate to teach physical education.
Second semester. One lecture and two laboratory periods per week. Two credits. Scranton.

341. See Education 341.

374. HEALTH INSTRUCTION. A presentation of accepted health practices. Study of communicable diseases, safety, mental hygiene and the vital systems of the body.
Prerequisite: Physical Education 110 or 111 and 210 or 290. Identical with Education 374.

410. SCHOOL AND COMMUNITY HEALTH. A study of school sanitation, health of the school child, community hygiene, and public health. Physical education and its relation to health.
First semester. Two credits. Broten.

411. ADVANCED AND INSTRUCTORS FIRST AID. Regular Red Cross courses. Those completing the course will be designated as First Aid Instructors.
One credit.

430. 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. 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.

450. PHYSICAL EDUCATION MEASUREMENTS. A survey of the field of physical measurements. Methods of measuring improvement in coordination, skills and strengths.
Second semester. Two credits. Martie.

451. PHYSICAL DIAGNOSIS AND CORRECTIVE GYMNASTICS. Methods of detecting defects in structural and organic development and function. Exercises for correction of these defects.
First semester. Three credits. Martie.

452. 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.

Women

111. GENERAL HYGIENE. Principles of health promotion, individual hygiene, disease prevention and control.
One period. Either semester. One credit.

161. FRESHMAN ACTIVITIES (required). Choice of two activities offered. During the freshman year each woman is required to take one team sport (basketball, volleyball, soccer, hockey, or softball), one individual or dual activity (archery, tennis, golf, bowling, swimming, badminton, or tumbling), and one rhythmic activity (modern, folk, or social dancing, gymnastics).
Three periods. First semester. One credit.

162. FRESHMAN ACTIVITIES (required). Continuation of 161.
Three periods. Second semester. One credit.

163. PHYSICAL EDUCATION TECHNIQUES. Techniques of activities.
Three periods. First semester. One credit.

164. PHYSICAL EDUCATION TECHNIQUES. Continuation of 163.
Three periods. Second semester. One credit.

170. ACTIVITIES FOR PRIMARY GRADES. Rhythms, stunts, and games suitable for kindergarten and first and second grades. May be substituted in special cases for one semester of freshman requirement.
Two periods. First semester. One credit.

171. ACTIVITIES FOR INTERMEDIATE GRADES. Rhythmic activities and games of low organization for grades 3–8. May be substituted in special cases for one semester of freshman requirement.
Two periods. Second semester. One credit.

180. INTRODUCTION TO PHYSICAL EDUCATION FOR WOMEN. An orientation and guidance course including a brief history with emphasis on current trends in physical education.
Two lectures. Second semester. Two credits.

261. SOPHOMORE ACTIVITIES (required). A choice of an individual, team, or rhythmic activity as offered.
Two periods. First semester. One-half credit.

262. SOPHOMORE ACTIVITIES (required). Continuation of 261.
Two periods. Second semester. One-half credit.

263. TECHNIQUES. Gymnastics, tumbling, and field and track.
Three periods. First semester. One credit.

264. TECHNIQUES OF MODERN DANCE. Intermediate modern dance techniques with emphasis on composition and production.
Prerequisite: Beginning dance or consent of instructor. *Three periods. Second semester. One credit.*

281. RECREATIONAL CRAFTS FOR HOME, SCHOOL, AND CAMP. Includes practical work in arts and crafts, party planning, story telling, dramatics, and camp craft.
Two laboratory periods; one lecture. Three credits.

290. HEALTH AND FIRST AID. A standard first-aid course (Red Cross) with additional study of health problems met in a women's physical education program.
Prerequisite: Physical Education 111. *Two credits.*

347. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. See Education 347.

361. JUNIOR ACTIVITIES. Advanced work in individual and team sports for students who have completed their required physical education.
Two periods. First semester. One-half credit.

362. JUNIOR ACTIVITIES. Continuation of 361.
Two periods. Second semester. One-half credit.

371. TEACHING OF DANCE. Methods of teaching folk, modern, and social dance. Practical experience in teaching beginners in dance.
Prerequisite: Physical Education 264. *Two laboratory periods; one lecture. Two credits.*

372. COACHING AND OFFICIATING TEAM SPORTS. Rules, strategy, and techniques of basketball, softball, soccer, and volleyball.
Prerequisite: Practical experience in the above sports. *Two laboratory periods; two lectures. Three credits.*

390. KINESIOLOGY. The mechanical and anatomical analysis of motion as a basis for the teaching and adaptation of physical education activities.
Prerequisites: Zoology 101 and 211. *Three credits.*

391. CORRECTIVES AND ORTHOPEDIC EXAMINATION. Methods of giving a physical examination. The study of the causes of faulty

posture and the detection and correction of these faults. Adaptation of activities for the handicapped.
One lecture; one laboratory period. Two credits.

*461. SENIOR ACTIVITIES. Advanced work in activities offered for those who have completed required work in physical education.
Two periods. First semester. One-half credit.

*462. SENIOR LIFE SAVING. A standard Red Cross course.
Prerequisite: Consent of instructor. *Two periods. Second semester. One-half credit.*

*471. THEORY AND PRACTICE OF DIRECTING INDIVIDUAL AND DUAL ACTIVITIES. A study of the rules, techniques, and coaching methods of tennis, archery, badminton, golf, and bowling.
Prerequisite: Skill in a minimum of four of the above sports. *Two laboratory periods; two lectures. Three credits.*

480. HISTORY AND DEVELOPMENT OF THE DANCE. A study of dance forms of the past and present and their relationship to the other arts.
Prerequisite: Physical Education 264. *Two lectures. Two credits.*

490. TESTS AND MEASUREMENTS. A survey of tests used in physical education for women; methods of administering the testing program and of using the data collected.
One laboratory period; one lecture. Two credits.

Physics

Professor LEIFSON (Chairman of Department); Assistant Professors HANSEN (on leave), WORLEY; Mr. FRAZIER, Mr. SHEPHERD.

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. Fee $3. 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 mem-

*Open to men.

bers 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.

Three credits. Two scheduled periods and one evening hour to be arranged. Either semester. 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. Shepherd.

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. Fee $5. 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.

Prerequisites: Plane geometry. A knowledge of trigonometry is desirable. *One credit each semester.* Fee $3. 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.

Prerequisites: Plane, solid, and 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.

Prerequisites: Plane, solid, and analytic geometry, and trigonometry. *One or two credits each semester.* Fee $3 per credit hour. Worley.

357–358. ELECTRICAL MEASUREMENTS. Precise measurements of current electromotive force and power, with both alternating and direct current. Calibration of instruments, determination of resistence, capacity, mutual inductance, and self-inductance. Hysteresis. Photometry.

Prerequisites: General physics, differential and integral calculus. *Two credits each semester.* Fee $5. Frazier.

359–360. HEAT, THERMODYNAMICS, AND KINETIC THEORY. Lectures and recitations. Many of the more difficult subjects merely touched upon in general physics will be fully treated.

Prerequisites: General physics, differential and integral calculus. *Two credits each semester.* Graduate credit given with the consent of the instructor.

361–362. 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.

Prerequisites: General physics, calculus. *Two credits each semester.* Graduate credit given with the consent of the instructor. Worley.

365–366. 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.* Graduate credit given with the consent of the instructor. Leifson.

368. PHYSICAL OPTICS AND SPECTROSCOPY. Theory and use of prism and grating spectrometers and spectrographs. Excitation and recording of emission spectra. Wavelength determination and qualitative analysis. Elementary theory of spectra.

Prerequisites: General physics, general chemistry, and calculus. Physics 361-362 is desirable. *One lecture and one laboratory period per week. Two credits.* Fee $5. Graduate credit given with the consent of the instructor. Worley.

375–376. GLASSBLOWING. A laboratory course of instruction in methods of making simple glass apparatus.

One credit. Fee $10. Leifson.

377–378. 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.

Prerequisites: General physics, differential and integral calculus. *Two credits each semester.* Fee $5. Graduate credit given with consent of instructor.

401–402. PRACTICAL CALCULATION. Graphical methods of determining the relationship between physical quantities. The adjustment of graphs to increase the accuracy of computed results. Practice in the arrangement of logarithmic calculation so that the minimum amount of labor is involved in the solution of complicated equations. Differential correction of results. Interpolation and the use of interpolation formula. Computation of probable error, and estimation of accuracy of data and results.

Prerequisite: Differential calculus. *One credit. One three-hour computing period per week.* Graduate credit given with the consent of the instructor.

471–472. 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.

Prerequisites: General physics, and calculus. *Two credits each semester.* Graduate credit given with the consent of the instructor. Leifson.

473–474. ELECTRICITY AND MAGNETISM. Introduction to the mathematical theory of electricity and magnetism. Solution of problems by exact reasoning from fundamental principles.

Prerequisites: General physics, differential and integral calculus. *Two credits each semester.* Graduate credit given with the consent of the instructor.

483–484. MODERN PHYSICS LABORATORY. Laboratory exercises in connection with course 471–472.

Prerequisites: General physics and calculus. *One credit each semester.* Fee $5. Graduate credit given with the consent of the instructor. Leifson.

493–494. SPECIAL PROBLEMS. Laboratory or research work not in courses listed above.

Credits to be arranged. Fee $3 per credit. Graduate credit given with the consent of the instructor. Staff.

501–502. THEORETICAL PHYSICS. An introduction to the more advanced mathematical analysis as applied to general physical problems.

Prerequisites: General physics, differential and integral calculus and differential equations. *Two credits each semester.* Undergraduates may be admitted with the consent of the instructor.

599. GRADUATE THESIS. Experimental or theoretical research.

Maximum credit six units. Fee $5 per credit for experimental thesis. Staff.

Plant Industry

Professor TITUS; Associate Professors DUNN (Chairman of Department), ROBERTSON; Assistant Professor LITTLE.

Plant Industry

346. 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.
Prerequisites: Agronomy 207 and Chemistry 242. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Robertson.

355. DISEASE AND PEST CONTROL. The prevention and control of diseases and pests of plants. Spraying with insecticides and fungicides.
Prerequisite: Horticulture 102 or 201. *First semester, in even years. Two credits.* Little.

456. PLANT BREEDING. Application of genetics to the problems of plant improvement. Heredity and variation in crop plants. Principles and results of selection and hybridization in the improvement of crops. Demonstrations.
Prerequisite: Botany 350. *Second semester, in even years. Three credits.* Little.

491–492. SPECIAL PROBLEMS. An intensive study of a special problems in the field of plant industry.
Prerequisite: Senior standing and grade point average 3.0. *Each semester. One or two credits.* Staff.

591. THESIS COURSE IN PLANT INDUSTRY.
Either semester. Credit to be arranged.

Agronomy

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.* Fee $5. Robertson.

354. CEREAL CROPS. History, classification, morphological characteristics, and varieties and strains of cereal crops. Practices and problems involved in production, judging, grading, and exhibition.
Prerequisites: Agronomy 207 and Botany 350 or concurrent. *Second semester. Given in odd years. Two lectures; one laboratory period. Three credits.* Fee $5. Dunn.

Agricultural Mechanics

211. FORGING. Instruction and laboratory practice in the heating, bending, shaping and welding of mild steel. Forging and tempering of tool steel; general forging.
First semester. Two laboratory periods. Two credits. Fee $5. Titus.

220. GENERAL MECHANICS. Tool sharpening and fitting, saw filing, ropework, blocks and tackle, belts, pulleys, pipe fitting, soldering, sheetmetal work, threading, tape and dies, abrasives.
Second semester. Two laboratory periods. Two credits. Fee $5. 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: Farm Mechanics 211. *Second semester. One lecture; one laboratory period. Two credits.* Fee $10. Titus.

332. FARM MACHINERY AND EQUIPMENT. A study of the construction, operation, care, and repair of farm machinery and equipment.
Second semester. One lecture; one laboratory period. Two credits. Fee $5. Titus.

335. ADVANCED AGRICULTURAL MECHANICS. A continuation course in general mechanics covering pumps and their operation, domestic water supply, sewage, refrigeration, electrical equipment and appliances on the farm and in the home.
Prerequisite: Farm Mechanics 220. *First semester. One lecture; one laboratory period. Two credits.* Fee $5. 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. One lecture; one laboratory period. Two credits. Fee $5. 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. One lecture; one laboratory period. Two credits. Fee $5. 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 211. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Titus.

444. METHODS OF TEACHING FARM MECHANICS. 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.

Horticulture

102. ELEMENTS OF HORTICULTURE. A survey course of the field of horticulture; fruit growing, vegetable gardening, floriculture, and ornamental gardening.
Second semester. Two lectures; one laboratory period. Three credits. Fee $3. Little.

201. ORNAMENTAL HORTICULTURE. The identification of and the fundamental principles involved in the culture of trees, shrubs, herbaceous perennials, and annuals, with application to the beautifying of the home ground.
Prerequisite: Botany 103. *First semester, odd years. Two credits.* Little.

203. PLANT PROPAGATION. The principles involved in the multiplying of horticultural plants by seeds, cuttings, grafting, etc. The origin and development of new varieties.
Prerequisite: Horticulture 102. *First semester, in even years. Two credits.* Little.

353. FRUIT GROWING. The principles involved in the growing and care of fruit trees and of bearing-producing plants, applied primarily to the small home orchard and berry garden.
Prerequisite: Horticulture 102. *First semester, in odd years. Three credits.* Little.

356. VEGETABLE GROWING. Fundamental principles involved in the growing of vegetable plants.
Prerequisite: Horticulture 102 or 201. *Second semester. Three credits.* Little.

Range Management

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 or Botany 222. *First semester. Two lectures; one laboratory period. Six to eight field trips. Three credits.* Fee $5. Robertson.

362. 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: Agronomy 359. *One lecture or laboratory period. Second semester. One or two field trips. One credit.* Robertson.

364. 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.

Prerequisites: Agronomy 207 and Botany 222. *One or two credits. Second semester.* Fee $10. Robertson.

366. 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: Agronomy 359. *One lecture; one laboratory period. Field trips. Second semester. Two credits.* Fee $5. Robertson.

468. 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.* Fee $5. Robertson.

469. RANGE AND PASTURE LITERATURE. Two or five hours reading of selected original papers, classic and current. One hour weekly for discussion and reports.

Prerequisites: Agronomy 207 and Range Management 359 or concurrent. *First semester. Given in odd years. Meeting time arranged. One or two credits.* Robertson.

Soils

106. SOILS. An introductory course in soils. Nature and properties of soils. Soil and plant relations. Soil types and soil conservation.

Prerequisite: Chemistry 101. *Second semester. Two lectures; one laboratory period. Three credits.* Fee $5. Dunn.

211. SOIL MANAGEMENT. The soil as a natural resource. Management of soils for crop production and soil protection with emphasis given to soil acidity and alkali, soil water control, tillage, crop rotations, organic matter and fertilizers, and supporting soil and water conservation practices. Soil capability and land use. Field trips.

Prerequisites: Soils 106 and Agronomy 207 or concurrent. *First*

semester. Two lectures; one laboratory period. Three credits. Fee $5. Dunn.

323. SOILS PHYSICS. Characteristics of soils and soil colloids. Soil moisture, air, temperature and structure. The effects of tillage, fertilizers and other chemicals, and various cropping practices upon physical and chemical properties of soils.

Prerequisites: Soils 106 and Physics 152. *First semester, in odd years. Two lectures; one laboratory period. Three credits.* Fee $5. Dunn.

324. 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.

Prerequisites: Geology 101 and Soils 106 or Geography 103 or Geology 211. *Second semester, in even years. Two lectures; one laboratory period. Three credits.* Fee $5. Dunn.

417. SOIL FERTILITY. A study of the various plant nutrients as applied to soils. Soil organisms and organic matter. Fertilizer materials. Laboratory methods and studies relating to soil fertility.

Prerequisites: Soils 211 and Chemistry 242. *First semester, in even years. Two lectures; one laboratory period. Three credits.* Fee $5. Dunn.

426. SOIL CONSERVATION. A study of problems in soil conservation in Nevada. Field trips.

Prerequisites: Soils 211 and Range Management 366 or Animal Husbandry 304 or Agricultural Economics 476. *Second semester. Two credits.* Dunn.

Political Science, See History and Political Science

Portuguese, See Foreign Languages

Psychology

Professor IRWIN (Chairman of Department); Assistant Professor RICHARDSON; Mr. KENNELLY, Mr. PETRIDES.

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.

Either semester. Two credits. Irwin, Richardson, Petrides.

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-fourth with their mental test scores.

Prerequisite to all other courses in the department except Psychology 121. *Either semester. Three credits.* Irwin, Richardson, Petrides.

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. A consideration of the applications of psychology to educational problems.
Prerequisite: Psychology 201. *Either semester. Three credits.* Irwin.

231. PSYCHOLOGY OF ADOLESCENCE. An intensive study of the characteristics dominant in the adolescent, with special emphasis upon applications to the work of the high school teacher.
Prerequisite: Psychology 201. *Second semester. Two credits.* Richardson.

233. CHILD PSYCHOLOGY. 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.
First semester. Two credits. Petrides.

241. MENTAL HYGIENE. A consideration of the principles of psychology in their relationship to mental health and efficiency.
Prerequisite: Psychology 201. *Either semester. Three credits.* Irwin, Petrides.

301. 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. *Either semester. Three credits.* Petrides.

310. 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. 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. *First semester. Three credits.* Irwin.

362. 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. *Second semester. Two credits.* Irwin.

371. 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. MARRIAGE, HOMEMAKING, AND DIVORCE. A presentation of the psychological principles involved in these three types of social adjustment.

Prerequisite: Psychology 201. *Either semester. Two credits.* Irwin.

381. 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. 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. 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. THEORIES OF LEARNING. An examination of theories which attempt to explain the processes of learning and memory. The principle types of theories examined are behavior and field theories; other views are studied as variations of these.

Prerequisites: Psychology 201 and follow-up study in psychology. *Second semester. Two credits.* Petrides.

405. PSYCHOLOGY OF PERSONALITY. A consideration of the nature, development and evaluation of personality.

Prerequisite: Psychology 201. *First semester. Two credits.*

411. 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.* Fee $3. Richardson.

412. 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.

Prerequisites: Psychology 201, Psychology 411, and permission of the instructor. *Second semester. Three credits.* Richardson.

415. COMPARATIVE PSYCHOLOGY. A study of behavior patterns throughout the phylogenetic scale in an effort to arrive at laws of human behavior. Some experimentation with animals.

Prerequisite: Psychology 201. *Second semester. Two credits.*

441. 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. 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.

Prerequisites: 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. Three credits.* Richardson.

490. SEMINAR IN THEORETICAL PROBLEMS. A survey of the literature relevant to some major problems in psychology, in an effort to arrive at experimental designs as prospective solutions.

Prerequisites: Psychology 201 and advanced courses in psychology. *Second semester. Two credits.*

499–499A. 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. *Either semester. Two credits.* Staff.

591. MASTER'S THESIS.

Either semester. Staff.

Range Management, See Plant Industry

Sociology, See Economics, Business, and Sociology

Soils, See Plant Industry

Spanish, See Foreign Languages

Speech, See English

Zoology, See Biology

Summer Sessions of University

FIRST TERM

June 14 through July 18, 1952

SECOND TERM

July 19 through August 22, 1952

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 improve 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.

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 either of the Summer Sessions may be applied for advancement toward a normal 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.

Admission and Credits

Anyone with ability to do scholastic work on the University level may be admitted to the Summer Sessions. However, credit toward any University degree or diploma will be granted only after the student has met all requirements for admission to the University.

Usually the student may enroll for a maximum of six credits of work in either of the five-week sessions. 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 one credit.

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.

Summer Session Fees

The fee for each of the five-week sessions is $23 for Nevada students, $38 for out-of-State students. In addition, the ordinary laboratory fee will be charged to those students enrolling for courses requiring laboratory classes, and a health service fee of $2 per session will be charged each student. A deposit of $10 will be assessed each student. This deposit is refunded in full at the close of the session if no charge is made against it.

Public Services

The Nevada Agricultural Experiment Station

Staff

CHARLES E. FLEMING, B.S.A., Director of Agricultural Experiment Station.
AGNES L. SCHMITH, Administrative Secretary and Librarian.
LYLE O. MCCARTNEY, B.S., Associate in Range Management.
WALTER NEILSON, Assistant in Range Management.
*GRANT H. SMITH, JR., B.S., Assistant Economist in Range Management.
EDWARD RECORDS, V.M.D., In charge of Veterinary Science.
FRANCIS N. NEVILLE, B.S., D.V.M., Associate in Veterinary Science.
HENRY JOHNSON, Assistant in Range Management.
W. B. DYE, Ph.D., Chemist.
V. E. SPENCER, M.S., Head, Soils Department.
WILLIAM A. GOODALE, B.S., Assistant in Soils Research.
MICHAEL GALLI, B.S., Assistant in Soils Research.
EVA M. SHECKLER, Clerk Technician in Soils Research.
GEORGE HARDMAN, M.S., Chief in Irrigation and Agronomy.
HOWARD G. MASON, B.S., Agricultural Economist.
MABEL CONNOR HARTLEY, B.A., Assistant in Agricultural Economics.
RAY K. PETERSEN, Horticulturist.
J. E. CHURCH, Ph.D., Chief in Meteorology.
*CARL ELGES, JR., M.S., Assistant in Meteorology.
OLIVER F. SMITH, Ph.D., Pathologist. (In cooperation with the U. S. Department of Agriculture.)
JOHN MCCORMICK, B.S., Chief in Farm Development.
JOSEPH H. ROBERTSON, Ph.D., Chief of Range Management.
*CLYDE E. HOUSTON, B.S., Irrigation Engineer.

Under provisions of the Hatch Act, approved March 2, 1887, the Agricultural Experiment Station was organized in December of that year. From the Hatch Fund the Experiment Station receives $15,000 annually, from the Adams Fund, created by the Adams Act of 1906, it receives a like amount, and from the Purnell Fund, created by the Purnell Act, approved February 25, 1925, it receives $60,000 annually. In addition, for the fiscal year 1948–1949 it received $3,190.40 from the Federal Bankhead-Jones Fund. From the Research and Marketing Act Fund created in 1946, it received $21,738.58. The total of these Federal appropriations for the current fiscal year will be $114,928.98. None of these funds can be applied to teaching or to the work of agricultural extension, because the object of all these funds is the investigation, by scientific methods, of problems in the agricultural industry.

*On leave.

Nevada Agricultural Extension Division

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.

Staff

CLAUDE B. HUTCHISON, Agr.D., LLD., Dean of Agriculture and Director of Agricultural Extension.

PAUL L. MALONEY, B.S., Acting Associate Director of Agricultural Extension.

MARIE GROSSHOLZ, Chief Clerk, Extension Service.

GENE F. EMPEY, M.S., Extension Editor.

THOMAS E. BUCKMAN, M.S., Assistant Director for County Agent Work.

DON M. DRUMMOND, M.S., Extension Forester.

A. J. REED, B.S., Extension Animal Husbandman.

OTTO R. SCHULZ, B.S., Extension Agronomist.

*MARGARET M. GRIFFIN, B.S., Assistant Director for Home Demonstration Work.

J. KIRK DAY, B.S., District Extension Agent, Humboldt and North Lander Counties.

RAYMOND C. COX, B.S., District Extension Agent, Douglas and Ormsby Counties.

FRANK E. MORROW, B.S., District Extension Agent, White Pine and Eureka Counties.

JAMES G. JENSEN, District Extension Agent, Esmeralda, Nye and Southern Lander Counties.

ARCHIE R. ALBRIGHT, B.S., County Extension Agent, Washoe County.

FERREN W. BUNKER, B.S., County Extension Agent, Lincoln County.

FRED C. BATCHELDER, M.S., County Extension Agent, Pershing County.

LOUIE A. GARDELLA, B.S., County Extension Agent, Lyon County.

MARK W. MENKE, B.S., County Extension Agent, Elko County.

JOHN M. FENLEY, M.S., County Extension Agent, Clark County.

CHARLES R. YORK, B.S., County Extension Agent, Churchill County.

HARRY BRADLEY, B.S., Assistant County Extension Agent, Churchill County.

GROVER W. ROBERTS, B.S., Assistant County Extension Agent, Elko County.

JAMES WADE ORCHARD, B.S., Assistant County Extension Agent, Clark County.

FRANCES HAILAND, B.S., District Extension Agent, Douglas, Ormsby, and Storey Counties.

J. HAZEL ZIMMERMAN, B.S., District Extension Agent, Clark and Lincoln Counties.

MADGE ELDER SCHENDEL, B.S., County Extension Agent, Lyon County.

LENA BERRY, B.S., County Extension Agent, Churchill County.

M. GERTRUDE HAYES, B.S., County Extension Agent, Washoe County.

*On leave.

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-Ketcham Act, approved May 22, 1928; the Bankhead-Jones Act, approved June 29, 1935; the Bankhead-Flannagan Act, June 1945.

The Agricultural Extension Division as established under the Memorandum of Understanding with the United States Department of Agriculture dated September 8, 1914, is a "definite and distinct administrative division" of the University of Nevada, coordinate in rank and affiliation with the College of Agriculture and the Agricultural Experiment Station. All the extension activities of the College of Agriculture and the United States Department of Agriculture in Nevada are conducted through this 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.

Besides the regular extension program outlined above, extension agents serve as executive secretaries of County Agricultural Conservation committees.

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 20 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

Staff

VERNON E. SCHEID, Ph.D., Director.
WALTER S. PALMER, E.M., Chemist.
VINCENT P. GIANELLA, Ph.D., Geologist.
CLAUDE W. HAMMOND, Met.E., Assistant Chemist.

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 mining industry of Nevada by making free analyses and identifications of minerals and ores taken from within the boundaries of the State by its citizens, and by reporting to the senders the results of such analyses or identifications, together with the uses and market values of the substances submitted.

The usual analytical work of the laboratory is done by the chemist, with the geologist assisting with the identification of the unusual rocks and minerals.

Samples and specimens are listed and distributed in the order in which they are received at the laboratory, and are analyzed essentially in this order, but reports do not go out in the same order; for some assays take much 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

Staff

VERNON E. SCHEID, Ph.D., Director.
VICTOR KRAL, E.M., Mining Engineer.
JOSEPH LINTZ, JR., M.S., Assistant Geologist.

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, with addresses of the discoverer, owner, or agent; to serve as a bureau of information and exchange in Nevada mining; to collect and publish statistics relative to Nevada mining; to prepare a bibliography of literature pertaining to Nevada mining and geology; and other various activities.

Departments of Food and Drugs, Weights and Measures, and Petroleum Products Inspection

(Sierra and Fifth Streets, Reno)

Staff

WAYNE B. ADAMS, B.S., Commissioner.
EDWARD L. RANDALL, M.S., Chemist.
STANLEY D. JOHNS, Assistant Chemist.
PETER A. FERRETTO, Inspector.
CARLTON W. STROUD, 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 duties described above, prescribed by law, 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 infections 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. From time to time publications, and press releases dealing with such conditions and the means of controlling same are prepared and distributed. Special sera and vaccines, which cannot be procured on the open market are also prepared and supplied when needed.

This work is conducted in close cooperation with the State Department of Agriculture, the State Board of Sheep Commissioners, the United States Bureau of Animal Industry, 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
Mining Division, Region III

Staff

A. C. JOHNSON, Chief.
WILLMAR T. BENSON, Mine Examination and Exploration Engineer.
GLENN G. GENTRY, Mining Engineer.
GEORGE H. HOLMES, JR., Mining Methods Research Engineer.

EDWARD J. MATSON, Mine Examination and Exploration Engineer.
LEOPOLD F. MULLER, Mining Engineer.
BENJAMIN H. SHEAHAN, Mining Engineer.
RUSSELL R. TRENGOVE, Mine Examination and Exploration Engineer.
JOHN D. WARNE, Mining Engineer.
FRANK J. WIEBELT, Mine Examination and Exploration Engineer.
GEORGIA E. HOOPER, Clerk-Typist (Stenography).
DOROTHY C. TEASS, Secretarial Clerk.

The Mining Division of Region III comprises the States of Nevada and California, conducts engineering examinations of mineral deposits, explores and samples deposits, and studies new mining and milling methods. The Mining Division's programs are mining research, including experimental mining, to develop improved methods and equipment for more efficient and economical extraction of ore; studies of mining methods and costs and dissemination of information on mining practices; mineral development; survey of minerals industries of the Region by states, localities or other areas and reporting thereon; examination and appraisal of mineral deposits.

Metallurgical Branch, Rare and Precious Metals Experimental Station

Staff

J. B. ZADRA, Chief.
ANDREW C. RICE, Ph.D., Chemist.
CLYDE E. ARRINGTON, M.S., Analyst.
HAROLD J. HEINAN, Metallurgist.
JOHN M. BOYLAN, Chemical Analyst.
A. L. ENGEL, Metallurgist.
THERESA V. CAPRIO, Clerk.
E. S. SHEDD, Metallurgist.
ROBERT BEAMISH, Scientific Aide.
L. ROSSITER, Labor.

The Legislature of Nevada passed an Act in March 1919, providing funds to house an experiment station of the United States Bureau of Mines at the University of Nevada. The building was completed in July 1921, and at once fully equipped as the Rare and Precious Metals Experiment Station.

The Metallurgical Branch conducts fundamental and applied research on the conservation, preparation, and utilization of metals and nonmetals, develops new metallurgical methods dealing with benefication processes, new techniques, and special equipment, and analyzes and tests ore samples. Operations are controlled through the Minerals Division, Washington, D. C.

Record for 1951-1952

Recipients of Scholarships and Honors 1951–1952

JEWETT W. ADAMS SCHOLARSHIPS of $100 each.

Ted Bradbury
Ethelind Butterfield
Caroline Esser
John Knezevich
William B. Law
Joline McCarthy
Joanne Menu
Marie Nielsen
Robert Nightingale
Carol Ann Normandy
Nancy Swope
Barbara VanMeter
Nancy West

ARMANKO OFFICE SUPPLY SCHOLARSHIPS of $100 each.

In Chemistry.....Don Lee Peterson
In Physics.....Edwin Beauchamp

ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP of $50.

Andree Anchart

JOSEPHINE BEAM SCHOLARSHIPS of $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks.

Edmund Baroch
Mayvonne Eldridge
John L. Hall
Charles E. Hanna
Mary Elizabeth Heitbrink
Olaf S. Leifson
Edwin O'Connor
George Rostine
Doreen Spiller
Gerry Svob
Daryl Tonini

HORACE P. BOARDMAN SCHOLARSHIP IN CIVIL ENGINEERING, $100.

Roy Allen Bell

FRANK O. BROILI SCHOLARSHIP IN ELECTRICAL ENGINEERING, $150.

David Connett

AZRO E. CHENEY SCHOLARSHIP IN ENGLISH of $100.

Lura Janet Ward

DELTA DELTA DELTA SORORITY SCHOLARSHIP of $150.

Patricia Brookes

THOMAS E. DIXON SCHOLARSHIP of $225.

Eva Hackett

EMPORIUM OF MUSIC SCHOLARSHIP of $100.

Jarvis Bastian
Val D. Smith

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $250.

Dorothy Mae Bell	Carl Herrera
Ralph Boardman	Rayner Kjeldsen
Ethelind Butterfield	Betty Kling
James Costa	Clarence Lund
Margaret Joy Daniel	George Maclean
Thela Ruth Ennor	William C. Maher
Carlyle Grafton	Barbara Schreiner
Hazel Hardy	Lura Janet Ward

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $500.

Jennilee Gibson	Chris Nolan, Jr.
Harrie F. Hess	Suzanne Winer
Stanley Jones	

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS for entering freshmen. $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks.

Myldred Cordes	Sallie Mae Rogers
Faye Fotos	Joseph R. Vizina
Helen Palludan	Marilyn Wittwer

GRAND ARMY OF THE REPUBLIC SCHOLARSHIP of $100.

Carl S. Tout, Jr.

HERD AND SHORT SCHOLARSHIP IN ECONOMICS, BUSINESS, SOCIOLOGY, $100.

Patricia Annand	Mona Perry

MRS. CARL OTTO HERZ SCHOLARSHIP IN ELECTRICAL ENGINEERING, $50.

Hassell DePree

KENNECOTT COPPER CORPORATION SCHOLARSHIPS of $500.

Michael Price	Donald Tibbals

KLUTE SCHOLARSHIPS IN FOREIGN LANGUAGES, $100 each.

In German.....Robert L. Beamish
In Italian.....Hazel J. Beard
In Spanish.....Anna Mary Ianni

CARRIE BROOKS LAYMAN MEMORIAL SCHOLARSHIP of $200.

Dat Kim Choy

LAS VEGAS PRESS CLUB SCHOLARSHIP IN JOURNALISM. $500 over a four year period to an incoming freshman from Las Vegas.

Romaine Roth

WILLIAM S. LUNSFORD SCHOLARSHIP IN JOURNALISM, $100.

Walter MacKenzie

HONORABLE WILLIAM O'HARA MARTIN AND LOUISE STADTMULLER MARTIN SCHOLARSHIP IN HISTORY AND POLITICAL SCIENCE of $50.

Berlien McCray

ROSE SIGLER MATHEWS SCHOLARSHIPS of $100.

Louis Avery	Patricia Kirksey
James Etcheto	Blanche Mary Ann McClure
Robyn Forsyth	Marvin Moss
Anne Helms	Sharon Thompson

NEVADA STATE PRESS ASSOCIATION SCHOLARSHIP IN JOURNALISM, $100.
David Mathis

PREMEDICAL–PRENURSING SCHOLARSHIP of $100.
Barbara Hendrickson

RENO BUSINESS AND PROFESSIONAL WOMEN'S CLUB SCHOLARSHIP of $50.
Dorothy Ann Berger
Constance Malcolm

ROTARY CLUB OF RENO SCHOLARSHIP of $300.
Patricia Sue Casey

SEARS, ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of $200.
Eva Hackett
Stanley C. Schank

SEARS, ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIPS of $125.
Thomas Ballow
Duane A. Gardner
Frank L. Reid
Leland H. Robertson
Norman K. Sharp
Norman D. Sigmon

SEMENZA SCHOLARSHIP IN ECONOMICS, BUSINESS, SOCIOLOGY, $100.
Bethel Roggenkamp

STANDARD OIL COMPANY OF CALIFORNIA SCHOLARSHIPS of $500.
Dorothy Ann Berger
James J. Carlson
Barbara Carruth
Rosemary Cochran
Procter R. Hug, Jr.

MARY ELIZABETH TALBOT MEMORIAL SCHOLARSHIP IN MATHEMATICS, $300.
Juanita Rector

REUBEN C. THOMPSON SCHOLARSHIP IN PHILOSOPHY of $100.
Wayne Pearson

RITA HOPE WINER MEMORIAL SCHOLARSHIP IN EDUCATION of $50.
Stella Mason

Special Prizes and Awards

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN'S HONORARY MEMBERSHIPS.
Alice Dulion
Marnie Miller
Madge Wiley

HENRY ALBERT SENIOR PUBLIC SERVICE PRIZES of $37.50.
Patricia DeWalt
Theodore Klimasezewski

BENNETT NEWS PHOTOGRAPHY AWARD of a week's all expense training in news photography.
Frank Johnson

A. W. (BERT) CAHLAN SCHOLARSHIP of $200.
Marnie Miller

THE FRENCH MEDAL.
Anna Picchi

THE GINSBURG JEWELRY AWARD of a fine watch.

Barbara Hendrickson — Procter R. Hug, Jr.

KLUTE PRIZE IN FOREIGN LANGUAGES of $50.

Ethelind Butterfield

NEVADA HOME ECONOMICS ASSOCIATION HONORARY MEMBERSHIP AWARDS.

Helen Burr
Esther Jensen
Patricia Melendy
Darlene Stucki
Ramona Walker
Barbara Weber

C. F. AND FRANK WITTENBERG MEMORIAL PRIZE of $100.

Garold A. Hyde

ELECTED TO PHI KAPPA PHI (See 315A).

April 1951
- Velda I. Chesley
- Glen H. Clark
- David L. Cochran
- Priscilla L. Corbett
- Elwin L. Fisk
- Jack E. Hull
- Ellis E. Lamberson
- Clarence Lund
- John W. Marvel
- Eugene J. Wait, Jr.
- Donald E. Wood

June 1951
- Undergraduates
  - Elaine Alldredge
  - Valdemar Frick Larson
  - Bebe Ann Moore
- Graduate Student
  - Robert D. MacPhee

November 1951
- Barbara Carruth
- Lide Dearing
- James Eliades
- Virginia Carlyle Grafton
- Harrie Fox Hess
- James Warren Hulse
- Suzanne Winer

HONOR ROLL OF THE SENIOR CLASS (Listed according to rank).

Donald Wood
Eugene Wait
Robert Schumacher
John Marvel
David Cochran
Elaine Alldredge
Glen Clark
John T. Ross
Elwin Fisk
Guy Cardinalli
Victor Corbett
Robert Wengert
Garold A. Hyde
Priscilla L. Corbett
Edwin Giannotti
Marnie Miller
Robert Wake
Velda Chesley
Reilly Jensen
Anna Picchi
Pio Ianni

HONOR ROLL FOR THE FOUR-YEAR COURSE (Listed according to rank).

Robert Schumacher
Robert Wengert
Georgia H. Ward
Donald Wood
Eugene Wait
Guy Cardinalli
Garold A. Hyde
Priscilla L. Corbett
Marnie Miller
Dexter Guio
Velda Chesley
Jack Hull
Glen Clark
David Cochran
John Marvel
Elwin Fisk
Ellis Lamberson
Valdemar Larson

THE GOLD MEDAL.

Robert T. Schumacher

Graduates

Diplomas and degrees were awarded on Commencement Day, June 11, 1951, as follows:

Master of Arts

Gladys Uzzell Edlind
Gloria Grace Griffen
Louise Endecott Norris
Richard Carey Sieber
George Walter Umbenhaur

Master of Science

Paul Darwin Clark
Robert D. MacPhee
Joseph E. Moore

College of Arts and Science

Bachelor of Arts

Gary Jay Adams
Raymond G. Aiazzi (8-25-50)
Barbara Jean Alan
Elaine Alldredge
Deloy H. Anderson, Jr.
Edward Arciniega
Jo Ann Barbash
Roger S. Barbash
Frederick Beaumont Barrett
Marjorie Lee Bartolomei
Lois Ann Bates
Winfield Scott Beasley
Dayton Benjamin (8-25-50)
George Howard Benson (8-25-50)
Joseph Barnes Berry (2-2-51)
Robert Paul Boese (8-25-50)
Edward John Bosler
William Stoy Briner (2-2-51)
Gwenneth J. Byrd (8-25-50)
John Logan Campbell (2-2-51)
Josephine Caprio (8-25-50)
†Guy F. Cardinalli
Norma G. Carnel
Carmel Caruso
†Velda Ilene Chesley
Anita Christinia Coates
Bruno Lido Coli (2-2-51)
Julia Agnes Connolly
†Priscilla Laughlin Corbett
Nilda Lorraine Cox
Elmo L. Dericco
Wayne L. DeWees
Alphonse Di Chiara
Alan G. Dondero (2-2-51)
Mary Ann Douglass
Dorothy J. Duggan
Alice Lenore Dulion
Doris Ann Dyer (2-2-51)
George A. Estes (8-25-50)
George M. Eustachy (2-2-51)
Esther Barrett Farrington (8-25-50)
Herman Edward Fisher, Jr.
Donna Lou Florence
Margie Ellen Foote
Donald Eugene French
Eleanor Fulstone
Jean Fulstone
Gerald W. Galletti
Seymour Gartler
Andrew Gialy
Edwin Giannotti
John Stephen Gianotti
Charles Cornelius Gibson (8-25-50)
Maisie LuCille Gibson
*Colleen Frances Gilbert
Una Inez Gillies
Mary Luzena Goddard (8-25-50)
Harry Kenton Gould (2-2-51)
Irene Waterman Grows
†Dexter Thayer Guio
Nancy Ann Hecker (8-25-50)
Howard E. Heckethorn
Jacque Hickman (2-2-51)
Floyd Lawrence Hopper, Jr. (8-25-50)
Landon Hawthorne Howard (8-25-50)
†Jack Eugene Hull (8-25-50)

Bachelor of Arts—Continued

Bobby Dean Hutchings (8-25-50)
Dariel Durham Iacovelli
Edward Malmo Johnson
Edmund A. Jones (2-2-51)
Eunice Kaminaka (8-25-50)
Tahsin Karacabey (8-25-50)
Helen Marie Keddie
David Edwin Kepler
Patricia Louise Kirksey
Theodore Steven Klimaszewski
Julia Smith Knudsen (8-25-50)
Elmer Robert Knudson (2-2-51)
Theodore W. Kondel (8-25-50)
German F. Kortschak
†Ellis Edmund Lamberson
Frank Sanches LaSan (8-25-50)
Raymond E. Ledbetter (8-25-50)
Edward E. Lee, Jr.
Lawrence Cornelius Leonard, Jr.
Theodore Henry Lokke
Jerome Francis Marks
†John Wyland Marvel
Frank Douglas Mathews
Margaret Hansen McGoodwin
Leonard J. McLaughlin
Robert M. McLeod (2-2-51)
Lawrence George Means
Joseph Michael Menicucci
Marie Grace Micheo
James Anthony Michienzi
Richard Lloyd Miles (2-2-51)
Ethel Lillian Miller
Michael A. Mirabelli (2-2-51)
Bebe Ann Moore
*Marian Piccinini Nason
Albert Carl Nocciolo (2-2-51)
Ruth Irwin Olguin
Rose Oyarbide
Marian Gertrude Palmer (8-25-50)
James Oakley Parker (8-25-50)
Dwight W. Peterson (2-2-51)
Anna Marie Picchi
Joan Ann Powell
Elizabeth Kimball Priest (8-25-50)
Walter Hamilton Prugh
Charles Kay Pulsipher
James Edwin Puryear
*Stanley Dean Pyper
Robert John Rankin (2-2-51)
Jean C. Rhodehamel
Myrtle Sorensen Rich (8-25-50)
John Fioretto Riva (8-25-50)
Frank Windle Robins (2-2-51)
John Thomas Ross
Wilburta Shidler Rowe (2-2-51)
*Patricia Margaret Royle
Jeanne Ellin Rule
Barbara Schreiner (2-2-51)
William Edward Shepard
Carol Jeanne Shoemaker (8-25-50)
Floyd Silliman (8-25-50)
Jacqueline Dora Sirkegian (2-2-51)
Robert M. Slover (2-2-51)
Donald C. Smart (8-25-50)
Charles Hogue Smith (2-2-51)
Frances Abernathy Smith (8-25-50)
Donna JoAnn Sollars
Rosalie Goldman Solt (8-25-50)
Paul Joe Stimac (2-2-51)
Grace M. Storey
Robert Crawford Strang (2-2-51)
John S. Subda (8-25-50)
Richard C. Taylor
Louanna Tietje (2-2-51)
Alice Grace Timberlake
Franklyn James Tower (2-2-51)
Richard Truman
†Georgia Lee Houghton Ward
Harry Johnson Ward, Jr.
Bulkeley Wells, Jr.
Marilyn Whitehair (8-25-50)
Madge Wiley
Barbara Elizabeth Williams (8-25-50)
Jacquelyn Wilson
Florence Yim

Bachelor of Arts in Journalism

B. T. Alauzet
Mark Curtis, Jr.
Patricia Marie DeWalt
June Vera Holmes
Harry Patric Spencer

Bachelor of Science

William Albert Bailey
Alton Francis Benedetto
*Mary Lou Brunton
Owen S. Bunker
Robert Elton Campbell
Everett L. Cutler
Theodore C. Frantz
Virgil Lee Hart
S. Carl Harvey
Frederick R. Jensen
Reilly Campbell Jensen
Virgil Kay Johnson
Bruce Russell Kewley (2-2-51)
Robert William Korb (2-2-51)
†Clarence Alfred Lund
William Nels Lusebrink
Herbert L. Manucia
Joan McCabe McFadden
Margery McKnight
Robert Taylor Myers
Clarence Y. Omoto
†Robert Thornton Schumacher
Billie Cavitt Smith (2-2-51)
George John Torassa
Helene Elizabeth Warner (8-25-50)
‡John H. Watrous
Jacques Edward Welin (2-2-51)
†Donald Eugene Wood
Byron W. Works (2-2-51)
Louis Zorio

Bachelor of Science in Business Administration

Leonard Arthur Armstrong
John Roger Bissett
Victor Mendell Corbett
Ronald B. Darney
Joseph Dini, Jr. (2-2-51)
Frederick M. Drewette (2-2-51)
Thomas Tracy Gaffey
Floyd Edward Gori (2-2-51)
Charles Edward Hill
Edward Ross Houston
Leonard T. Howard (8-25-50)
Eppaminondas G. Johnson
Ronald V. Lange
Ralph Pollard Leupold (2-2-51)
†Marnie Eldina Miller
Frederic Lee Purtill (2-2-51)
Olinto A. Ricci (2-2-51)
Shirley Chapman Richards
Samuel Savini
Constance Madsen Spencer (8-25-50)
Robert Perry Uecker
Bernard P. Van Wagenen
†Eugene J. Wait, Jr.
Ernest William Wennerberg (2-2-51)

Bachelor of Science in Chemistry

Don Fraser Atkins

Bachelor of Science in Chemical Technology

Hans Raymond Jepsen, Jr.
George Arya Louis

Normal School Diploma

Wilhelmina Jensen
Karl Mueller
Tosca Marie Pieretti

College of Agriculture

Bachelor of Science in Agriculture

Raymond Robert Alzola
Harold W. Baker, Jr.
Eyer Horace Boies
Edwin Clarence Carr
Peter J. Casella, Jr.
William Berry Charles (2-2-51)
Richard N. Fulstone (2-2-51)

Bachelor of Science in Agriculture—Continued

Myron J. Goldsworthy
Nello Gonfiantini, Jr.
Everest Irving Hackett
James Dean Hansen
Leon Ronald Hubbard (8-25-50)
†Garold Ashel Hyde
Robert A. MacDiarmid (2-2-51)
Charles Nash Saulisberry (8-25-50)
Ernest N. Scruggs (2-2-51)
Robert Ellis Wake
Kenneth Carl Wilson

Bachelor of Science in Home Economics

Helen Louise Burr
Virginia Shaw Henningsen (2-2-51)
*Esther Louise Jensen
*Patricia Anne Melendy
Gertrude Sanford Rice (2-2-51)
*Darlene Stucki
*Ramona Marjorie Walker
Barbara Parker Weber

College of Engineering

Bachelor of Science in Civil Engineering

Harold W. Affleck (8-25-50)
Louis Francis Butz
James Thomas Clarkson (8-25-50)
Jasper Cooper
Earl Penilton Gilmore
Ernest G. Gregory
H. Robert Hammill
Stanley Hansen
Milton Herchel Hasler, Jr. (2-2-51)
Richard Marcus Hill
Richard Holmes
Raymond Gilbert Jacobs
Donald Kenneth Jewett (8-25-50)
George Jerry Lusich, Jr.
James Francis Lynch, Jr.
John W. Masier
Jack Abbott Means
William F. Pillsbury (8-25-50)
Donald Edwin Poznanovich (8-25-50)
Ray F. Scoffield (2-2-51)
Francis Calvin Smigle
Raymond Lee Whitaker

Bachelor of Science in Electrical Engineering

George Nathan Becker
Vance E. Brown
Richard C. Chatterton (2-2-51)
†Glen Howard Clark
Loren T. Doxey (2-2-51)
Richard Harold Gorman
Jack Richard Gough
Claus Henry Grell
David Earl Hamilton
Ralph Elmer Hoeper
Alvin Albert Houghton
Theodore Marvin Jahn
Richard E. Kinner
Howard Spencer Olson (2-2-51)
Louis Keith Porter
Kenneth Clyde Stone, Jr.
George Wesley Story
Richard A. Victor
†Robert Edwin Edward Wengert
Layton Yee

Bachelor of Science in Mechanical Engineering

Richard Guy Booker, Jr.
John Wesley Boynton, Jr. (2-2-51)
†David Leo Cochran
James Howard Davis
Joseph Ventura Facha
James Morris Howard
Pio William Ianni
Robert M. McCormack
Louis George Nannini
Kenneth R. Olinghouse
Robert Lloyd Patrick
Kenneth T. Rice, Jr.
Lee R. Setterquist (2-2-51)
Miles Fairman Steel, Jr.

Mackay School of Mines

Bachelor of Science in Geological Engineering

Enfield B. Bell (2-2-51)
Arthur Frederick Brunton
†Elwin Lee Fisk
Dewey S. Harwood, Jr. (8-25-50)
Donald D. Jenkins (8-25-50)
Dean Johnson (8-25-50)
Clair M. Kunkel
Robert O. McCrae
George E. Pence, Jr.
James Burton Scott
Ialo D. Stephens, Jr.
Edward Robert Therkelsen (8-25-50)
Craig D. Thompson (2-2-51)

Bachelor of Science in Metallurgical Engineering

William Gus Flangas
Fred Daniel Gibson, Jr.
Selby H. Marks
Frank Neff
Lawrence W. Trainor

Bachelor of Science in Mining Engineering

Emmett Borden Ball, Jr. (2-2-51)
Thomas Varley Barton, Jr.
Thomas Ford Clemens (8-25-50)
William Price Craven
Jack Donald Frank
John R. Harmon
Arthur Andrew Krieger
Valdemar Frick Larson
Darrell Stephen Nall (2-2-51)
William Donald Packard (2-2-51)
Richard Parker Townsend

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*Receives also Teacher's Diploma of High School Grade.
†Elected member of Phi Kappa Phi.
‡Awarded posthumously.

Enrollment Summary

1951–1952

Graduate Students		67
COLLEGE OF ARTS AND SCIENCE		
Seniors	151	
Juniors	187	
Sophomores	189	
Freshmen	327	
Specials	44	
		898
COLLEGE OF ENGINEERING		
School of Civil Engineering		
Seniors	20	
Juniors	20	
Sophomores	16	
Freshmen	16	
Specials	2	
		74
School of Electrical Engineering		
Seniors	9	
Juniors	10	
Sophomores	13	
Freshmen	17	
Specials	1	
		50
School of Mechanical Engineering		
Seniors	9	
Juniors	6	
Sophomores	9	
Freshmen	17	
Specials	2	
		43
MACKAY SCHOOL OF MINES		
Seniors	18	
Juniors	20	
Sophomores	16	
Freshmen	21	
Specials	3	
		78
COLLEGE OF AGRICULTURE		
School of Agriculture		
Seniors	8	
Juniors	13	
Sophomores	14	
Freshmen	28	
Specials	4	
		67
School of Home Economics		
Seniors	9	
Juniors	2	
Sophomores	4	
Freshmen	16	
Specials	1	
		32
Total University		1,309
Reno Campus		
Men	855	
Women	454	
		1,309
Las Vegas Branch		
Men	22	
Women	16	
		38
Non-Matriculated Students		
Reno		8
Las Vegas		3
Total Summer School, 1951		727
		2,085
Less names counted twice		402
Grand total enrollment		1,683

FORM FOR GENERAL BEQUEST

Statutes of Nevada authorize the Board of Regents "To accept and take in the name of the University of Nevada, by grant, gift, devise, or bequest any property for the use of the university, or of any college thereof."

The following forms are printed here as suggestions only:

1. *Form of General Bequest—*

I hereby give and bequeath to the Board of Regents, University of Nevada, situated at Reno, Nevada, and to their successors forever, for the use of said institution in fulfillment of its general corporate purpose.....

.....

.....

(State here the sum of money desired to be given or describe the property or securities constituting the bequest.)

2. *Form of Bequest for a Particular Purpose, Designated by the Testator—*

I hereby give and bequeath to the Board of Regents, University of Nevada, situated at Reno, Nevada, and to their successors forever, in trust the sum of.....

.....

.....

(State here the sum of money desired to be given or describe the property or securities constituting the bequest.)

as an endowment to be known as the ..... Endowment Fund, the same to be invested and the income used for .....

.....

(Indicate here the particular use for which the income from the bequest is to be used, or the particular interest or phase of the work of the institution which it is desired to assist.)

3. *Testamentary Trust—Bank or Trust Company, as Trustee—*

In pursuance of the resolution and declaration of trust known as The Uniform Trust for Public Uses adopted by the

.....

.....

(Here insert the name of the bank or trust company to act as trustee.)

on the.....day of.....19.....

(The correct date must be inserted.)

and upon the terms and conditions therein expressed I give (devise) and bequeath to said corporation and its successors forever the sum of.....dollars

(or otherwise describe the gift)

to be held and administered as a charitable trust (If desired add: in memory of.....

.....

by whose name the fund shall be known) to collect and pay over or apply the income arising therefrom to the Board of Regents, University of Nevada, situated at Reno, Nevada, for the general corporate purposes of that institution (or name a particular corporate purpose).

NOTE: If the trust is not to be perpetual, continue after the words "for its general corporate purposes" with the following words or some modification thereof having approval of counsel as for example: "until in the opinion of its governing board, after.....years from the date of my death (or other date) its best interest shall require an expenditure of some part of the capital of the trust and then to apply or expend such portion (not to exceed.....percent) thereof in such sums and for such corporate purposes as said governing board shall from time to time direct."

4. *Living Trust—Bank or Trust Company, as Trustee—*

This indenture made this.....day of..... 19....., by and between..... hereinafter referred to as the donor and.....

.....

(Here insert the name of the bank or trust company to act as trustee.)

hereinafter referred to as the trustee.

WITNESSETH:

That said donor desiring to dedicate certain funds to public usefulness has this day given and in consideration of the covenants and agreements herein contained hereby gives, grants, conveys and delivers to said trustee and its successors forever, and the said trustee for itself and its successors accepts the following securities, money and property with proper supplemental transfers where necessary to pass title, viz:.....

.....

(Here enumerate or refer to schedule attached.)

and agrees to accept approved additions thereto and to hold and administer such gift or gifts as a charitable trust under the resolution and declaration of trust known as The Uniform Trust for Public Uses adopted by said trustee on the.....day of ....., 19..... to collect and pay over or apply the income arising therefrom to the Board of Regents, University of Nevada, situated at Reno, Nevada, for the general corporate purposes of that institution (or name a particular corporate purpose). (See note on preceding page.)

Here may follow a reservation of income for life, a power to revoke, or other clause having approval of counsel.

In Witness Whereof, The donor aforesaid has subscribed and

delivered these presents and the said trustee has by its proper officer executed the same and received the same money, securities and property the day and year first above mentioned.

IN PRESENCE OF:

....., Donor.

....., Trustee.
(Bank or Trust Company)

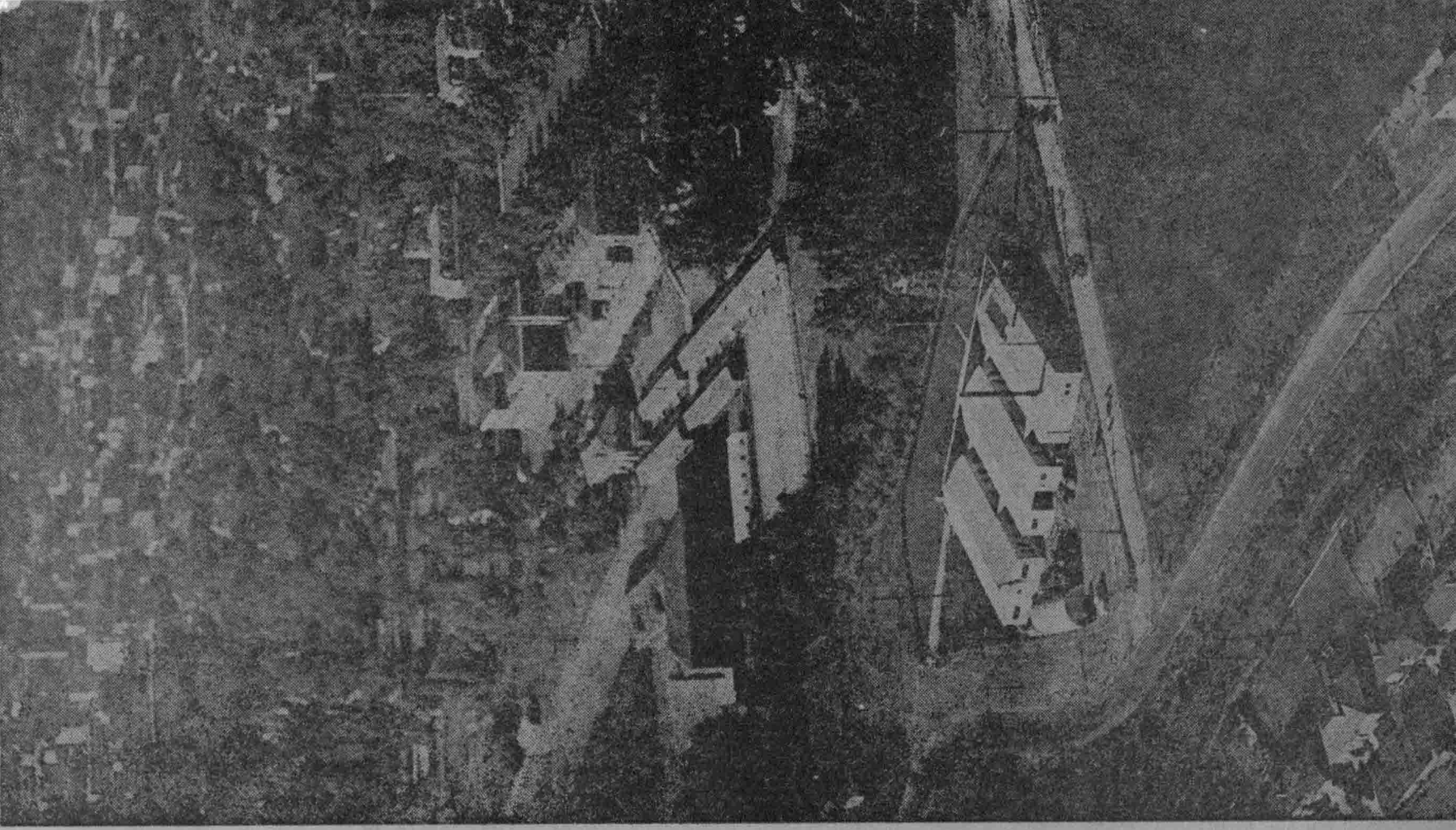
By.....

General Index

GENERAL INDEX*

*Figures at end of line refer to pages.

STATE PRINTING OFFICE CARSON CITY, NEVADA



POSTMASTER: *Return within five days to the University of Nevada, Reno, Nevada. - Return postage guaranteed.*