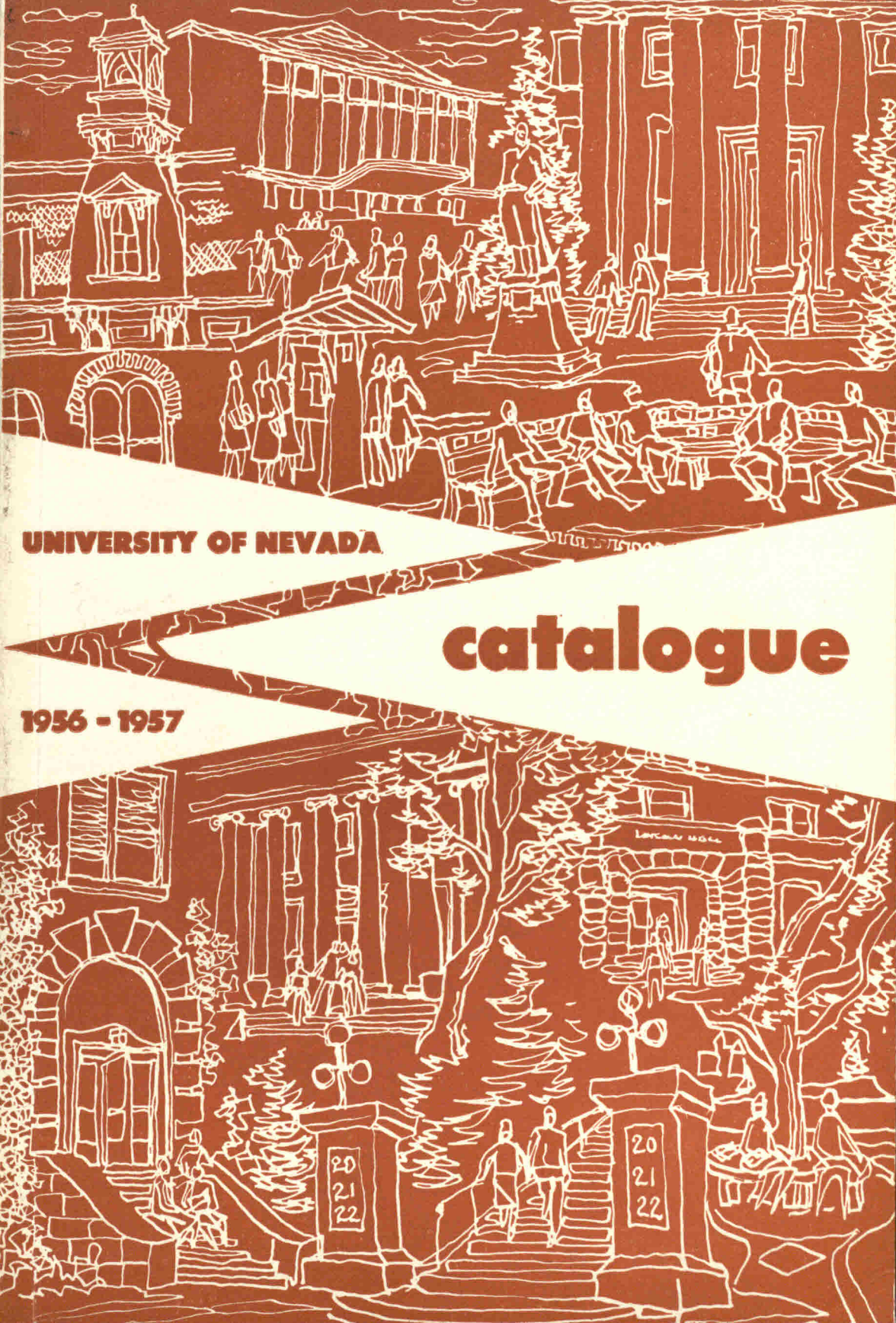


UNIVERSITY OF NEVADA

catalogue

1956 - 1957

University of Nevada

catalogue

1956 - 1957

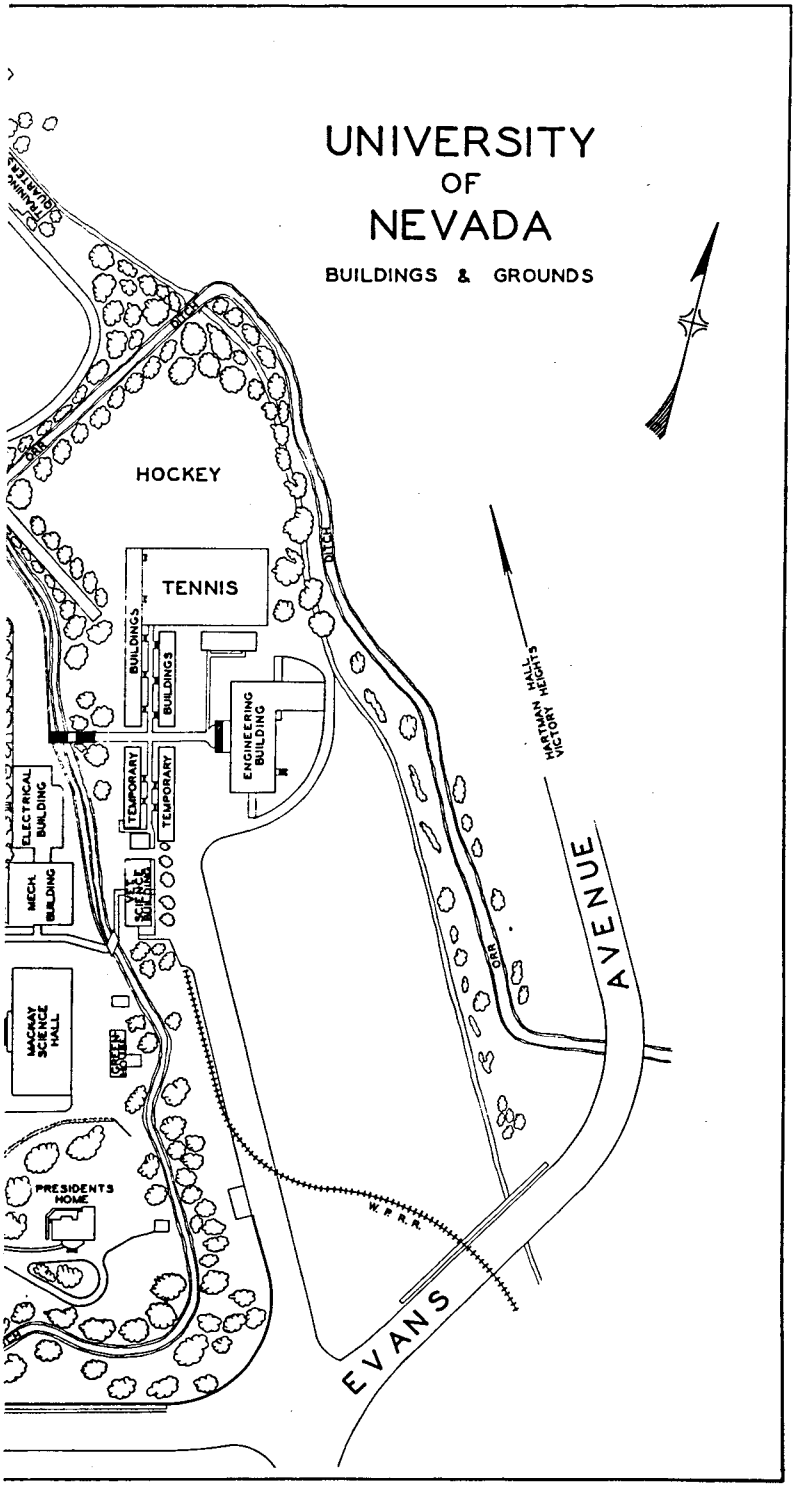
and

record for 1955-1956

VOLUME L APRIL 1956 No. 1

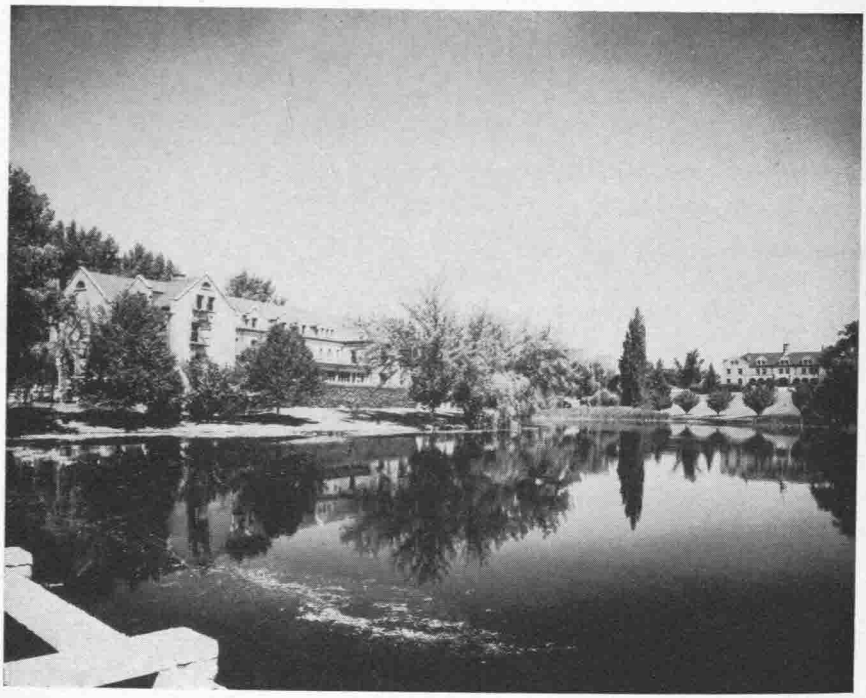
Published quarterly by the University of Nevada, Reno, Nevada, and entered in the Post Office at Reno, Nevada, as second-class matter under Act of Congress, July 16, 1894. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized April 21, 1919.

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


UNIVERSITY
OF
NEVADA
BUILDINGS & GROUNDS
HOCKEY
TENNIS
BUILDINGS
BUILDINGS
ENGINEERING BUILDING
TEMPORARY
TEMPORARY
ELECTRICAL BUILDING
MECH. BUILDING
MACKAY SCIENCE HALL
GREEN HOUSE
PRESIDENTS HOME
DITCH
DITCH
HARTMAN HALL
VICTORY HEIGHTS
O.E.R.
AVENUE
W.P.R.R.
EVANS

CAMPUS SCENES AND COLLEGE LIFE

. . . at the University of Nevada form a varied and picturesque pattern. The seasons take their full course on this campus in the Sierra foothills, ranging from summer tranquility to winter snow. In addition to our regular student activities, we have our special events, such as the annual Winter Carnival, one of the nation's foremost collegiate ski festivals, and Mackay Day, for which men students grow beards, and when top hats and hoop skirts become the campus fashion.



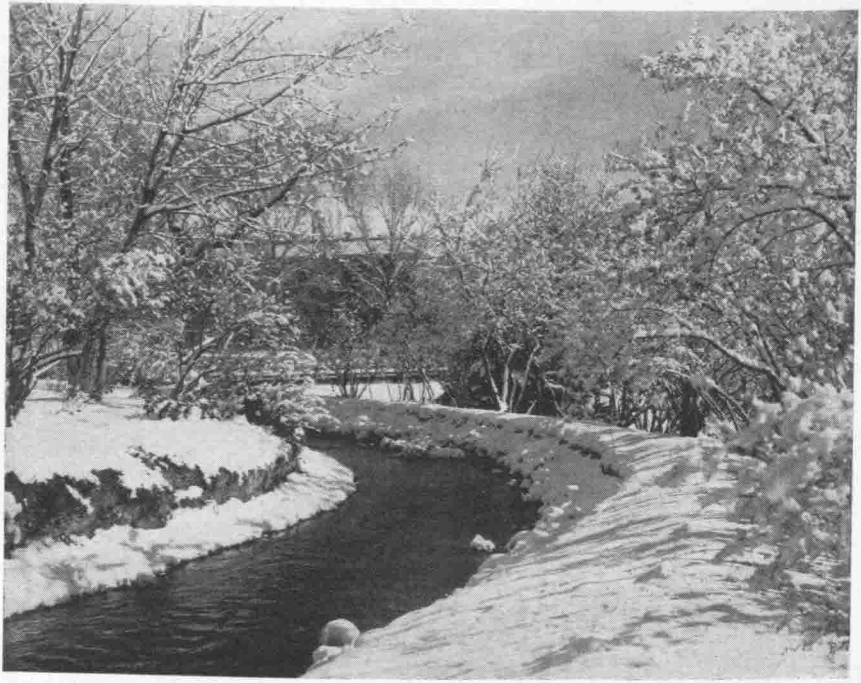


TABLE OF CONTENTS

OFFICE OF THE
BOARD OF REGENTS, UNIVERSITY OF NEVADA
RENO, NEVADA, April 1, 1956

To His Excellency, CHARLES H. 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 1955–1956, containing the courses of study, general information and membership of the Faculty, as required by an Act of the Legislature, approved March 6, 1901.

By the Board of Regents:

SILAS E. ROSS,
Chairman.

ALICE TERRY, *Secretary.*

1956

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

1957

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

MARCH

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

APRIL

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

JULY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

AUGUST

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

UNIVERSITY CALENDAR

1956-1957 FIRST SEMESTER

September 4–9	Tuesday-Sunday	Examination and orientation of new students.
September 10	Monday	Registration.
September 11	Tuesday	Instruction begins.
October 27	Saturday	Homecoming.
October 31	Wednesday	Admission Day recess.
November 7	Wednesday	Midsemester.
November 9	Friday	Grade reports due.
November 11–12	Sunday-Monday	Veterans' Day recess.
November 21–26	Wednesday, 5:00 p. m.–Monday, 8:00 a. m.	Thanksgiving recess.
December 15–January 2	Saturday, 12:00 noon–Wednesday, 8:00 a. m.	Christmas recess.
January 19–25	Saturday-Friday	Semester examinations.
January 25	Friday, 5:00 p. m.	Semester closes.
January 26	Saturday, 12:00 noon	Final grades on file with Registrar.

SECOND SEMESTER

January 28–29	Monday-Tuesday	Examination and orientation of new students.
January 30	Wednesday	Registration.
January 31	Thursday	Instruction begins.
March 29	Friday	Midsemester.
April 1	Monday	Grade reports due.
April 17–23	Wednesday, 5:00 p. m.–Tuesday, 8:00 a. m.	Easter recess.
May 4	Saturday	Mackay Day.
May 25–June 1	Saturday-Saturday	Semester examinations.
May 30	Thursday	Memorial Day recess.
May 31	Friday	Meeting of Honorary Board of Visitors.
June 1	Saturday, 5:00 p. m.	Semester closes.
June 1	Saturday evening	Phi Kappa Phi banquet.
June 2	Sunday	Baccalaureate.
June 3	Monday	Commencement.
June 3	Monday	Final grades on file with Registrar.

1957 SUMMER SESSIONS

June 8	Saturday	Registration for first two-week session and for long ten-week session.
June 10	Monday	Instruction begins for first session and for long session.
June 21	Friday	First session ends.
June 22	Saturday	Registration for main six-week session.
June 24	Monday	Instruction begins for main session.
July 4	Thursday	Independence Day recess.
August 2	Friday	Main session ends.
August 3	Saturday	Registration for post two-week session.
August 5	Monday	Instruction begins for post session.
August 16	Friday	Long session and post session end.

OFFICERS OF THE UNIVERSITY

THE BOARD OF REGENTS

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

ORGANIZATION OF THE BOARD

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

ADMINISTRATIVE OFFICERS

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

PUBLIC SERVICES

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

Auxiliary Services

Associated Students—JAMES MCNABNEY, Graduate Manager.
Buildings and Grounds—CARL M. HORN, Superintendent.
Dining Hall—MRS. NELLIE NELSON, Director.

THE UNIVERSITY STAFF[1]

President

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

Staff Emeriti

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

HORACE PRENTISS BOARDMAN, C.E., Sc.D., Professor of Civil Engineering, Emeritus.
B.S., University of Wisconsin, 1894; C.E., 1911; Sc.D., University of Nevada, 1950. (1907–1939)

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

THOMAS E. BUCKMAN, M.S., Assistant Director for County Agent Work, Agricultural Extension Service, Emeritus.
B.S., University of Nevada, 1921; M.S., 1933. (1921–1955)

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

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

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

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

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

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

[1]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.

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

ALBERT ELLSWORTH HILL,[2] A.B., Professor of English, Emeritus.
A.B., University of Chicago, 1899. (1913–1944)

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

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

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

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

HOWARD G. MASON, B.S., Agricultural Economist, Agricultural Experiment Station, Emeritus.
B.S., University of Nevada, 1940. (1935–1955)

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

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

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

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

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

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

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

---

[2]Died December 30, 1955.

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

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

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

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

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

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

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

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

FREDRICK WOOD, Ph.D., Professor and Dean of the College of Arts and Science, Emeritus.
A.B., University of Wisconsin, 1915; M.A., 1916; Ph.D., 1923. (1932–1955)

Staff

CARL WARD BACKMAN, Ph.D., Assistant Professor of Economics, Business, and Sociology.
A.B., Oberlin College, 1948; A.M., Indiana University, 1950; Ph.D., 1954. (1955)

SAMUEL M. BASTA, M.S., Counselor, Student Affairs.
B.A., University of Nevada, 1938; M.S., University of Southern California, 1953. (1955)

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

E. MAURICE BEESLEY, Ph.D., Professor of Mathematics.
A.B., Lafayette College, 1936; Sc.M., Brown University, 1938; Ph.D., 1943. (1940–1955)

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

CHARLES F. BERNHARD, M.S., Assistant Agronomist, Agricultural Experiment Station.
B.S., University of Arizona, 1952; M.S., 1953. (1955)

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

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

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

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

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

CHARLES REAGAN BREESE, B.S., Instructor in Civil Engineering.
B.S., University of Nevada, 1948. (1948)

ANN BREWINGTON, M.A., Associate Professor of Business Administration (Las Vegas).
B.S., State Teachers College, Missouri, 1920; Ph.B., University of Chicago, 1921; M.A., 1922. (1954–1955)

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

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

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

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

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

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

WILLIAM D. CARLSON, Ph.D., Professor and Dean of Student Affairs.
B.E., St. Cloud State Teachers College, 1939; M.A., University of Minnesota, 1951; Ph.D., 1955. (1953)

L. CLAIR CHRISTENSEN, B.S., Assistant Agricultural Agent, Elko County.
B.S., Utah State Agricultural College, 1954. (1955)

HOWARD H. CHRISTENSEN, M.E., Assistant Professor of Agricultural Education.
B.S., Utah State Agricultural College, 1940; M.E., Colorado Agricultural and Mechanical College, 1953. (1955)

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

HARRY E. CLARK, B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
B.S., Washington State University, 1943. (1955)

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

GEROLINE COLEMAN, B.S.E., Home Agent, Elko County.
B.S.E., Henderson State Teachers College, 1953. (1955)

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

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

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

RAYMOND C. COX, B.S., 4-H Leader and Administrative Assistant, Agricultural Extension Service.
B.S., University of California, 1949. (1950–1955)

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

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

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

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

GERARDUS CABBLE DE ROTH, Ph.D., Lecturer in Biology.
B.S., University of Maine, 1942; M.S., 1949; Ph.D., University of Michigan, 1953. (1955)

JAMES R. DICKINSON, B.A.E., Resident Director and Assistant Professor of English (Las Vegas).
B.A.E., University of Florida, 1939. (1949–1955)

LARAINE ERNEST DUNN, Ph.D., Associate Professor of Soils and Plant Nutrition; Associate Soils Research Chemist, Agricultural Experiment Station.
B.S., Oregon State College, 1929; M.S., Iowa State College, 1931; Ph.D., Washington State College, 1942. (1947–1955)

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

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

BETTY J. EILERTSEN,[3] Ph. D., Assistant Professor of Foreign Languages.
B.A., Russell Sage College, 1940; M.A., University of Wisconsin, 1941; Ph.D., University of Illinois, 1944. (1954)

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

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

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

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

RAMONA K. FIRST, Ph.D., Assistant Professor of Economics, Business, and Sociology.
B.A., Stanford University, 1943; Ph.M., University of Wisconsin, 1945; Ph.D., 1949. (1955)

[3]Resigned December 30, 1955.

JOHN L. FISCHER, Ph.D., Associate Professor of Agricultural Economics; Associate Economist, Agricultural Experiment Station.
B.S., Oklahoma Agricultural and Mechanical College, 1947; M.S., 1949; Ph.D., University of Wisconsin, 1955. (1955)

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

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

CHARLES EDWARD FRANK, Ph.D., Associate Professor of English.
A.B., Haverford College, 1933; M.A., Princeton University, 1938; Ph.D., 1939. (1955)

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

FREDERICK G. FREEBURNE, Ph.D., Associate Professor of Music.
B.S.M., Kansas State Teachers College, 1942; M.A., Columbia University, 1942; M.M., Indiana University, 1951; Ph.D., 1953. (1955)

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

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

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

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

WILLIAM A. GOODALE, B.S., Superintendent, Equipment and Farm Service Department, Agricultural Experiment Station.
B.S., University of Nevada, 1926. (1944–1955)

DUWAYNE LEROY GOODWIN,[4] M.S., Assistant Professor of Range Management; Assistant Plant Ecologist, Agricultural Experiment Station.
B.S., University of Idaho, 1942; M.S., University of Wisconsin, 1946. (1954)

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

JOHN GOTTARDI, M.A., Professor of Foreign Languages.
B.A., University of Nevada, 1921; M.A., 1926; Officer d'Académie, 1955. (1922–1953)

[4]Resigned October 1, 1955.

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

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

WILLIAM H. HALBERSTADT, Ph.D., Instructor in Philosophy.
A.B., University of Pennsylvania, 1952; A.M., University of Illinois, 1953; Ph.D., 1955. (1955)

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

JENNIE MCINTOSH HARPER, Ph.D., Associate Professor of Home Economics.
B.Sc., University of New Brunswick, 1936; M.S., University of Maine, 1938; Ph.D., Cornell University, 1941. (1955)

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)

JESS MARTIN HARRIS, B.S., Assistant Agricultural Agent, Clark County.
B.S., Utah State Agricultural College, 1955. (1955)

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

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

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

LEONA PAULINE HEINLE,[5] M.A., Lecturer in Education.
B.S. in Ed., Eastern Illinois State College, 1947; M.A., Speech, Northwestern University, 1950; M.A., Education, 1953. (1956)

EDITH HENRICH, A.B., Lecturer in English.
A.B., Columbia University, 1931. (1955)

WALTER H. HESSE, Ph.D., Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station.
B.S., California State Polytechnic College, 1952; M.S., Cornell University, 1954; Ph.D., 1955. (1955)

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

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

[5]Effective spring 1956.

ALFRED LESLIE HIGGINBOTHAM,[6] A.M., Professor of Journalism.
A.B., Oberlin College, 1920; A.M., 1920. (1923–1936)

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

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

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

HARLAN H. HOLLADAY, M.A., Instructor in Art.
B.S., Southeast Missouri State College, 1949; M.A., State University of Iowa, 1951. (1955)

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

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

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

MARILYN J. HORN, Ph.D., Associate Professor of Home Economics.
B.S., Pratt Institute, 1946; M.S., Cornell University, 1947; Ph.D., 1953. (1955)

ROBERT CARLTON HORTON, B.S. in Geol.E., Assistant Mining Engineer, Nevada Bureau of Mines.
B.S. in Geol.E., University of Nevada, 1949. (1956)*

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

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

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

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

---

[6]On leave of absence, spring 1956. *Effective January 1, 1956.

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

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

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

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

J. PATRICK KELLY, M.A., Instructor and Assistant Director of Evening Division.
B.A., State University of Iowa, 1948; M.A., 1953. (1955)

KENNETH C. KEMP, B.S., Instructor in Chemistry.
B.S., Northwestern University, 1950. (1955)

EDYTHE L. KEPFORD, B.S., Home Agent, Douglas, Ormsby, and Storey Counties.
B.S., Northwestern State College, 1947. (1955)

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

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

HENRY M. KILPATRICK, M.S., Assistant Range Conservationist, Agricultural Extension Service.
B.S., Montana State College, 1949; M.S., Agricultural and Mechanical College of Texas, 1955. (1955)

FLOYD ELTON KINSINGER, M.S., Assistant Professor of Range Management; Assistant Plant Ecologist, Agricultural Experiment Station.
B.S., Fort Hayes Kansas State College, 1952; M.S., 1953. (1955)

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)

KENNETH L. KUTTLER, D.V.M., Associate Veterinarian, Agricultural Experiment Station.
D.V.M., Colorado Agricultural and Mechanical College, 1945; M.S., Cornell University, 1955. (1955)

CHARLTON G. LAIRD,[7] Ph.D., Professor of English.
B.A., University of Iowa, 1925; M.A., 1927; Ph.D., Stanford University, 1940. (1943–1945)

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

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

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

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

EDMOND F. LAWRENCE, B.S., Assistant Geologist, Nevada Bureau of Mines.
B.S., University of Alabama, 1949. (1955)

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

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

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

GLENN MEREDITH LONEY,[8] Ph.D., Instructor in English and Speech (Las Vegas).
A.B., University of California, 1950; M.A., University of Wisconsin, 1951; Ph.D., Stanford University, 1954. (1956)

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

GORDON T. MCEACHRON, M.S., Assistant Professor of Health, Physical Education, and Athletics.
B.A., George Pepperdine College, 1948; M.S., University of Southern California, 1953. (1955)

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

ROBERT MCQUEEN, Ph.D., Assistant Professor of Psychology.
B.A., University of Denver, 1949; M.A., 1950; Ph.D., University of Texas, 1955. (1955)

---

[7]On leave of absence, 1955–1956.

[8]Effective spring 1956.

EFFIE MONA MACK,[9] Ph.D., Litt.D., Associate Professor of History (Las Vegas).
A.B., University of Nevada, 1909; B.A., Smith College, 1912; M.A., University of Nevada, 1916; Ph.D., University of California, 1930; Litt.D., University of Nevada, 1948. (1954–1955)

WILLIAM KEITH MACY, M.A., M.M., Associate Professor of Music.
B.A., Walla Walla College, 1941; B.M., Cascade College, 1941; M.A., Whitman College, 1942; M.M., Westminster Choir College, 1946. (1955)

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

PAUL L. MALONEY, B.S., Agricultural Agent at Large, Agricultural Extension Service.
B.S., University of Nevada, 1925. (1925–1955)

J. D. MANKIN, M.S., Assistant Animal Husbandman, Agricultural Extension Service.
B.S., New Mexico College of Agriculture and Mechanic Arts, 1949; M.S., Colorado Agricultural and Mechanical College, 1951. (1955)

EMORY L. MARSHALL, Assistant Agricultural Agent, Lyon County.
B.S., University of Nevada, 1955. (1955)

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

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

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

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

EUGENE M. MENKE, M.S., Assistant Professor of Electrical Engineering.
B.S., University of Nevada, 1949; M.S., University of Washington, 1952. (1955)

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

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

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

[9]On leave of absence, fall 1955.

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

WILLIAM CHARLES MILLER, Ph.D., Associate Professor of Speech and Drama.
B.S., University of Southern California, 1931; M.A., 1932; Ph.D., 1947. (1932–1947)

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

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

JOE EUGENE MOOSE, Ph.D., Professor of Chemistry; Dean of the Graduate School; Director of Research.
A.B., Southern Methodist University, 1917; M.S., University of Illinois, 1922; Ph.D., 1924. (1945–1955)

ROBERT J. MORRIS, Ph.D., Associate Professor of Chemistry.
B.S., University of Idaho, 1936; M.S., 1938; Ph.D., Ohio State University, 1947. (1947–1955)

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

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

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

HARRY L. OSBORN, B.S., Assistant Agricultural Agent, Eureka and White Pine Counties.
B.S., Fresno State College, 1954. (1955)

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

MURIEL M. PARKS, M.A., Assistant Registrar and Director of Admissions (Las Vegas).
B.Ed., Western Illinois State Teachers College, 1940; M.A., Northwestern University, 1943. (1955)

BURDETTE ANTON PETERSON, B.S., Assistant Agricultural Editor, Max C. Fleischmann College of Agriculture.
B.S., Utah State Agricultural College, 1951. (1955)

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

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

ROBERT C. POOLMAN, B.S., Assistant Professor of Civil Engineering; University Engineer.
B.S., California Institute of Technology, 1945. (1946–1955)

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

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

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

FRANK RICHARDSON,[10] Ph.D., Associate Professor of Biology.
B.A., Pomona College, 1934; Ph.D., University of California, 1939. (1941–1949)

GROVER W. ROBERTS, JR., B.S., Agricultural Agent, Douglas, Ormsby, and Storey Counties.
B.S., Colorado Agricultural and Mechanical College, 1949. (1952–1955)

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

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

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

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

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

[10]On leave of absence, 1955–1956.

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

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

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

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

PAUL F. SECORD, Ph.D., Associate Professor of Psychology.
B.A., Ripon College, 1942; M.A., Stanford University, 1948; Ph.D., 1950. (1955)

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

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

J. CRAIG SHEPPARD,[11] B.F.A., Associate Professor of Art.
B.F.A., Painting, University of Oklahoma, 1938; B.F.A., Sculpture, 1939. (1947–1952)

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

DOROTHY M. SIDWELL, M.S., Assistant Professor of Home Economics.
B.S., Ohio State University, 1951; M.S., University of California, 1953. (1955)

JACK SINGLETON, JR., B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics.
B.S., University of Kansas, 1948. (1955)

DONALD E. SKABELUND, B.S., Instructor in Physics.
B.S., Utah State Agricultural College, 1951. (1955)

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

JOSEPH R. SLIGO, Ph.D., Lecturer in Mathematics.
B.S., Ohio University, 1948; M.Ed., 1950; Ph.D., State University of Iowa, 1955. (1955)

---

[11]On leave of absence, 1955–1956.

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

A. MCCALL SMITH, Agricultural Editor, Max C. Fleischmann College of Agriculture.
(1954)

LAMAR R. SMITH, M.Lib.Sc., Loan Librarian.
B.A., University of Nevada, 1950; M.Lib.Sc., University of Oklahoma, 1955. (1955)

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

HUGH SMITHWICK, M.S., Assistant Professor of Health, Physical Education, and Athletics.
B.A., University of Nevada, 1948; M.S., University of Southern California, 1952. (1948–1955)

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

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

EDWARD ALBERT SOLTYSIK, Ph.D., Lecturer in Physics.
B.S., Lafayette College, 1950; M.S., Indiana University, 1952; Ph.D., 1956. (1955)

AGNES M. SORENSON, B.S., Home Agent at Large, Agricultural Extension Service.
B.S., Iowa State College, 1927. (1955)

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

ROBERT H. STAEHLIN, M.A., Associate Catalogue Librarian.
B.S., Winona State Teachers College, 1946; M.A., University of Minnesota, 1951. (1953)

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

WILLIAM GOTTLIEB STUCKY, M.S., Associate Director, Agricultural Extension Service.
B.S., Montana State College, 1941; M.S., Cornell University, 1952. (1955)

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

HARRY W. TAVENNER, B.S., Assistant Agricultural Agent, Elko County.
B.S., Oregon State College, 1954. (1955)

LOUIS TITUS, M.S., Professor of Agricultural Mechanics; Extension Engineer.
B.S., University of Nevada, 1924; M.S., Cornell University, 1931. (1933–1955)

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

MARTIN A. TOWNSEND, B.S., Soils and Plants Research Technician, Agricultural Experiment Station.
B.S., University of New Hampshire, 1951. (1955)

MARJORIE LARMOUR TREGEA, B.A., Agricultural Writer, Max C. Fleischmann College of Agriculture.
B.A., University of California, 1943. (1955)

PATRICIA A. TRIPPLE, Ed.D., Associate Professor of Home Economics.
B.S., University of Washington, 1946; M.A., Teachers College, Columbia University, 1952; Ed.D., 1955. (1955)

THOMAS T. TUCKER, JR., Ed.D., Associate Professor of Education.
B.S., Middle Tennessee State Teachers College, 1940; M.Ed., University of Oklahoma, 1948; Ed.D., 1950. (1955)

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

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

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

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

LUTHER T. WALLACE, JR., M.S., Assistant Agricultural Economist, Agricultural Experiment Station and Agricultural Extension Service.
B.A., Harvard University, 1949; M.S., Oregon State College, 1956. (1955)

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

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

GEORGIA NANCY WHEELER, B.S., Home Agent, Eureka, Lincoln, and White Pine Counties.
B.S., Texas State College for Women, 1924. (1955)

ROY D. WILLEY, Ph.D., Professor of Education
B.A., University of Wyoming, 1929; M.A., Brigham Young University, 1936; Ph.D., Stanford University, 1940. (1955)

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

ASHER B. WILSON, JR., M.A., Assistant Professor of Speech and Drama.
B.A., Stanford University, 1942; M.A., 1951. (1955)

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

JOHN S. WINSTON, M.Sc., Associate Professor of Metallurgy.
A.B., Cornell College, 1937; M.A., University of Chicago, 1939; M.Sc., Missouri School of Mines and Metallurgy, 1950. (1952–1955)

WANETA A. WITTLER, M.S., Home Agent Leader, Agricultural Extension Service.
B.S., Iowa State College, 1947; M.S., 1952. (1955)

VERNA D. WITTROCK, A.M., Instructor in English.
B.S., University of Illinois, 1942; A.M., 1945. (1955)

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

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

WILLIAM R. WOOD, Ph.D., Academic Vice President, Professor and Dean of State-wide Development Program of Higher Education.
B.A., Illinois College, 1927; M.A., University of Iowa, 1936; Ph.D., 1939. (1954–1955)

R. EDWIN WORLEY, [12] Ph.D., Associate Professor of Physics.
B.A., Pomona College, 1931; Ph.D., University of California, 1940. (1948–1952)

[12] On leave of absence, 1955–1956.

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

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

DONALD S. YORK, M.Ed., Assistant Agricultural Agent, Washoe and Lyon Counties.
B.S., Sul Ross State College, 1952; M.Ed., Sam Houston State Teachers College, 1954. (1955)

MARY A. ZADRA, Mines Librarian and Map Curator.
(1952)

J. HAZEL ZIMMERMAN, B.S., Home Agent, Clark County.
B.S., Oklahoma College, 1917. (1921)

General Information

Location of the University

The University of Nevada is a coeducational Land-Grant State University whose main campus is picturesquely situated on rolling hills overlooking the city of Reno. With charming old campus landmarks, shaded walks, and modern classroom buildings, its atmosphere is one of beauty and friendliness.

Reno, a town of some 45,000 residents, is bounded on the west by the pine-covered Sierra Nevada mountains, and on the east by desert. At an altitude of 4,500 feet, its climate is cool and dry, and marked by the full pageant of the seasons.

Reno, a mixture of both the metropolitan and the quietly provincial, is noted for its beautiful parks and modern residential areas. Most of Reno's numerous churches promote religious activities especially for University students. Cultural opportunities in art, music, and dramatics are offered by civic organizations as well as by the University.

The area is primarily dedicated to ranching, mining, light industry, and transportation. The latter's importance is judged by Reno's position as one of the main hubs of the West Coast.

Recreational activities abound both in Reno and its environs. Within an hour of the campus, for example, a student can motor to the Lake Tahoe resort area in the high Sierra country or to the unique prehistoric desert sea, Pyramid Lake. Also nearby are a number of nationally famed ski areas, including the one selected for the 1960 Winter Olympics, such ghost towns as Virginia City, and the tiny seat of Nevada government, Carson City.

A Southern Regional Division of the University, popularly known as "Nevada Southern," is located at Las Vegas in Clark County. Las Vegas is a lively, fast-growing city in the recreational and industrial Lake Mead area.

Strongly supported by Southern Nevada residents, the University has acquired a campus site in Clark County and is developing a modern college facility for its Southern Regional Division.

History and Development

The University of Nevada has reached its present standing as an important, fully accredited, institution of higher learning through steady growth from a small preparatory school of the pioneer West to a university offering a wide variety of courses of study and conducting significant research. Established by an article in the State Constitution in 1864, the University of Nevada actually began work in Elko on October 12, 1874, with a class of seven students. For 10 years

the University continued at Elko, at a time when high schools were almost unknown in the intermountain area, primarily serving a few local students in elementary studies.

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

The University progressed steadily after its reopening in Reno. By 1888 work in mining had been organized and plans made for adding work in agriculture to the already established arts and sciences program. Federal and State grants allowed establishment and steady expansion of the public service divisions of the University. State appropriations and the gifts of benefactors like Mrs. John W. Mackay, Clarence H. Mackay, William A. Clark, Jr., and Max C. Fleischmann allowed the physical plant to grow. The growth of the faculty and the establishment of the Robert Lardin Fulton Lecture Foundation, the Frank S. Hunt Foundation, and a large number of scholarships and loan funds further developed the academic program.

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

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

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

In 1955, Mr. and Mrs. Arthur E. Orvis gave the University $100,000 for the establishment of the "Orvis School of Nursing." This gift is to be paid at the rate of $20,000 per year. The first installment has been received and placed in a special fund for that purpose.

Mrs. Howard Wilbourn, in the spring of 1955, donated a 60-acre site for the Southern Regional Division of the University in Las Vegas, together with an option to purchase an additional 20 acres for $35,000. This land is given in memory of her mother, Anita Julia Cornish, a pioneer resident of the State.

Accreditation

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

The College of Engineering and the Mackay School of Mines are

recognized and accredited by the Engineers' Council for Professional Development.

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

Administration of the University

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

The President. The administration of the University is vested by the Board of Regents in the President of the University. As the executive head of the University, it is his duty to secure an effective, efficient, orderly, and economical administration which provides a healthful development of the University.

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

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

The Deans. The administration of the various colleges, the graduate school, state-wide development, and student affairs is delegated by the President to the respective dean of each. He is responsible to the President for the efficient, effective, orderly, and economical administration of his area.

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

Committees. An administrator may appoint committees to advise him or to aid him in carrying out his duties. Committees shall be

responsible directly to the appointing administrator and through him to the President. The administrator shall be responsible for the committees he appoints. Membership of advisory committees may, upon invitation, include faculty, students, or other specially qualified residents of the State.

Organization of the University

The University is a combination of six colleges, a graduate school, 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 colleges which present basic undergraduate and graduate programs are: the Max C. Fleischmann College of Agriculture, the College of Arts and Science, the College of Business Administration, the College of Education, the College of Engineering, and the Mackay School of Mines. 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 is encouraged to take courses in other colleges in order to broaden his general knowledge. Detailed information about the programs of each college and division appears later in this catalogue.

University Services

State-wide Educational Services

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

Correspondence Study

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

Educational Television

In cooperation with local television stations and with national organizations, the University sponsors educational television programs. These are of value both to the educators in the State and to the general public. Present arrangements make possible numerous opportunities for

students and faculty members to prepare and present educational programs through this important new communication media.

Employee Improvement Program

It has long been established in America that business and industrial organizations can strengthen employee-employer relationships through education.

The Employee Improvement Program serves such interests by offering employers a chance to assist their employees to improve their status in the firm through financial aid to continue their education.

Among the particular benefits accruing from the plan are increased production, reduction of absenteeism, and the development of the employee's satisfaction in his job. For additional information concerning the plan write to the Dean of State-wide Development.

Materials of Instruction Service

The University has inaugurated a Materials of Instruction Service. Many films have been transferred from the Agricultural Extension Division to the new center in Morrill Hall. Future plans call for addition of films, filmstrips, slides, recordings, and other nontextbook materials, for the Reno and Las Vegas campuses. In time it is hoped that the Materials of Instruction Service will be available to many other educational activities in the State.

In addition to its distribution service, the Materials of Instruction Center will hold workshops and exhibits of instructional materials periodically.

Off-campus Courses

As part of the continuing education program, a number of courses are offered in communities near the Reno and Las Vegas centers. In the fall of 1955, over 140 students were enrolled in eight different courses in the following communities: Sparks, Carson City, Stewart, Hawthorne, Fallon, Lovelock, and Yerington. Further expansion is planned in response to the requests from individuals and groups for Boulder City, Elko, Ely, Henderson, and Winnemucca. For information concerning programs in off-campus centers write to the Dean of State-wide Development.

Program Planning and Community Development Service

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

Southern Regional Division

The Southern Regional Division, created in 1951 as a branch of the University, was established as a first step toward meeting the need for

higher education in Clark County. During the following year, the course offerings were further expanded to include a wide selection of both freshman and sophomore courses plus upper division and graduate courses for teachers and other adult residents of the area.

The purpose of "Nevada Southern" is to serve those Southern Nevadans who are unable, under present circumstances, to take advantage of the complete undergraduate or graduate programs at the main campus of the University in Reno.

At present "Nevada Southern" is utilizing classroom and office facilities provided by special arrangement with the Las Vegas Union School District. Plans are being made, however, to construct the first unit of a modern campus facility on a recently acquired site in Clark County.

During the academic year of 1955–1956, more than 400 different students were enrolled in courses offered at "Nevada Southern."

Lectures, Concerts, and Exhibits

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.

"The Messiah," a joint production by the University Singers, other students, and townspeople, is the University's annual Christmas present to the community. In addition, the Department of Music presents its students in other public performances.

The year 1956 will see the opening of the University's "Sunday at Four" program. To be held each Sunday at 4 p. m. in the Education Auditorium, the program is designed to provide an hour of cultural activities for the faculty, students, and members of the community.

Fifteen programs have been arranged and will include art, dramatic readings, vocal and instrumental music, exhibits, lectures, discussions, and scientific demonstrations.

Many members of the faculty are contributing to the program, as well as special guests from other institutions and organizations.

It is planned that the "Sunday at Four" program will become a part of the regular University of Nevada campus activities.

University News Service

The University maintains a news and publicity service administered by a full-time director. This office disseminates administration and student news on a regular basis to newspapers, radio, and television

stations in Nevada and adjoining areas, special releases to educational publications throughout the United States, and sports news to state and national outlets. It arranges radio and television programs and assists in preparation of official University publications.

University Publications

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

Official publications are under the guidance of the University News Service. Regular bulletin reports of various divisions are self-supervised.

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

Official Publications

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

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

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

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

Facilities for Study and Research

Buildings and Grounds

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

Since a marked increase in the size of the student body during the next few years is anticipated, a number of new buildings have been authorized by the Board of Regents and approved by the Legislature for early construction.

Libraries

The University libraries supply printed materials to support courses offered by the University, assist the investigations undertaken by the research and teaching staffs, and provide space for study. The collections contain about 110,000 bound volumes and more than 125,000 unbound serials and pamphlets. The collections have been supplemented by private gifts.

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

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

A branch of the University Library is maintained at the Southern Regional Division at Las Vegas.

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

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

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

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

Laboratories

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

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

The College of Arts and Science maintains special laboratories in art, astronomy, biology, chemistry, physics, journalism, and music. The Blair Observatory is used as a laboratory for students in astronomy. The biology laboratories include apparatus, instruments, and greenhouse facilities for university-level work in the life sciences. The chemistry and physics laboratories include facilities for lecture demonstrations, individual student work, and special research by advanced students and faculty members. The Department of Journalism has a news laboratory, equipped like a newsroom of a modern daily newspaper, and a printing laboratory. In addition, the facilities of local newspapers, advertising agencies, and radio stations serve as laboratories for students in the course in journalism internship. The Department of Music has an extensive record collection, two high-fidelity reproducing instruments, band and orchestral instruments, and several practice rooms equipped with pianos which are available to students without charge.

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

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

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

Scientific Collections and Museums

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

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

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

The Pathological Museum in Veterinary Science has a collection of several hundred permanently mounted gross pathological specimens covering practically all the common infectious diseases of animals and miscellaneous disease processes of particular interest. The collection is available for teaching purposes and inspection.

University Regulations

Admission

The privileges of the University, while open to all qualified persons of good character and serious purposes, are designed primarily for those who satisfy the requirements for admission and become candidates for degrees.

All students who wish to register in any semester for courses carrying a total of 7 or more credits must matriculate at the University of Nevada and meet all requirements for admission. Students wishing to enroll for fewer than 7 credits may register as students not candidates for a degree (see *Nonmatriculated Students* and *Auditors* in the index).

Application for Admission

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

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

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

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

1. The official application form obtained from the Office of Admissions.
2. The student's official high school record to be sent direct from the high school on the standard high school form.
3. An official transcript of record from each collegiate institution attended (none can be omitted). Students who have attended other colleges must pay a $3 transfer credit evaluation fee. This fee will not be refunded.
4. Student Information Blanks, provided with application forms, filled out in detail and in triplicate.

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

Matriculated Students

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

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

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

Admission to Regular Status

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

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

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

Requirements: Preparatory Work

Fifteen High School Units

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

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

Ten Basic Units

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

English:

1st year through 4th year, Public Speaking, Journalism..... 1 unit each

Foreign Languages:
1st year ..... 1 unit each
Advanced (one or more years) ..... 1–3 units

Social Sciences:
All Histories (one year each) ..... 1 unit each
Civics ..... ½–1 unit each
Economics, Sociology, Psychology ..... ½–1 unit each

Mathematics:
Algebra, Plane Geometry ..... 1 unit each
General Mathematics (elements of algebra, geometry, etc.) ..... 1 unit each
Advanced Algebra, Solid Geometry, Trigonometry ..... ½ unit each

Sciences:
General Science, Physics, Chemistry ..... 1 unit each
Botany, Biology, Physiology, Physical Geography, Mineralogy, Geology ..... ½–1 unit each

Miscellaneous:
Commercial Law, Commercial Geography, Shorthand, Bookkeeping, Vocational Agriculture, Home Economics ..... ½–1 unit each

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

Five Elective Units

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

Quality Units

Of the units presented for admission to first-year standing, 6 units must carry grades of 80 percent or better and 4 of the 6 must be in acceptable basic subjects. Nevada students who cannot meet this requirement may be able to qualify for admission as unclassified students.

Specific Subject Requirements

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

The *Max C. Fleischmann College of Agriculture:*
English, 3 units.
Mathematics (algebra and/or geometry), 2 units.
Natural Science, 1 or 2 units
Social Science, 1 or 2 units } 3 units required.

The *College of Arts and Science*, the *College of Business Administration*, and the *College of Education:*
English, 3 units.
Algebra, Geometry, or Natural Science (including general science), 2 units.

SPECIFIC SUBJECT REQUIREMENTS—*Continued*

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

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

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

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

Admission by Transfer

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

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

An applicant from an accredited institution of collegiate standing must submit evidence that he has fulfilled entrance requirements for the University of Nevada for regular freshman standing, or that he has a grade average of "C" or better for all his collegiate-grade work and has completed 12 semester credits.

Advanced Standing

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

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

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

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

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

Special Regulations

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

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

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

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

Admission to Unclassified Status

Unclassified Students

Certain students who fail to meet the entrance requirements described above may be admitted as unclassified students. They must matriculate in the University and follow regular academic regulations. Only the following are eligible for such admissions:

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

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

Obtaining Regular Status

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

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

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

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

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

Students Not Candidates for a Degree

Nonmatriculated Students

Persons who are 21 years of age or more and/or who can present evidence of high school graduation who wish to enroll for *fewer than 7 credits or equivalent in any session* at the University may be registered as nonmatriculated students. Formal admission and matriculation are unnecessary. These students shall be governed by University rules and pay fees as described in the section of this catalogue entitled *Financial Information.* In general, such students will wish to take a few definite courses for training in one specific field of study, or selected courses for use if and when they are admitted and matriculated at the University.

Auditors

With the consent of the dean and the instructor concerned, auditors may be enrolled. They shall be governed by University rules and pay fees as described in the section of this catalogue entitled *Financial Information.* Auditors receive no credit, but may, at the discretion of the instructor, have the class privileges of other students.

Registration

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

Planning a Course

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

Credits

Courses in the University are evaluated in terms of the credit, which is defined as three hours of work per week for one semester. Usually

this work is made up of one period in class plus two hours of preparation or laboratory practice. Thus a 1-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 3-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 1 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 *Schedule of Classes* to learn specific times at which the courses are offered. He can then plan a tentative program for the semester, avoiding conflicts in classes, and meeting credit and subject requirements of his college or course.

Orientation

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

Required Examinations and Photograph

All new students registering for 7 or more credits must be photographed and must take medical examinations, college aptitude tests, and English examinations scheduled during Orientation Week. For dates consult the University Calendar and the *Orientation 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 date 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. No student has completed registration until all fees are paid.

Late Registration. A student who does not complete his registration

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

Changes in Registration

Adding a Course

After the registration coupon has been filed with the Registrar, a student may add a course in accordance with the rules. No course 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 course, a student must secure a change of registration card from the Registrar's Office, the signature of the instructor of the course he wishes to add, and the approval of his adviser and the dean of his college.

A fee of $1 for each course added must be paid to the Comptroller's Office before the change of registration card is returned to the Registrar's Office. 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.

The addition of the course is not official until the fee has been paid and the change of registration card has been filed in the Registrar's Office.

Withdrawal from a Course

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

Withdrawal from the University

Any student wishing to withdraw from the University should secure the proper form from the Registrar's Office. Prior to and including midsemester date the withdrawal will be recorded as W. After midsemester if the instructor reports the student as passing, a record of W will be recorded. If the instructor reports the student as not passing, a grade of WF will be recorded. The mark WF shall be treated as an F in the record. In case the student receives grades of WF in more than one-third of his work, he will be subject to probation or suspension.

Withdrawal to Enter Armed Forces

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

Letter of Honorable Dismissal

Upon the request of a student in good standing, the Registrar will issue a letter of honorable dismissal. If the student desires to enter another university, a copy of his or her university credentials, including entrance, and stating thereon whether or not this University recommends such transferee, will accompany the letter. A fee of $1 must be paid for one transcript of record furnished to a student by the Registrar. When two or more transcripts of record are requested at one time, each additional transcript is 50 cents.

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

Each student must register for English 101 and 102 in his 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. (Occasionally a noncitizen desires ROTC and may be enrolled providing he presents evidence of his intention to become a United States citizen and receives permission from his native government.)

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

Political Science 201-202

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

Precedence of Certain Courses

Required Courses

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

Failed Courses

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

Credit Requirements and Classification of Students

Except in unusual cases, each regular student is expected to register for the number of credits regularly prescribed by his college (see p. 21) 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).

A regular student is classified by the Registrar as a sophomore,

junior, or senior when he has completed the number of credits indicated for his particular college.

College	*Requirement per Semester*	*Sophomore Status*	*Junior Status*	*Senior Status*
Max C. Fleischmann College of Agriculture	15–18	30	64	97
Arts and Science	16	29	61	93
Business Administration	16	29	61	93
Education	15–18	29	61	93
Engineering	18	31	68	104
Mackay School of Mines	18	31	68	104

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

Registering for a Reduced Number of Credits

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

Compulsory Reduction

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

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

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

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

Extra Credits

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

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

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

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.

Registration for Correspondence Courses

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

Change of College

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.

Requirements for Graduation

Scholarship Requirements

In order to graduate, every student shall have an average of 2 grade points for each credit for which he has been registered at the University of Nevada except cases of W.

Subject Requirements

In addition to specific subject requirements imposed by each college for its several courses, certain subjects are required by the University of all candidates for a degree. These courses as listed under *Required Courses* are English 101 and 102; the two-year basic course in military science for men, and in physical education for both men and women; and Political Science 201 and 202 or Political Science 101 and 102. (See *History and Political Science* in *Courses of Instruction.*)

Resident Study

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

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

Residence Requirements

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

If a student is in residence at the University for one year only, that year's work must be done in the college from which the degree is expected.

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

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

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

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

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

Application for Graduation

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

A charge of $8 is made for each diploma.

Payment of Accounts

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

Degrees and Credit Requirements

Baccalaureate degrees, and the number of credits required for each, are listed by colleges as follows:

	Credits Required
Max C. Fleischmann College of Agriculture	
Bachelor of Science in Agriculture (B.S. in Ag.)	135*
Bachelor of Science in Home Economics (B.S. in H.Ec.)	133
College of Arts and Science	
Bachelor of Arts (B.A.)	128
Bachelor of Science (B.S.)	128
Bachelor of Science in Chemistry (B.S. in Chem.)	132
Bachelor of Science in Chemical Technology (B.S. in Chem.Tech.)	132
Bachelor of Arts in Journalism (B.A. in Jour.)	128
College of Business Administration	
Bachelor of Arts (B.A.)	128
Bachelor of Science in Business Administration (B.S. in Bus.Adm.)	128
College of Education	
Bachelor of Arts in Education (B.A. in Ed.)	128
Bachelor of Science in Education (B.S. in Ed.)	128
College of Engineering	
Bachelor of Science in Civil Engineering (B.S. in C. E.)	146
Bachelor of Science in Electrical Engineering (B.S. in E.E.)	146
Bachelor of Science in Mechanical Engineering (B.S. in M.E.)	146
Mackay School of Mines	
Bachelor of Science in Geology (B.S. in Geol.)	146
Bachelor of Science in Geological Engineering (B.S. in Geol.E.)	146
Bachelor of Science in Metallurgical Engineering (B.S. in Met.E.)	146
Bachelor of Science in Mining Engineering (B.S. in Min.E.)	146

*146 credits are required for a B.S. in Ag. with a major in agricultural education.

Advanced Degrees

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

Undergraduate Theses

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

Grading and Examinations

The Grading System

Marks Used

The grading system shall consist of four passing grades, of condition, of incomplete, and of failure. The passing grades shall be designated in descending order of excellence as A, B, C, and D; a condition shall be marked E, an incomplete I, and a failure F. W indicates withdrawal

without failure; WF indicates withdrawal from the University with failure.

Definition of Marks

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

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 either F or WF, zero grade points.

Determination of Final Grades

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

Final Examinations

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

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

Scholarship Average

In determining scholarship average the sum of the grade points received for each credit for which the student is registered shall be

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

Honor Rolls

Semester Honor Roll

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

Senior Honor Roll

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

Four-Year Honor Roll

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

Midsemester Reports

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

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. (1) A student not in residence may receive a permit to remove a condition only upon written approval of the dean of the college concerned. (2) No disqualified student may be issued a permit to remove a condition.

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

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

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

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

Removing an Incomplete

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

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

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

Repeating a Failed Course

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

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

Credits by Examination

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

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

To take an examination for credit the student must obtain an application from the Office of Admissions. When this application is properly signed by the student, the instructor, the chairman of the department, the dean of the college, and carries the Comptroller's stamp showing that the fee of $3 is paid, it should be returned to the Director of Admissions. A certificate of eligibility to take the examination will be issued, signed by the Director of Admissions. When this certificate is presented to the instructor, the examination is authorized.

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

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

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

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

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

Scholastic Standing Regulations

Class Conduct

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

Grade-Point Deficiency

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

Probation

Conditions Resulting in Probation

Scholarship

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

Conduct

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

Penalties for Probation

1. A student on scholastic probation shall not be allowed to register for more than 80 percent of the regular number of credits of his prescribed course unless he has a grade-point average of 2.0 or better for the preceding semester *and the approval of his dean.*
2. A student on probation may not be classified as a senior.
3. A student on conduct probation will be required to report at regular intervals to a probation adviser appointed by the Student Relations Committee.

Release from Probation

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

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

Suspension

Conditions Resulting in Suspension

Scholarship

1. A student deficient 22 or more grade points at the end of any semester is suspended from the University.
2. If the class preparation, attendance, or progress of a student toward a degree is deemed unsatisfactory, the student may be suspended from the University at any time.

Conduct

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

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

Penalties for Suspension; Readmission

1. Students suspended from the University may apply for readmission only after an interval of one semester. With the consent of the Scholastic Standing Committee, however, a suspended student may enter the summer sessions at the University of Nevada and may be considered for readmission in the following fall semester if he has earned at least 8 credits and a grade-point average of 2.0 or better in those summer sessions.

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

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

Disqualification

Conditions Resulting in Disqualification

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

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

Penalty for Disqualification

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

Appeal to Committee

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

Financial Information

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

Student Expenses

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

Board and room	$300.00	to	$450.00
Books, paper, notebooks, etc.	45.00	to	65.00
Matriculation fee	5.00	to	5.00
Fees (Consolidated and others)	65.00	to	125.00
Deposit (General)	10.00	to	10.00
Deposit (ROTC)	20.00	to	20.00
Total	$445.00	to	$675.00
Tuition (residents of Nevada)	none		none
Tuition (nonresidents)	$135.00	to	$135.00

Tuition

The State of Nevada offers its citizens free tuition at the State University. Except as indicated below nonresidents are charged tuition, set by the Board of Regents at $135 per semester, beginning September, 1955. The student is classified as a resident or nonresident of

Nevada by the Office of Admissions when the student is admitted. Responsibility for providing full documentary proof of Nevada residency for purpose of securing waiver of nonresident tuition is upon any applicant making such claim of residency. Nonresident tuition will be collected at registration time from the claimant in whose case determinations are not complete. All students concerned should read the following statement from the Compiled Laws of Nevada which govern the payment of nonresident tuition.

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

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

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

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

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

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

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

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

Board and Room

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

Residence Halls

Applications for Residence

New students will receive an application for residence privilege

when they receive their admission cards from the Director of Admissions. The application forms should be completed immediately and mailed to the Office of Student Affairs. Former students may secure applications from the Office of Student Affairs. Applications will be considered in the order of their receipt.

Women's Residence Halls

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

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

Required Residence. All unmarried undergraduate women of normal college age not living with their parents or guardians are required to reside in a University residence. The only exception to this rule may be made when written request has been filed in advance with the Dean of Women by parents, requesting that their daughter be permitted to live with relatives or friends whose home is in Reno or Sparks.

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

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

1. Register in and carry at least 12 credits of University work each semester unless excused by the Dean of Women.
2. Conform to the regulations of the University and of the halls.
3. Provide bedding for twin-sized bed, including mattress pad, sheets, pillow cases, blankets, and spread.
4. Mark all personal articles and wearing apparel with the name of the owner.
5. Take care of her own room and linens. Laundry facilities and equipment are provided for those who desire to do their own washing and ironing. The individual must supply her own electric iron.

Men's Residence Halls

The University provides living accommodations for single men in Lincoln Hall and in Hartman Hall. These residence halls are under University management and the supervision of the Dean of Student Affairs and all assignments are made from his office.

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

1. Register in and carry at least 12 credits of University work each semester unless excused by the Dean of Student Affairs.
2. Conform to the regulations of the University and of the halls.
3. Provide blankets for a single bed. The University furnishes sheets and pillow cases (which it launders), beds and mattresses, mattress covers and pillows. Laundry facilities and equipment are provided for those who desire to do their own washing and ironing. The individual must supply his own electric iron.
4. Pay dues to the hall association for social functions and the purchase of magazines and newspapers.

The University Dining Hall

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

Regulations Governing the University Dining Hall

1. All students residing in University residence halls are required to board at the University Dining Hall.
2. Students boarding at the dining hall will be expected to come with sufficient funds to keep their board bill paid one month in advance. The board bill must be paid to the Comptroller within the first five days of the month, or a 50 cents charge per day will be made. The board receipt must be presented to the dining hall and exchanged for a meal ticket. Those failing to obtain a meal ticket will be billed at guest rates for meals taken.
3. Months in which university vacations occur will be prorated.
4. Students who wish to board in the dining hall for a partial month will be charged at a rate 20 percent more than the usual rate.
5. Refunds for necessary absences from or withdrawals from the dining hall will not be made for periods of less than one week. For absences involving one week or more, the rate of refund will be 80 percent of the amount paid by the student for the period in question. Due notice must be given and permission secured in advance or no refund will be allowed.

Preferences in Dining and Residence Halls

The Board of Regents has adopted the following rule:

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

(1) To Nevada students.

(2) To formerly enrolled students from outside Nevada.

(3) To new students from outside Nevada.

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

Fees and Deposits

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

Matriculation Fee

Each new student who has been formally admitted to the University must pay a matriculation fee of $5. This fee is paid once only by each student at the time of first enrollment in the University, and is not refunded.

Late Registration Fees

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

Each student who is registering for 7 or more credits and who begins registration before the end of the week of registration day shall pay to the Comptroller a 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 7 or more credits and who does not begin his registration before the end of the week of registration day shall pay to the Comptroller a late registration fee of $5.

Consolidated Fee for Matriculated Undergraduate Students

Matriculated undergraduate students who are residents* of Nevada and who are registered for 7 or more credits are required to pay a consolidated fee of $65 per semester. This covers basic registration, library, and course fees except for expenses for specialized instruction which are described in the next section.

*Out-of-State students registering for 7 or more credits are required, in addition, to pay $135 tuition per semester.

The consolidated fee for matriculated undergraduate students also includes the Associated Students Membership fee, the Student Union fee, and the Health Service fee. It is understood that anyone registering for University courses has the privilege of paying these fees and securing the benefits therefrom.

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

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

Student Union Fee

A Student Union fee of $5 per semester has been adopted by the Associated Students of the University.

Health Service Fee

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

Specialized Instruction Expenses

Expenses for specialized instruction will depend upon current costs and will be required for:

1. Elective courses requiring equipment, facilities, or materials not available on the University campus, for example, bowling, golf, or swimming.
2. Private instruction in music, etc.

3. Noncredit courses, conferences, workshops, post-graduate professional seminars, and similar educational offerings.

4. Personal expenses of students incurred in connection with field trips.

Fees for Nonmatriculated and Part-time Students

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

Nonmatriculated and matriculated day students carrying fewer than 7 credits will also be charged fees at the rate of $10 per credit and specialized instruction expenses, if any.

Out-of-State students registering for fewer than 7 credits are not required to pay nonresident tuition.

Students registering for fewer than 7 credits are not required to pay the ASUN, Student Union, or Health Service fees, but they may avail themselves of the services provided by the payment of these fees.

Fees for Auditors

Students securing the privilege of auditing classes will be charged a fee of $7.50 per credit and specialized instruction expenses, if any. No fees will be refunded if the student withdraws.

Consolidated Fee for Graduate Students

A fee of $50 per semester will be charged all graduate students who are residents* of Nevada and who are registering for 7 or more credits. Graduate students who are registering for fewer than 7 credits will be charged fees at the rate of $10 per credit. All graduate students are required to pay specialized instruction expenses, if any.

Graduate students are not required to pay the ASUN, Student Union, or Health Service fees, but they may avail themselves of the services provided by payment of these fees.

Diploma Fee

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

*Out-of-State students registering for 7 or more credits are required, in addition, to pay $135 tuition per semester.

General Deposit

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

ROTC Deposit

Cadets enrolled in basic or advanced military courses normally deposit $20, $5 to guarantee against loss of texts and $15 to guarantee the uniform. If no text or uniform items are lost, the full amount of the deposit is returned to the student.

Uniforms

Men and women are required to furnish for physical education classes prescribed regulation outfits. These are available at sporting goods stores in Reno.

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

Tuition Charges, Fees, and Deposits

	Amount
*Associated Students fee	$14.00
Auditors	7.50 per credit
Change of registration	1.00 per course
Condition, fee for removing	3.00
Consolidated fee, undergraduate students	65.00
Consolidated fee, graduate students	50.00
Deposit, General	10.00
Diploma	8.00
Graduation, late application for	3.00
*Health Service	8.00
Late registration	1.00–5.00
Matriculation (new students only)	5.00
Nonmatriculated students	10.00 per credit
Part-time students registering for fewer than 7 credits	10.00 per credit
ROTC deposit	20.00
Special examinations, each	3.00
Specialized instruction expenses (Determined by current costs)	
Students registering for fewer than 7 credits	10.00 per credit
*Student Union fee	5.00
Teacher Placement Service	5.00
Transfer credit evaluation	3.00
†Transcript of student record	1.00
Tuition to nonresidents	135.00

*Included in the consolidated fee for undergraduate students.

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

State-wide Educational Services

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

Summer Sessions

Auditors	7.50 per credit
Late registration	2.00

Reno Campus Sessions

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

Off-Campus Sessions

All students except auditors	10.00 per credit

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

Delinquency in Paying Fees

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

Refunds

Matriculated Students Registered for 7 or More Credits

Refund of consolidated fee and nonresident tuition shall be as follows:

Withdrawal during	*Refund*
1– 2 weeks	75%
3– 6 weeks	50%
7– 8 weeks	25%
9–16 weeks	none

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

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

Auditors

Refunds do not apply to auditors who withdraw.

Summer Sessions Students

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

Financial Aid for Students

Scholarships, Prizes, Loan Funds

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

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

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

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

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

Student Employment

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

Student Activities

Policy of the University Toward Students

In the government of the University the largest liberty consistent with good work, good order, and good character is given the students. Their habits of life are expected to be such as to promote daily cultivation of high moral character. They are expected in all their relations to each other and to the University to observe the usages of good society without requiring special regulations for that purpose. They are expected to be punctual and regular in their attendance upon all University exercises.

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

Student Participation in Government

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

The Associated Students

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

The Associated Women Students

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

The Student Union Board

The function of the Student Union Board, composed of student representatives, is to promote and organize the activities of the *Jot Travis Student Union.*

Residence Hall Associations

Each residence hall has an organization of its residents for student control of group living and social activities. The executive officers, elected by the residents, coordinate residence hall government with University policies.

Interfraternity Council

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

Panhellenic Council

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

Student Publications

Student publications are under the supervision of the ASUN Publications Board.

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.

The Rebel Yell. A monthly newspaper issued by the students at the Southern Regional Division at Las Vegas.

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

ASUN Student Handbook. The official handbook of the student body, published annually by The Associated Students of the University of Nevada.

Health, Physical Education, and 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.

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

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

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

Social and Recreational Pursuits

Cultural, social, and recreational opportunities play an important part in the activities calendar at the University.

For the cultural advancement of the students, there is a succession of such events as art exhibits, dramatic presentations, recitals, and concerts. Campus Players, the University Singers, the Band, and other similar groups offer many opportunities for student participation in the arts. Students also actively participate in the YWCA and in various student clubs sponsored by the churches.

Departmental clubs strive to promote closer understanding between the student and the teacher, and to stimulate the student's interest in his chosen field of study. Honor societies such as Phi Kappa Phi provide recognition of scholastic achievement.

Campus service clubs, Sagens, Sagers, and Blue Key, promote school spirit. Fraternal, sorority, and independent organizations all have their full calendar of social activities for members.

Campus holidays are both festive and unique, such as Homecoming—with the Wolves Frolic program of student skit capers and an annual float parade; the Winter Carnival—one of the foremost winter festivals in the nation; Mackay Day—to honor University benefactors; and Governor's Day—military drill and dress parade for the ROTC students.

For the sports-minded, there is year-round activity, including tennis, golf, hunting, fishing, swimming, skiing, skating, and riding.

Max C. Fleischmann College of Agriculture

School of Agriculture
Departments of Instruction: Agricultural Economics, Agricultural Education and Agricultural Mechanics, Agronomy and Range Management, Animal Husbandry, and Soils and Plant Nutrition.
Sarah Hamilton Fleischmann School of Home Economics
Agricultural Experiment Station
Agricultural Extension Service

Objectives

The main objective of the Max C. Fleischmann College of Agriculture is to offer such training in scientific and vocational agriculture and home economics as will furnish a well-rounded education and fit students for the successful operation of a farm and home, and also for the professional positions. Agricultural curricula and curricula in home economics, which include basic courses in the arts and sciences, lead to baccalaureate degrees. Master of Science degrees may be earned in animal husbandry, and in agronomy and range management.

An integral part of this College is the Agricultural Experiment Station which provides opportunities for research experience both to selected undergraduates and to graduate students. Also part of this College is the Agricultural Extension Service which carries the findings of research in agriculture and home economics to interested persons not enrolled for formal classes at the University.

Requirements for a Baccalaureate Degree in Agriculture

The degree of Bachelor of Science in Agriculture with majors in general agriculture, agricultural economics, agronomy, animal husbandry, range management, and soils will be conferred upon students who satisfactorily complete the full course of study in the selected field in the School of Agriculture, aggregating 135 credits of which 42 must be in upper-division courses.

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 146 credits, 45 of which must be in upper-division courses.

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

A candidate for the degree of Bachelor of Science in Agriculture who has not had farm or ranch experience should consult his adviser about obtaining this experience if he wishes to be recommended for positions requiring such experience.

Requirements for a Baccalaureate Degree in Home Economics

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

Three areas of concentration are offered in the Sarah Hamilton Fleischmann School of Home Economics in order to meet individual needs: home economics education, foods and nutrition, and general home economics. The degree of Bachelor of Science in Home Economics is conferred upon the satisfactory completion of 133 approved credits.

Curricula in Agriculture

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

Suggested Freshman Year

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

	1st Sem.	*2d Sem.*
Mil. 101, 102—Basic Course	1	1
P.E. 101, 102—Freshman Activities	1	1
Ag. 103, 104—College Study, Orientation	1	1
Agron. 106—Elements of Agronomy	--	3
A.H. 101—Elements of Animal Husbandry	3	--
Bot. 103—General Botany	3	--
Chem. 101, 102—General Chemistry	4	2
Engl. 101, 102—Composition and Rhetoric	3	3
Math. 101—Intermediate Algebra	--	2
Zool. 103, 104—General Zoology	--	4
	16	17

A preveterinary student should substitute Chemistry 122 for Agronomy 106, and History 101 for Botany 103.

A student who has definitely selected a major should consult his adviser before registering.

General Agriculture Major

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

Course Requirements in General Agriculture

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	42
Agricultural Economics Courses	6
Agricultural Mechanics Courses	6
Ag. 103, 104, 350—College Study, Orientation, Genetics	5
Ag. 401 or 402—Agricultural Seminar	1
Agronomy and Range Management Courses	9
Animal Husbandry Courses	9
Soils Courses	6
Biological Sciences	15
Bot. 103—General Botany	3
Zool. 103, 104—General Zoology	4
Electives (Biol. 351, Bot. 222 or 355, Zool. 309 recommended)	8
English and Speech	8
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Physical Sciences and Mathematics	18
Chem. 101, 102—General Chemistry	6
Chem. 242—Introductory Organic	4
*Math. 101, 102—Intermediate Algebra, Trigonometry	4
†Phys. 101, 102 or 151, 152—Introductory or General	4
Social Sciences, Arts, and Humanities	10
Econ. 203—Survey of Economics	3
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Social Sciences, Arts, and Humanities Electives	5
Electives	34
	135

*Students who have had advanced algebra and trigonometry in high school may substitute other courses for mathematics.

†Students with one unit of high school physics may substitute some other course for physics.

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. It gives training 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 degree of Bachelor of Science in Agriculture with a major in agricultural economics, the student may pursue graduate work leading to an advanced degree preparatory to teaching, research, or agricultural extension work.

Course Requirements in Agricultural Economics

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agricultural Economics Courses	23
Ag. 357 or Econ. 361—Statistics	3
Ag.Econ. 212—General Agricultural Economics	3
Ag.Econ. 245, 356—Farm Accounting, Land Economics	6
Ag.Econ. 357, 476—Marketing Farm Products, Farm Management	6
Agricultural Economics Electives	5
Agriculture Outside Major Field	23
Agricultural Mechanics Courses	4
Ag. 103, 104, 401—College Study, Orientation, Seminar	3
Agronomy and Range Management Courses	6
Animal Husbandry Courses	6
Soils Courses	4
Biological Sciences	5
Bot. 103—General Botany	3
Zool. 103—General Zoology	2
English Speech and Journalism	13
Engl. 101, 102—Composition and Rhetoric	6
Speech 111, 112—Public Speaking	4
Journ. 370—Agricultural Journalism	3
Physical Sciences and Mathematics	11
Chem. 101—General Chemistry	4
*Math. 101, 110—Intermediate and College Algebra	5
*Math. 102—Trigonometry	2
Social Sciences, Arts, and Humanities	24
Bus.Adm. 101, 373 or Ag.Econ. 322—Accounting, Business Law, or Farm Law	7
Econ. 201, 202—Principles of Economics	6
Econ. 353—Money and Banking	3
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Social Sciences, Arts, and Humanities Electives	6
Electives	28
	135

*Students who have had advanced algebra and trigonometry in high school may substitute other courses for Mathematics 101 and 102.

Students interested in business and commerce are advised to take Business Administration 153 and Economics 357 or 373. Students interested in farm or ranch management are advised to take Chemistry 242 and Animal Husbandry 303.

Agricultural Education and Agricultural Mechanics

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

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

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

(2) *Technical Training*—Graduation from an approved College of Agriculture, with 60 credits of technical agriculture.

	Minimum	*Recommended*
Agricultural Economics courses	5	10
Agricultural Mechanics and Engineering	10	15
Agronomy, Range Management, and Soils	10	20
Animal Husbandry	10	20

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

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

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

Course Requirements in Agricultural Education

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	62
Agricultural Economics Courses	9
Ag. 103, 104, 350—College Study, Orientation, Genetics	5
Agricultural Mechanics Courses	11
Agronomy Courses	6
Animal Husbandry Courses	15
Range Management Courses	4
Soils Courses	4
Agricultural Electives	8
Biological Sciences	11
Bot. 103, 222—General, Systematic Botany	7
Zool. 103, 104—General Zoology	4
English and Speech	8
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Physical Sciences and Mathematics	12
Chem. 101, 102—General Chemistry	6
Chem. 242—Introductory Organic	4
Math. 101—Intermediate Algebra	2
Social Sciences and Professional Education	31
Econ. 201 or 203—Principles or Survey of Economics	3
Ed. 201—School Law	3
Ed. 417—Problems in Supervised Teaching	1
Sec.Ed. 340—Guidance and Counseling	3
Sec.Ed. 444, 446, 447—Methods and Problems	7
Sec.Ed. 457—Supervised Teaching	6
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Psych. 201, 321—General, Educational Psychology	6
Electives	14
	146

Suggested Electives—
Biology 351—Bacteriology
Journalism 370—Agricultural Journalism
Mechanic Arts 203—Machine Shop

Agronomy and Range Management

Instruction is given in both agronomy and range management in this department.

The agronomy major may be taken with emphasis on crops and soils. Production under irrigation will be emphasized. Graduates will be prepared to farm, to enter professional positions, or to continue toward an advanced degree.

The range management major is designed to enable the graduate to apply scientific principles to the management of range lands. Graduates will be prepared to manage their own lands, to enter professional positions in range management, or to continue in graduate study.

Course Requirements in Agronomy

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	41
Ag. 103, 104, 350—College Study, Orientation, Genetics	5
Ag. 357, 401—Statistics, Seminar	4
Ag.Econ. 212—General Agricultural Economics	3
Ag.Mech. 356—Irrigation	3
Agron. 106, 205—Principles of Agronomy, Forage Crops	6
Agron. 346, 354—Weeds, Cereal Crops	6
Agron. 456—Plant Breeding	3
A.H. 101—Elements of Animal Husbandry	3
Soils 201, 422—General Soils, Soil Conservation	6
Soils 325 or 418—Soil Genesis and Classification or Soil Fertility	2
Biological Sciences	20
Bot. 103, 355, 364, 365—General Botany, Plant Physiology, Mycology	11
Zool. 103, 104—General Zoology	4
Electives (Biol. 351, Bot. 231 or 380, Zool. 359 recommended)	5
English and Speech	8
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Physical Sciences and Mathematics	18
Chem. 101, 102, 242—General, Introductory Organic	10
Math. 101, 102—Intermediate Algebra, Trigonometry	4
Phys. 101, 102—Introductory Physics	4
Social Sciences, Arts, and Humanities	10
Econ. 203—Survey of Economics	3
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Social Sciences, Arts, and Humanities Electives	5
Electives	30
	135

Course Requirements in Range Management

	Credits	
Military—Basic Course		4
Physical Education—Freshman, Sophomore Activities		4
Agriculture		50
Ag. 103, 104—College Study, Orientation	2	
Ag. 357, 401 or 402—Statistics, Seminar	4	
Ag.Econ. 212—General Agricultural Economics	3	
Ag.Econ. 476—Farm and Ranch Management	3	
Ag.Mech. 332—Farm Machinery	2	
Agron. 106, 205—Principles, Forage Crops	6	
A.H. 101, 303—Elements, Animal Nutrition	6	
Animal Husbandry Electives	3	
R.Mgt. 317, 359—Range Agrostology, Principles	6	
R.Mgt. 630, 362—Range Improvements, Poisonous Plants	2	
R.Mgt. 364, 366—Range Field Trip, Study Techniques	4	
R.Mgt. 461, 466—Grazing Influences, Range Administration	2	
Soils 201, 325—General, Soil Genesis and Classification	7	
Biological Sciences		21
Bot. 103, 222—General, Systematic Botany	7	
Bot. 355, 380—Plant Physiology, Plant Ecology	7	
Zool. 103, 104—General Zoology	4	
Zool. 337 or 382—Mammalogy or Animal Ecology	3	
English and Speech		8
Engl. 101, 102—Composition and Rhetoric	6	
Speech 111—Public Speaking	2	
Physical Sciences and Mathematics		21
Chem. 101, 102, 242—General, Introductory Organic	10	
Chem. 371—Physiological Chemistry	3	
Math. 101, 102—Intermediate Algebra, Trigonometry	4	
Phys. 101, 102 or 151, 152—Introductory or General	4	
Social Sciences, Arts, and Humanities		10
Econ. 203—Survey of Economics	3	
Pol.Sci. 201, 202—United States, Nevada Constitutions	2	
Social Sciences, Arts, and Humanities Electives	5	
Electives		17
		135

Suggested Electives—
Agricultural Economics 356
Agriculture 350
Agronomy 346
Civil Engineering 241
Geography 222
Geology 101
Range Management 464
Humanities
Social Sciences

Graduate Study

Graduate study leading to the Master of Science degree is offered in the Department of Agronomy and Range Management. Two years in usually required beyond the bachelor's degree. Problems in range ecology, range improvement, or forage improvement are usually selected as a basis for the thesis. Occasionally graduate research assistantships are available. See the section of this catalogue entitled *Graduate Study*.

Animal Husbandry

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

The instruction is to a large degree offered by men actively engaged in research in the particular field.

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

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

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

Course Requirements in Animal Husbandry

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture Outside Major Field	22
Ag. 103, 104, 350—College Study, Orientation, Genetics	5
Ag. 357, 401 or 402—Statistics, Seminar	4
Ag.Econ. 212—General Agricultural Economics	3
Agron. 106—Principles of Agronomy	3
R.Mgt. 359—Principles of Range Management	3
Soils 201—General Soils	4
Animal Husbandry Courses	26
A.H. 101, 201—Elements, Livestock Judging	5
A.H. 303, 306—Animal Nutrition	6
A.H. 307—Physiology of Domestic Animals	5
A.H. 308—Animal Diseases and Parasites	3
A.H. 405—Animal Breeding	3
Animal Husbandry Electives	4
Biological Sciences	19
Biol. 351—Bacteriology	4
Bot. 103, 222—General, Systematic Botany	7
Zool. 103, 104, 309—General, Comparative Anatomy	8
English and Speech	8
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Physical Sciences and Mathematics	23
Chem. 101, 102, 242—General, Introductory Organic	10
Chem. 371—Physiological Chemistry	3
Math. 101, 102—Intermediate Algebra, Trigonometry	4
Phys. 151, 152—General Physics	6
Social Sciences, Arts, and Humanities	10
Econ. 203—Survey of Economics	3
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Social Sciences, Arts, and Humanities Electives	5
Electives	19
	135

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 Course	4
Physical Education—Freshman, Sophomore Activities	4
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Chem. 101, 102, 122—General, Qualitative Analysis	9
Chem. 233, 242—Quantitative Analysis, Introductory Organic	8
Math. 101, 102—Intermediate Algebra, Trigonometry	4
Phys. 151, 152—General Physics	6
Zool. 103, 104—General Zoology	4
Zool. 309, 364—Comparative Anatomy, Embryology	9
Electives†	12
	68

†Elective courses shall be 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.

Soils and Plant Nutrition

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

Course Requirements in Soils

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	41
Ag. 103, 104, 401—College Study, Orientation, Seminar	3
Ag.Econ. 212—General Agricultural Economics	3
Ag.Econ. 476—Farm and Ranch Management	3
Ag.Mech. 221, 332—General Mechanics, Farm Machinery	4
Ag.Mech. 356—Irrigation	3
Agron. 106, 205—Principles, Forage Crops	6
A.H. 101—Elements of Animal Husbandry	3
Soils 201, 323—General, Soil Physics	7
Soils 325, 418, 420—Soil Genesis and Classification, Soil Fertility	7
Soils 422—Soil Conservation	2
Biological Sciences	15
Biol. 351—Bacteriology	4
Bot. 103, 355—General Botany, Plant Physiology	7
Zool. 103, 104—General Zoology	4
Civil Engineering 241—Plane Surveying	3
English and Speech	8
Engl. 101, 102—Composition and Rhetoric	6
Speech 111—Public Speaking	2
Physical Sciences and Mathematics	32
Chem. 101, 102, 122—General, Qualitative Analysis	9
Chem. 233, 242—Quantitative Analysis, Introductory Organic	8
Geol. 101—Physical Geology	3
Math. 101, 102—Intermediate Algebra, Trigonometry	4
Phys. 151, 152, 153, 154—General Physics	8
Social Sciences, Arts, and Humanities	10
Econ. 203—Survey of Economics	3
Pol.Sci. 201, 202—United States, Nevada Constitutions	2
Social Sciences, Arts, and Humanities Electives	5
Electives	18
	135

Suggested Electives—

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

Curricula in Home Economics

The Sarah Hamilton Fleischmann School of Home Economics requires 133 credits for the degree of Bachelor of Science in Home Economics. Curricula in home economics follow:

Home Economics Education

The following program is designed for students who wish to qualify as teachers of home economics in the State of Nevada under the provision of the National Vocational Education Acts.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Art 105—Design	2	Engl. 102—Comp. and Rhetoric	3
Engl. 101—Comp. and Rhetoric	3	H.Ec 114—Clothing Constr.	3
H.Ec. 103—Orientation	1	H.Ec. 120—Pers. Growth, Develop.	3
H.Ec. 113—Clothing Selection	3	H.Ec. 134—Food for the Family	3
H.Ec. 133—Elementary Nutrition	3	P.E. 102—Freshman Activities	1
P.E. 101—Freshman Activities	1	Speech 112—Public Speaking	2
Electives	2	Electives	2
	15		17

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 101—Gen. Inorganic Chem.	4	Art 115—Appreciation	2
Ed. 201—School Law	3	Chem. 102—Gen. Inorganic Chem.	2
H.Ec. 135—Food for the Family	3	H.Ec. 216—Textiles	3
H.Ec. 385—Household Equipment	2	P.E. 202—Sophomore Activities	1
P.E. 201—Sophomore Activities	1	Pol.Sci. 202—Nevada Const.	1
Phys. 119—Physics of the Home	4	Psych. 201—General	3
Pol.Sci. 201—U. S. Constitution	1	Electives	4
	18		16

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
H.Ec. 253—Comm., Sch. Health	3	H.Ec. 255—Art of Meal Service	3
H.Ec. 363—Tailoring	3	H.Ec. 476—Family Life and Rel.	3
H.Ec. 475—Child Development	3	H.Ec. 486—Home Management	2
H.Ec. 477—Child Guidance	3	Psych. 231—Adolescence	2
Psych. 321—Educational Psych.	3	Sec.Ed. 448—Methods in H.Ec.	3
Sec.Ed. 341—Gen. Mat., Methods	3	Soc. 201—Principles of Soc.	3
	18		16

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
H.Ec. 367—Family Clothing	2	Ed. 417—Prob. in Superv. Tchg.	1
H.Ec. 461—Family Housing	3	H.Ec. 402—Seminar	2
H.Ec. 499—Demonstration	3	H.Ec. 418—Family Economics	2
Sec.Ed. 457—Supervised Teach.	8	H.Ec. 487—Home Planning	3
	16	Sec.Ed. 449—Organization, Adm.	2
		Electives	7
			17

Desirable Electives—
Art 115; Economics 203; Home Economics 334, 478; Journalism 101, 102, 370; Library Science 335; Music 121; Philosophy 101; Political Science 101, 102, 427; Psychology 241, 361.

Foods and Nutrition

This area of concentration not only provides experience in food preparation and meal planning in relation to the requirements of good health, but provides preprofessional training in dietetics and institution management. Upon completion of a year's internship in an approved hospital or institution, the student is eligible to membership

in the American Dietetic Association. This area also provides fundamental preparation for work as a nutrition specialist, a consultant in social work, an agent in extension service, beginning work as a home economist with a utility company, food or equipment manufacturer.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 101—Gen. Inorganic Chem.	4	Chem. 102—Gen. Inorganic Chem.	2
Engl. 101—Comp. and Rhetoric	3	Engl. 102—Comp. and Rhetoric	3
H.Ec. 103—Orientation	1	H.Ec. 114—Clothing Construction	3
H.Ec. 113—Clothing Selection	3	H.Ec. 120—Pers. Growth, Develop.	3
H.Ec. 133—Elementary Nutrition	3	H.Ec. 134—Food for the Family	3
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
		Electives	2
	15		17

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Art 105—Design	2	Chem. 242—Introductory Organic	4
H.Ec. 135—Food for the Family	3	H.Ec. 216—Textiles	3
P.E. 201—Sophomore Activities	1	H.Ec. 255—Art of Meal Service	3
Phys. 119—Household Physics	4	Phil. 102—Social Ethics	3
Psych. 201—General Psych.	3	P.E. 202—Sophomore Activities	1
Soc. 201—Principles of Soc.	3	Psych. 241—Mental Hygiene	3
Pol. Sci. 201—U. S. Constitution	1		
	17		17

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 371—Physiological	3	English	3
H.Ec. 385—Household Equipment	2	H.Ec. 334—Nutrition	3
H.Ec. 475—Child Development	3	H.Ec. 476—Family Life	3
H.Ec. 499—Demonstration	3	H.Ec. 486—Home Management	2
Electives	6	H.Ec. 494—Experimental Cookery	2
		Pol.Sci. 202—Nevada Const.	1
		Zool. 224—Human Anat., Physiol.	3
	17		17

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Biol. 351—Bacteriology	3	H.Ec. 402—Seminar	2
H.Ec. 477—Child Guidance	3	H.Ec. 418—Family Economics	2
H.Ec. 491—Educ. for Foods and Nutrition Majors	3	H.Ec. 436—Diet Therapy	3
Electives	8	H.Ec. 478—Child Guidance	3
		H.Ec. 496—Quantity Cookery	3
		H.Ec. 498—Institution Organiz.	3
	17		16

Desirable Electives—
Animal Husbandry 306; Art 115; Botany 364; Economics 201 or 203, 318, 366, 367; Home Economics 487; Music 121; Psychology 321; Speech 111; Zoology 220.

General Home Economics

A general area is offered for the young women who wish to enter fields of home economics other than teaching and dietetics. The general curriculum places its emphasis upon home and family living, and subjects are widely selected from home economics, humanities, life sciences, and social sciences. These subjects should help the student

acquire the appreciations, understandings, and skills necessary for successful personal, family, and community living today.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Art 105—Design	2	Engl. 102—Comp. and Rhetoric	3
Engl. 101—Comp. and Rhetoric	3	H.Ec. 114—Clothing Construction	3
H.Ec. 103—Orientation	1	H.Ec. 120—Pers. Growth, Devel.	3
H.Ec. 113—Clothing Selection	3	H.Ec. 134—Food for the Family	3
H.Ec. 133—Elementary Nutrition	3	P.E. 102—Freshman Activities	1
P.E. 101—Freshman Activities	1	Speech 112—Public Speaking	2
Electives	2	Electives	2
	15		17

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
English	2	H.Ec. 216—Textiles	3
H.Ec. 135—Food for the Family	3	H.Ec. 255—Art of Meal Service	3
P.E. 201—Sophomore Activities	1	Mus. 121—Introduction to Music	2
Phys. 119—Household Physics	4	P.E. 202—Sophomore Activities	1
Pol.Sci. 105—Comparative Govt.	2	Pol.Sci. 106—Comparative Govt.	2
Psych. 201—General Psych.	3	Soc. 201—Principles of Soc.	3
Science (botany, chemistry, mathematics, or zoology)	3	Electives	3
	18		17

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
H.Ec. 253—Comm., Sch. Health	3	Art 363—Hist. of European Art	3
H.Ec. 363—Tailoring	3	English	2
H.Ec. 367—Family Clothing	2	H.Ec. 418—Family Economics	2
H.Ec. 385—Household Equipment	2	H.Ec. 486—Home Management	2
H.Ec. 475—Child Development	3	Pol.Sci. 202—Nevada Const.	1
Pol.Sci. 201—U.S. Constitution	1	Psych. 241—Mental Hygiene	3
Sociology	2	Electives	3
Electives	2		
	18		16

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
English	3	H.Ec. 402—Seminar	2
H.Ec. 461—Family Housing	3	H.Ec. 476—Family Life	3
H.Ec. 477—Child Guidance	3	H.Ec. 478—Child Guidance	3
Psychology	2	H.Ec. 487—Home Planning	3
Electives	5	Phil. 462—Phil. of Religion	3
		Phil. 482—Political Problems	2
	16		16

Desirable Electives—

Art 101, 115, 251, 257, 363; Business Administration 101, 102; Economics 201, 202; English 131, 141, 145, 171, 231, 232, 247, 248, 337, 355, 356, 441; History 314; Home Economics 375, 499; Journalism 370; Music 105, 106, 111, 112, 117, 118, 203, 204, 304; Psychology 361, 375, 405; Sociology 379, 380.

College of Arts and Science

Departments of Instruction: Art; Biology; Chemistry; English Language and Literature; Foreign Languages; Health, Physical Education, and Athletics; History and Political Science; Journalism; Mathematics and Mechanics; Military Science and Tactics; Music; Philosophy; Physics; Psychology and Sociology; and Speech and Drama.

Objectives

The objectives of the College of Arts and Science are: (1) to lay a foundation for the professions, both learned and technical, and (2) to increase knowledge of and sympathy with the broader and cultural aspects of life. The departments of instruction offer a wide range of courses, both undergraduate and graduate, for students who seek a background of culture and scholarship in order to prepare for more intelligent living and for later specialization.

The curricula offered by each of the departments as well as professional and broad curricula such as American civilization, prelegal, premedical, etc., are outlined later in this section under the heading *Fields of Concentration and Professional Curricula.*

Requirements for a Baccalaureate Degree in Arts and Science

In order to be recommended for the degree of Bachelor of Arts, Bachelor of Science[1], or Bachelor of Arts in Journalism, a candidate must, first, have satisfied the requirements for admission to regular standing; and, second, have gained credits in prescribed and elective courses aggregating 128 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 132 credits.

Prescribed Courses

1. From 4 to 8 credits in military and physical education as required by the University, and Political Science 201–202 as required by the State law.
2. A minimum of 6 credits in English 101–102[2] shall be required of all students.
3. A minimum of 16 credits[3] 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.

[1]Students who have majored in mathematics or science may on application to the Dean be granted the degree of Bachelor of Science.
[2]Subject to provisions stated under *English,* in *Courses of Instruction.*
[3]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 128.

PRESCRIBED COURSES (Foreign Languages)—*Continued*

A single year in a language will not be counted toward meeting the requirements unless one semester of that language be taken in college.

With 3 entrance units the requirements are 3 college credits in the same language or course 101–102 in another language.

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

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

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

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

GROUP 1. *Natural Sciences:* Astronomy, botany, zoology (except courses 210 or 220), chemistry, geography (courses 103 and 222), geology, mathematics (except course 105), meteorology, physics.

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

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

Curriculum for First Two Years

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

Freshman year	*Credits per semester*
Military	0 to 1
Physical Education	1
English 101 and 102	3
Language, Natural Science, Social Science, Humanities	5 to 8[1]
Electives	3 to 7
	16

Sophomore year	*Credits per semester*
Military	0 to 1
Physical Education	1
Language, Natural Science, Social Science, Humanities	5 to 8[1]
Electives	6 to 10
	16

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

Freshman Courses Which Satisfy Requirements

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

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

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

GROUP 3—Humanities—
Art 115, 261.
English (literature) 131-132, 141, 145, 171-172, 231-232, 235-236, 247-248, 291.
Music 121, 203, 204.
Philosophy 101, 102, 107.
Speech 119, 221-222.

Sophomore or Upper-Division Courses Which Satisfy Requirements

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

GROUP 1—Natural Sciences and Mathematics—
Botany courses numbered above 200.
Chemistry courses numbered above 200.
Geology courses numbered above 200.
Mathematics 140 and courses numbered above 200.
Physics courses numbered above 200.
Zoology courses numbered above 200 except 210 and 220.

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

GROUP 3—Humanities—
Art 359-360, 362, 462.
English (literature) courses numbered above 300 except 305-306, 385, 405-406.
French courses numbered above 300 except 355-356, 379-380, 389-390.
German courses numbered above 300 except 355-356, 359-360, 379-380.
Italian courses numbered above 300 except 355-356.

GROUP 3 (Humanities)—*Continued*

Latin courses numbered above 300.
Music 303, 304, 405.
Philosophy courses numbered 200 and above.
Spanish courses numbered above 300 except 355-356, 379-380.
Speech courses numbered above 300 except 311, 315, 317-318, 411, 412, 413, 417-418, 419-420, 429, 431-432, 495-496, 497-498.

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.

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

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

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

Junior and Senior Requirements

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

1. Select courses totaling not less than *40 credits* in courses numbered above 300.

2. Complete the requirements listed under *Prescribed Courses* in arts and science.

3. Complete requirements for a field of concentration of 50 credits in a program representing a unity of aim. The particular grouping of courses will depend on the particular aim of the student but must be in accord with either Plan I or Plan II as outlined below.

Plan I. The major interest of the student is confined to a single subject. The 50 credits shall include not less than 26 nor more than 36[1] 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

[1]An exception, allowing 43 credits, has been made for a field of concentration in music.

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 128 may be freely elected from any department, or, subject to the limit of 20, from the other colleges of the University.

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

Graduate Study

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

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.

American Civilization

The program leading to the Bachelor of Arts degree with a field of concentration in American civilization is offered beginning with the school year 1955–1956. This is an interdepartmental field of concentration designed to draw upon the talents and resources of various departments in an attempt to broaden and deepen the student's knowledge and appreciation of the American heritage and its link with the western European pattern of civilization. In addition, the program at the University attempts to focus particular attention on the role played by the Far West in the development of American institutions.

Two options are offered: (1) a combination major in the fields of American history and American government, with related studies in American literature, economics, sociology, geography, psychology, philosophy, journalism, art, and music; (2) a combination major in the fields of American history and American literature, with related studies in American government, economics, sociology, geography, psychology, philosophy, journalism, art, and music.

American History and American Government

Major-interest subject (44 credits)—History 101-102 (6 credits), 105-106 (6 credits), 312 (2 credits), 314 (3 credits); Political Science 101-102 (6 credits), 416 (3 credits), 427 (2 credits), 431-432 (4 credits); 12 additional credits

selected from the following: History 303, 304, 305, 306, 331, 332, 341-342, 393-394, 395, 408, 441-442, 451-452, 497-498; Political Science 369, 404, 497-498. *Related subjects* (20 credits)—12 credits selected from any combination of courses listed under Group A; and 8 credits selected from any combination of courses listed under Group B. *Group A:* a. English 145, 291, 341, 441-442, 485-486; Speech 416. b. Economics 164, 201-202, 351, 354, 357, 358, 492. c. Sociology 102, 201, 352, 357, 379, 380, 385. d. Geography 103, 106, 343, 471, 495-496. e. Psychology 201, 241, 301, 310, 361, 363, 371, 375, 441. *Group B:* Philosophy 201, 354, 482; Journalism 101-102, 253; Art 462; Music 304.

American History and American Literature

Major-interest subject (44 credits)—History 101-102 (6 credits), 105-106 (6 credits), 312 (2 credits), 314 (3 credits); English 145 (2 credits), 291 (3 credits), 341 (2 credits), 441-442 (6 credits), 485-486 (4 credits); Speech 416 (2 credits); 8 additional credits selected from the following: History 303, 304, 305, 306, 331, 332, 341-342, 393-394, 395, 408, 441-442, 451-452, 497-498; English 281, 339, 451, 463, 465, 473, 495-496, 497-498. *Related subjects* (20 credits)—12 credits selected from any combination of courses listed under Group A; and 8 credits selected from any combination of courses listed under Group B. *Group A:* a. Political Science 101-102, 416, 427, 431-432; History 341-342. b. Economics 164, 201-202, 351, 354, 357, 358, 492. c. Sociology 102, 201, 352, 357, 379, 380, 385. d. Geography 103, 106, 343, 471, 495-496. e. Psychology 201, 241, 301, 310, 361, 363, 371, 375, 441. *Group B:* Philosophy 201, 354, 482; Journalism 101-102, 253; Art 462; Music 304.

Art

Major-interest subject (26 credits)—Art 101, 102 (4 credits); 251, 252 (6 credits); 257, 258 (6 credits); 359, 360 (4 credits); 355, 356 or 363, 364 (6 credits). *Related subjects* (20 credits)—Courses in at least two of the following subjects to be chosen with the approval of the adviser: Biology, English, foreign languages, history, philosophy, and psychology. Courses especially recommended are Zoology 103, 104, 223, 224; English courses numbered above 102; foreign languages above arts and science requirements; History 309, 371-372, 376, and courses numbered above 400; Music 121, 203, 204, 303, 304, 405; Philosophy 101, 351, 352, 455; and Psychology 121, 201, 321, 361. *Additional credits* (4 credits)—Additional credits in the major-interest subject or related subjects to be chosen with the approval of the adviser.

Biology

Biology

Major-interest subject (36 credits)—Botany 103 (3 credits), 104 (2 credits), 105 (2 credits), 364 (2 credits), 365 (2 credits), 495 or 496 (1 credit), and at least 4 additional credits in botany or biology. Zoology 103 (2 credits), 104 (2 credits), 309 (5 credits), 359 (2 credits), 360 (2 credits), and 4 additional credits in zoology or biology. Biology 340 (3 credits). *Related subjects* (14 credits)—Chemistry 101, 102, 242 (10 credits); and 4 additional credits to be assigned by the adviser.

Botany

Major-interest subject (36 credits)—Botany 103 (3 credits), 104 (2 credits), 105 (2 credits), 222 (4 credits), 231 (4 credits), 355 (4 credits), 364 (2 credits), 365 (2 credits), 495-496 (2 credits), and at least 4 additional credits in botany or biology. Biology 340 (3 credits), 355 (4 credits). *Related subjects* (14 credits)—Chemistry 101, 102, 242 (10 credits); Zoology 103, 104 (4 credits).

Zoology

Major-interest subject (31 credits)—Zoology 103 (2 credits), 104 (2 credits), 309 (5 credits), 333 and 334 (3 credits) or 335 or 337, 359 (2 credits), 360 (2 credits), 364 (4 credits), 446 (3 credits), 496 (1 credit), and at least 4 additional credits in zoology or biology. Biology 340 (3 credits). *Related subjects* (17 credits)—Botany 103 (3 credits); Chemistry 101, 102, 242 (10 credits); and 4 additional credits to be assigned by the adviser.

Preforestry

For information, see the Chairman of the Department of Biology.

Premortuary

For information, see the Chairman of the Department of Biology.

Prepharmacy

For information, see the Chairman of the Department of Biology.

Wildlife Management

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

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 101—First Year Basic	1	Mil. 102—First Year Basic	1
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bot. 103—General Botany	3	Chem. 102—Gen. Inorganic Chem.	2
Chem. 101—Gen. Inorganic Chem.	4	Engl. 102—Comp. and Rhetoric	3
Engl. 101—Comp. and Rhetoric	3	Math. 102—Trigonometry	2
Math. 101 or 110—Algebra	2 or 3	Zool. 103—General Zoology	2
Social Science, Humanities	1 or 2	Zool. 104—General, Laboratory	2
		Social Science, Humanities	3
	16		16

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Foreign Language—First Year	5	Bot. 222—Systematic Botany	4
Zool. 322—Parasitology	3	Chem. 122—Qualitative Analysis	3
Zool. 340—Invertebrates	2	Foreign Language—First Year	5
Zool. 341—Invertebrates Lab.	1	Social Science, Humanities	2
Social Science, Humanities	3		
	16		16

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Bot. 491—Special Problems	3	Bot. 315—Dendrology	3
Foreign Language—Second Year	3	Foreign Language—Second Year	3
Geol. 101—Physical Geology	3	Pol.Sci. 202—Nevada Const.	1
Pol.Sci. 201—U. S. Constitution	1	Zool. 333—Fishes, Amphibians	2
Zool. 359—General Entomology	2	Zool. 334—Fishes, Laboratory	1
Zool. 360—Entomology Lab.	2	Zool. 337—Mammalogy	3
Electives	2	Electives	3
	16		16

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Bot. 380—Plant Ecology	3	Biol. 340—Genetics	3
R.Mgt. 317—Range Agrostology (for game management) or C.E. 364—Hydrology (for fisheries management)	3	Biol. 420—Limnology	3
Zool. 381—Animal Ecology	2	Zool. 335—Ornithology	3
Zool. 463—Game Management	3	Zool. 382—Animal Ecology	2
Electives	5	Zool. 383—Ecology Laboratory	1
		Zool. 470—Fisheries Management	3
		Electives	1
	16		16

Electives—
After the arts and science requirements in social science and humanities have been satisfied, the student may choose from the following recommended electives: Quantitative chemistry (strongly recommended); Biology 355; Economics 201, 202; English 131, 132; Psychology 201; Speech 111, 112.

Botany, See Biology

Chemistry

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

Chemistry or Chemical Technology Curricula

The following courses of study are designed for students looking toward the field of chemistry or of chemical engineering as a profession. They are intended to fit students to enter directly into industrial work or to prepare them for more advanced study in chemistry or in chemical engineering. On completion of either of these curricula, in each of which a total of 132 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.

Candidates for the degree of Bachelor of Science in Chemistry will choose electives which will satisfy the social science and humanities requirements of the College of Arts and Science. Nine credits 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 degree of Bachelor of Science in Chemical Technology will choose all (11 credits) electives in the social sciences and humanites in consultation with their advisers. These students will not be permitted to use advanced military courses as part of the 11 elective credits. Consequently, those taking advanced military will have to complete more than 132 credits for graduation. In order to graduate in four years, these students should take some of the social science and humanities in summer sessions in order to make room for the advanced military courses during the regular school year.

Freshman Year

First semester	Credits Chem.[1]	Credits Chem. Tech.[2]	Second semester	Credits Chem.[1]	Credits Chem. Tech.[2]
Mil. 101—First Year	1	1	Mil. 102—First Year	1	1
P.E. 101—Freshman	1	1	P.E. 102—Freshman	1	1
Art 107—Freehand Drawing	--	1	Chem. 102—Gen. Inorganic	2	2
Chem. 101—Gen. Inorganic	4	4	Chem. 122—Qualitative	3	3
Engl. 101—Comp., Rhetoric	3	3	Engl. 102—Comp., Rhetoric	3	3
Math.[3] 102, 110—Trig., Algebra	5	5	Math.[3] 140—Analytic Geom.	3	3
M.E. 105—Engr. Drawing	--	2	Mech.A. 203—Machine Shop	--	2
Electives	3	--	Electives	4	2
	17	17		17	17

Sophomore Year

First semester	Credits Chem.[1]	Credits Chem. Tech.[2]	Second semester	Credits Chem.[1]	Credits Chem. Tech.[2]
Mil. 201—Second Year	1	1	Mil. 202—Second Year	1	1
P.E. 201—Sophomore	1	1	P.E. 202—Sophomore	1	1
Chem. 233—Quantitative	4	4	Chem. 234—Quantitative	4	4
Econ. 201—Principles	--	3	Math. 232—Calculus	3	3
Math. 231—Calculus	3	3	Phys.[4] 152, 154—General	4	4
Phys.[4] 151, 153—General	4	4	Pol.Sci. 202—Nevada	1	1
Pol.Sci. 201—United States	1	1	Psych. 201—General	--	3
Electives	3	--	Electives	3	--
	17	17		17	17

Junior Year

First semester	Credits Chem.[1]	Credits Chem. Tech.[2]	Second semester	Credits Chem.[1]	Credits Chem. Tech.[2]
Chem. 341—Organic	4	4	Bus.Adm. 351—Management	--	3
Chem. 353—Physical	2	2	Chem. 342—Organic	4	4
Chem. 387—Seminar	1	--	Chem. 354—Physical	2	2
E.E. 323—Elements of E.E.	--	2	Chem. 388—Seminar	1	--
Ger. 101—Beginning	5	5	Ger. 102—Beginning	5	5
Math. 341—Mechanics	--	3	Electives	4	2
Electives	4	--			
	16	16		16	16

[1]Refers to requirements for the degree of Bachelor of Science in Chemistry.
[2]Refers to requirements for the degree of Bachelor of Science in Chemical Technology.
[3]Mathematics 151–152 may be substituted with the consent of the Chemistry Department.
[4]Physics 203–204, 205–206 may be substituted with the consent of the Chemistry Department.

Senior Year

First semester	Credits *Chem.*[1]	Credits *Chem. Tech.*[2]	*Second semester*	Credits *Chem.*[1]	Credits *Chem. Tech.*[2]
Chem. 387—Seminar	–	1	Chem. 388—Seminar	–	1
Chem. 455, 457—Physical	4	4	Chem. 462—Industrial	–	2
Chem. 461—Unit Operations	–	3	Chem. 498—Senior Problems	2	–
Chem. 497—Senior Problems	2	–	C.E. 372—Strength of Mat.	–	3
Ger. 103—Intermediate	3	3	Ger. 104—Intermediate	3	3
M.E. 353—Thermodynamics	–	3	M.E. 462—Laboratory	–	2
Electives	7	2	Electives	11	5
	16	16		16	16

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

Drama, See Speech and Drama

English

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

Liberal Arts

Major-interest subject (32 credits)—English 281, 291 (6 credits), 441, 451, 461, 465, 473, 485, 493 (18 credits), courses selected from 442, 452, 464, 466, 471, 474, 486 (8 credits). *Related subjects* (18 credits)—Each student should choose one of the four groups and select 18 credits from the courses listed in it. a. *Fine Arts:* History 393-394 (6 credits); Philosophy 455 (2 credits); 10 credits, with at least one course from each of the departments designated, selected from Art 115, 261, 362; Speech 221-222, 321-322, 323-324, 425-426; Music 203, 204, 304. b. *Language:* First and second year courses in a language other than that by which the student has fulfilled his arts and science requirements (16 credits); 2 credits selected from Speech 221-222, 321-322; History 371-372, 393-394; Philosophy 455; courses in foreign languages numbered above 300. c. *Social studies:* History 305, 306, or 341-342 (6 credits), 393-394 (6 credits); 6 credits selected from Economics 201, 363; Speech 315, 317-318, 321-322, 425-426; History 376, 427-428, 429-430; Philosophy 455; Psychology 361; Sociology 371, 380. d. *Special interest:* For students having special interests not well reflected in one of the three groups above, 18 credits to be chosen in consultation with the adviser.

General Literature

Major-interest subject (36 credits in Departments of English and Foreign Languages)—Courses in foundations of language and literature regularly taken sophomore year, English 281, 291 (6 credits); broad courses selected from English 333, 337, 339; Latin 331; Spanish 373-374 (6 credits); courses in either or both departments intended to introduce the student to comparative methodology and practice selected from French 351-352, 371-372; German 351-352, 371-372; Italian 351-352; Spanish 351-352, 369-370; English 451, 461, 465, 471, 473, 485 (6 credits). Remaining courses are to be distributed roughly equally among two or more bodies of literature, normally a part of the literature of two nations or peoples. Courses acceptable include those in foreign languages numbered above 300 and those in English numbered above 400. This division

of the concentration must include one course, given in either the Department of Foreign Languages or the Department of English which is in the main an undergraduate thesis of a scholarly or critical nature, concerned with relationships and characteristics of the two bodies of literature in which the student is professing interest. (Such courses are not numbered in the current catalogue) (18 credits). *Related subjects* (14 credits)—To be selected according to one of the following plans: a. Courses in one foreign language other than those selected for concentration in the major subject (14 credits). b. Courses in social sciences and the humanities to be selected in consultation with the adviser (14 credits). c. *Special interest:* For students having special interests not well reflected in one of the two groups above, 14 credits to be chosen in consultation with the adviser.

Literary Writing

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

Foreign Languages

Requirements for a major-interest subject in the Department of Foreign Languages: With no admission units, courses 101-102 (10 credits), 103-104 (6 credits), and 12 credits in courses numbered 300 or above as required for the respective language, making a total of 28 credits; with two admission units, courses 103-104 (6 credits), and 20 credits in the courses numbered 300 or above as required for the respective language, making a total of 26 college credits. *Related subjects* (20-22 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 (28-30 credits) in one of the following languages: French, German, Italian, Spanish. In the respective language, courses 101-102 (10 credits), 103-104 (6 credits), 6 credits in composition and conversation numbered above 300, and 8 credits in literature numbered above 300.

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

Romance Languages

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

French, See Foreign Languages

General Literature, See English

Geography, See Geology-Geography

Geology-Geography

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

German, See Foreign Languages

Health, Physical Education, and Athletics

Physical Education (for men)

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

Physical Education (for women)

Major-interest subject (31-32 credits)—Physical Education 101-102, 201-202 (4 credits); 4 credits to be selected from 163, 164, 263, 264, 361, 362, 461, 462; 112 or 295 (2 credits); 180 (2 credits); 281 or 440 (2 or 3 credits); 291 (1 credit); 292 (1 credit); 390 (3 credits); 452 (3 credits); and 8-9 credits selected in consultation with adviser according to whether major interest is health, recreation, occupational therapy, or physiotherapy. *Related subjects* (18-19 credits)—Zoology 103, 223 (6 credits); Physics 101 (2 credits); Psychology 201 (3 credits); 7-8 credits selected in consultation with adviser.

History and Political Science

American History and American Government, See American Civilization

History

Major-interest subject (30 credits)—History 101-102 (6 credits), 105-106 (6 credits), and 18 additional credits to be selected from courses in history numbered above 300 or political science courses 416 and 427. *Related subjects* (20 credits)—Courses to be selected in consultation with the adviser. Choice of one of the following: a. 20 credits in economics; b. 20 credits from Art 115, 261, 362, 462; Music 121, 203, 204, 303, 304, 405; Psychology 201, 361, 363; Philosophy 101, 102, 351, 352; Geography 101, 106, 471, 486; Journalism 253; 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 from American, English, and European literature, Speech 415, 416; e. 20 credits in foreign language literature in courses numbered 300 and above; f. 20 credits in psychology; g. 20 credits in sociology. Certain deviations may be allowed in exceptional cases.

Political Science

Major-interest subject (30 credits)—Political Science 101-102 (6 credits), 105-106 (4 credits) and 20 additional credits to be selected from courses in

political science numbered above 300, or history courses 341-342, 395, 408, 451-452. *Related subjects* (20 credits)—Courses to be selected in consultation with the adviser. Choice of one of the following: a. 20 credits in economics; b. 20 credits in history, 101-102 (6 credits), 105-106 (6 credits), and 8 additional credits in courses numbered above 300; c. 20 credits from Geography 101, 106, 471, 486; Philosophy 101, 102, 107, 351, 352, 354; Psychology 201, 361, 363, 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), 253 (3 credits), 272 (2 credits), 351-352 (4 credits), 367 (3 credits), 379 (2 or 3 credits), 481-482 (4 credits), and 5 or 6 additional credits chosen with the approval of the adviser from among journalism courses numbered 300 and above. *Related subjects* (14 credits)—3 credits in English literature, 9 credits in the social studies, and 2 credits in the aesthetics, all chosen with the counsel of the adviser, from the recommended supplementary courses listed under the Professional Curriculum in Journalism described below.

Professional Curriculum in Journalism

In its four-year professional Course in Journalism, the University of Nevada offers approved preparation for the journalistic vocations leading to the degree Bachelor of Arts in Journalism. Students intending to practice journalism should, whenever possible, elect this curriculum in preference to the field of 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 128 credits required for graduation:

Group A—*Journalism*—36 credits including Journalism 101-102 (6 credits), 221-222 (6 credits), 253 (3 credits), 272 (2 credits), 351-352 (4 credits), 367 (3 credits), 379 (2 or 3 credits), 481-482 (4 credits), and 5 or 6 additional credits chosen with the counsel of the department chairman from among journalism courses numbered 300 and above.

Group B—*English Literature*—9 credits in English literature.

Group C—*Social Studies*—25 credits in the social studies (history, political science, economics, business administration, sociology, philosophy, psychology and geography—except courses 103 and 222), selected so that they represent at least five of these subjects.

Group D—*Aesthetics*—4 credits in the fine arts (Art 101-102, 105, 115, 257-258, 261, 355-356, 362, 462; Music 203, 204, 303, 304; Philosophy 455).

The general requirements of the College of Arts and Science.

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

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

In each group the following courses will be found to help furnish the student with a comprehensive background: *English (Literature)* 131, 132, 145, 171, 172, 231, 232, 247, 248, 337, 441, 442, 465, 466, 485, 486; *History* 101, 102, 105, 106,

303, 304, 305, 306, 312, 314, 393, 394, 408, 441, 442, 451, 452; *Political Science* 101, 102, 105, 106, 369, 416, 427; *Economics* 107, 164, 201, 202, 203, 351, 354, 357, 365, 492; *Business Administration* 153, 341, 342, 373; *Sociology* 201, 352, 357, 370, 379, 380, 492; *Philosophy* 101, 102, 107, 201, 351, 352, 455, 461; *Psychology* 201, 231, 233, 361, 363, 364, 371, 375; *Geography* 101, 106, 222, 471.

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

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

Students interested chiefly in *community work* will wish to elect, in addition to the required courses in journalism, *Journalism* 354, 356, 357, 365, 366, 368, 373, 374, 375; *Business Administration* 101, 102, 153, 341, 342.

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

Students preparing for a *career in advertising* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 356, 357, 365, 366, 368, 373, 374, 375, 386; *Business Administration* 153, 341, 342; *Psychology* 361, 363; Art 105 or 115, 355, 356, 381.

Students interested chiefly in *public relations and publicity* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 356, 357, 365, 366, 373, 374, 375, 386; *Speech* 111, 112, 219, 220; *Psychology* 361, 363, 364; *Art* 105 or 115, 355, 356, 381.

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

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

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

Mathematics and Mechanics

Mathematics

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

Algebra: 371, 372.

Analysis: 351, 352, 425, 451, 501, 502.

Geometry: 381.

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

Applied Mathematics

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

Music

The University of Nevada offers a field of concentration in music leading to the degree of Bachelor of Arts for the first time during the academic year 1956-1957. An outstanding teaching staff in music has been engaged for the department. Students planning to take the degree of Bachelor of Arts may concentrate in music history and literature, or applied music, or select the general music program. Personal satisfaction and the broad cultural aspects of education are emphasized in these curricula. This work may be used as a basis for further study leading to a baccalaureate degree in music education, or to graduate degrees in musicology, music literature, and theory.

The Department of Music recognizes music in theory and in performance as an academic discipline. Students within the department, as well as those from other colleges in the University, may study courses which develop an appreciation of music as a part of human culture. Freedom is provided within the curriculum for the acquisition of skill in performance and for the maturing of the musical mind. Participation in choral and instrumental groups is encouraged to develop carry-over interests and skills which will make graduates of the University cultural leaders of the communities in which they live. Major sequences of study are offered in music theory, music history and literature, piano, voice, band and orchestral instruments. The University Band, the University Singers, the Oratorio Chorus, and the University Chamber Music Ensemble provide opportunity for students with special musical abilities to participate in group musical experience.

Musical Activities: The University Band is chosen from instrumentalists with previous musical experience. Concerts are given in Reno and other cities, and appearances are made at athletic events, rallies, and civic and university parades.

The University Singers is a select group of mixed voices giving detailed attention to fundamental principles of the choral art and discipline, including accuracy of reading, clarity of enunciation, and the development of musicianship. In its concerts the University Singers perform sacred and secular works of periods extending from medieval to modern times.

The Oratorio Chorus specializes in the study and performance of large-scale choral works, and participates in the annual presentation of Handel's "Messiah."

The University Chamber Music Ensemble studies and performs works written for smaller ensembles and assists in the performance of the larger works with the Reno Civic Orchestra.

Opportunity is provided for students individually and in groups to appear on television and radio programs.

Music and Fine Arts Library: The music and fine arts division of the general library has a well-organized collection of books on art and music, and the Department of Music has scores, departmental books, and a record library. A Carnegie set of records, supplemented by a library of regular and long-playing records, and a special group of old collector's items are used with two high-fidelity reproducing instruments for classes and listening periods.

Music History and Literature

Major-interest subject (41 credits; plus Music 101-102 in course work (2 credits) or by noncredit examination)—Music 151, 152, 251, 252, 351, 352, 451, 452, or equivalent[1] (8 credits); 121 (2 credits), 201-202 (6 credits), 203, 204 (4 credits), 301-302 (6 credits), 303, 304 (4 credits), 310 (3 credits), 403 (3 credits), 405 (2 credits), 406 (3 credits). *Related subjects* (10 credits)—10 credits to be selected from the following courses: Art 115, 261, 277, 278; English courses numbered above 102; foreign languages above arts and science requirements; History 309, 371, 372, 375, 376; Philosophy 101, 351, 352, 455; Physical Education 480; Speech 120, 219, 220, 221, 222, 321, 322, 323, 324, 425, 426, 427, 428, 429, 431, 432.

Applied Music (Piano, Voice, Brass or Woodwind Instruments)

Major-interest subject (41 credits; plus Music 101-102 in course work (2 credits) or by noncredit examination)—Applied music major (12 credits); piano[1] or applied music minor (4 credits); Music 121 (2 credits), 201-202 (6 credits), 203, 204 (4 credits), 301-302 (6 credits), 303, 304 (4 credits), 406 (3 credits). In addition, a public recital is required of those selecting the Applied Music option. *Related subjects* (10 credits)—10 credits to be selected from the courses listed under the related subjects for the Music History and Literature option.

General Music

Major-interest subject (40 credits; plus Music 101-102 in course work (2 credits) or by noncredit examination)—Applied music (8 credits); Music 121 (2 credits), 201-202 (6 credits), 203, 204 (4 credits), 301-302 (6 credits), 303 304 (4 credits); 10 credits in elective music courses including 4 credits in ensemble. *Related subjects* (10 credits)—10 credits to be selected from the courses listed under the related subjects for the Music History and Literature option.

Philosophy

Philosophy as a field of concentration is designed for: (1) those students interested in acquiring a comprehensive understanding of the various areas of philosophy, either for their own cultural enrichment or as a basis for advanced work and teaching in philosophy; (2) those students interested in the social, cultural, and religious values of philosophy leading to the study of theology; and (3) those students who desire to cultivate logical and critical thinking that they may be better prepared for the legal profession.

Major-interest subject (30 credits)—Philosophy 101, 351, 352, 353, 354, and 484 (15 credits); and 15 additional credits in philosophy. It is especially recommended that those students interested in the comprehensive approach to philosophy also complete 107 and 221; that those interested in philosophy as preparation for the study of theology complete 102, 461, and 462; and that those interested in philosophy as prelegal training complete 107, 201, and 251. *Related subjects* (20 credits)—Prelegal students will choose 40 credits from the list of recommended courses in the Prelegal Curriculum; all other students will select 20 credits in consultation with the adviser, but the following courses are especially recommended: Art 115, 261, 362, 462; Biology 355; Economics 164, 201, 202, 301, 354, 357, 363, 491, 492; English 131, 132, 231, 232, 281, 291, 337; History 303, 304, 305, 306, 309, 341, 342; Mathematics 371, 502;

[1]A proficiency examination is required in piano. Other applied music courses may be substituted for the remaining required courses in piano after the examination has been passed.

Music 203, 204, 303, 304; Physics 365, 366; Political Science 101, 102, 369; Psychology 201, 301, 361, 363, 404, 408; Sociology 102, 201, 371, 491, 492, 498; Speech 217, 218.

Physical Education, See Health, Physical Education, and Athletics

Physics

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

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

	Credits 1st Sem.	Credits 2d Sem.
Military 101-102	1	1
Physical Educ. 101-102	1	1
English 101-102	3	3
Mathematics 151-152	5	5
Chemistry 101, 102, 122	4	5
Social Science	2	1
	16	16

Option 2

	Credits 1st Sem.	Credits 2d Sem.
Military 101-102	1	1
Physical Educ. 101-102	1	1
English 101-102	3	3
Mathematics 102	2	--
Mathematics 110	3	--
Mathematics 140	--	3
Chem. 101, 102, 122	4	5
Social Science	2	3
	16	16

Political Science, See History and Political Science

Predental Curriculum, See Premedical and Predental

Prelegal Curriculum

Law schools in the United States usually require three or four years of acceptable undergraduate preparation. They seldom prescribe particular course content. Most of them are willing to admit a student no matter what his undergraduate field of concentration may have been. Instead, they recommend an undergraduate program designed to develop certain intellectual tools and personal qualities that he needs for the study of law.

Representative law school statements of aims for prelegal students emphasize ability to express oneself clearly and forcefully in correct and concise

English; to read discursive material rapidly and concentrated material with careful attention to meaning and with the utmost precision of understanding; and to think clearly, carefully, and independently and, in this connection, to understand the functions and limitations of traditional logical tools. This includes training in research. It is emphasized also that the prelegal student should pursue a program that will develop in him a critical understanding of human institutions and values, with special concern for insight rather than merely information. This aim is sometimes described as the attainment of a broad cultural background and emphasizes study of the humanities and the social sciences. Nor should the natural sciences and mathematics be neglected. These are part of a broad, general education. It should be noted below that 10 credits in science or mathematics are required, and the student is encouraged to elect more.

However, in spite of the nonspecificity of law school prerequisites, some law schools criticize the undergraduate background of law students. Just an accumulation of courses is unsatisfactory. There must be an over-all program toward which each part contributes. Some subjects are more useful than others in attaining the ends stated above. "Substantive" courses are preferred over the "practical and professional." Deans of law schools and undergraduate students at the University of Nevada have felt and stated the need for guiding principles and recommended courses rather than unguided choice from anything and everything.

To give guidance, and at the same time allow great freedom of choice, the University has an organized curriculum to be followed by those students wishing to be designated as prelegal students. Students wishing to prepare for law without following the prelegal curriculum may do so but will not be designated prelegal students at the University.

Prelegal students may choose either a four- or a three-year program. Those completing the four-year program will receive the Bachelor of Arts degree. Some law schools admit students upon 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 the three years of approved work in this University as outlined below, 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 a 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.

If the student chooses the four-year prelegal curriculum, he will select a field of concentration in one of the following seven departments: economics and business administration, English, history and political science, journalism, philosophy, psychology and sociology, and speech. The requirements in these departments range from 29 to 36 credits plus courses in related departments.

Instead of selecting the related courses ordinarily specified for a field of concentration in these departments, the prelegal student will choose related courses from a list compiled on the basis of their special usefulness and pertinence in prelegal training. These courses are the ones most frequently and strongly recommended by law schools. The total credits in the field of concentration plus related prelegal courses is 70. The student may include in the 70 credits courses that will satisfy the regular College of Arts and Science requirement of 10 credits in the social sciences and 6 credits in the humanities, or these courses may be included among the student's elective courses. Some courses not in the prelegal list might, under some circumstances, be regarded as specially suitable for a prelegal student. Upon recommendation by the

student's adviser and approval of the Dean of the College, such courses may be included in the related course program.

All other regular requirements for graduation from the College of Arts and Science will be observed by the prelegal student. These include 10 credits in mathematics and natural science, up to 16 credits in foreign languages (depending on the extent of the student's foreign language training in high school), 6 credits in freshman English, Political Science 201 and 202, and the standard requirements in physical education and basic military science. In addition, the prelegal student will have from 16 to 32 credits of electives. The College of Arts and Science requires a total of 128 credits for graduation. The student should note that 40 of the 128 credits required for graduation must be in courses numbered 300 and above.

A student electing the three-year program will complete 20 credits in his chosen field of concentration and 25 credits in the related list of prelegal subjects, including subjects that will satisfy the arts and science group requirements of 10 credits in the social sciences and 6 credits in the humanities (unless the student has included social sciences and humanities as electives). In addition, he will complete the regular requirements of 10 credits in natural science and mathematics, up to 16 credits in foreign languages, 6 credits in freshman English, and the standard requirements in Political Science 201 and 202, physical education, and military science. Prelegal students following the three-year program at Nevada will complete a total of 96 credits and the one year of acceptable work from an approved law school.

In meeting the requirement of 70 credits, including a field of concentration and prelegal related courses, the student will select the related courses from the following two lists. The first list is especially recommended as being most frequently and most strongly cited by lawyers and law schools as being desirable.

Recommended Related Courses

List 1 (Especially recommended): Business Administration 101-102; Economics 201-202; History 101-102, 341-342, 395; Philosophy 101, 107; Political Science 101-102, 357; Psychology 201; Sociology 201, 370; Speech 111-112, 217-218.

List 2: Art 261, 362, 462; Business Administration 153, 305-306, 365, 369, 370, 373, 374, 413-414; Economics 107, 164, 301, 351, 353, 354, 357, 361, 362, 365-366, 373, 491-492; English 201-202, 235-236, 281, 337, 339, 385, 441-442, 464, 465, 471, 473-474, 493; Geography 101, 106, 343, 471, 482, 486; History 105-106, 303-304, 305-306, 309, 312, 314, 331, 332, 371-372, 375-376, 393-394, 407-408, 427-428, 429, 441-442, 451-452; Journalism 101-102, 231-232, 253, 272, 367, 379; Philosophy 102, 201, 221, 351, 352, 353, 354, 461, 462, 482; Political Science 105-106, 369, 404, 416, 418, 427, 431-432; Psychology 231, 233, 241, 301, 361, 363, 364, 371, 375, 441, 450; Sociology 202, 352, 357, 361, 364, 371, 379, 380, 381, 385, 392, 491, 492, 498; Speech 119, 120, 221-222, 311, 315, 317-318, 321-322, 323-324, 411, 413, 415-416, 417-418, 419-420.

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, vetebrate 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*
Mil. 101—First Year Basic	1	Mil. 102—First Year Basic	1
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bot. 103—General Botany	3	Chem. 102, 122—Gen., Qualitative	5
Chem. 101—Gen. Inorganic Chem.	4	Engl. 102—Comp. and Rhetoric	3
Engl. 101—Comp. and Rhetoric	3	Math. 102—Trigonometry	2
Math. 101 or 110—Algebra	2	Zool. 103—General Zoology	2
Electives	2	Zool. 104—General, Laboratory	2
	16		16

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*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Chem. 233—Quantitative	4	Biol. 340—Genetics	3
German or French 101	5	Chem. 234—Quantitative	4
Zool. 309—Comparative Anatomy	5	German or French 102	5
		Electives	2
	16		16

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 341—Organic Chemistry	4	Chem. 342—Organic Chemistry	4
German or French 103	3	German or French 104	3
Phys. 151, 153—General Physics	4	Phys. 152, 154—General Physics	4
Pol.Sci. 201—U. S. Constitution	1	Pol.Sci. 202—Nevada Constitution	1
Electives	4	Zool. 364—Embryology	4
	16		16

Senior Year

Electives or approved credential from professional school.

Completion of the above curriculum plus Chemistry 387-388 will satisfy a combined chemistry and zoology field of concentration.

The University will confer the degree of Bachelor of Arts or Bachelor of Science upon any student of high rank who, after completing three years of approved work in this University, shall enter a medical school rated Class A by the American Medical Association, and shall complete worthily one year's work in such medical school. In order to receive the degree in this way, the student must, at the end of his first year in the medical school, present a signed testimonial from the Dean of the Medical School to the Dean of the College of Arts and Science, such testimonial to include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

Predental students are advised to take the above premedical course with

possible minor modifications. Such students may then become eligible for the degree of Bachelor of Arts or Bachelor of Science from this University following a comparable procedure to that outlined for medical students above.

For further information concerning premedical and allied fields, the student should see Professor La Rivers, Chairman of the Premedical Advisory Committee.

Premedical-Technologist Curriculum

Medical Technologist or Clinical Laboratory Technician training is available at many hospital laboratories of the country. The following three-year curriculum includes the uniformly required and strongly advised courses for admission to such training schools, as well as certain electives and courses required for graduation. Electives must satisfy graduation requirements of the College of Arts and Science.

Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bot. 103—General Botany	3	Chem. 102, 122—Gen., Qualitative	5
Chem. 101—Gen. Inorganic Chem.	4	Engl. 102—Comp. and Rhetoric	3
Engl. 101—Comp. and Rhetoric	3	Math. 101 or 102—Algebra or Trigonometry	2
Electives	5	Zool. 103, 104—General Zoology	4
		Electives	1
	16		16

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Chem. 231—Quantitative Analysis	3	Biol. 340—Genetics	3
Psych. 201—General Psychology	3	Chem. 242—Introductory Organic	4
Zool. 223—Human Anatomy	4	Soc. 102—Social Problems	3
Electives	5	Zool. 224, 226—Physiology	4
		Electives	1
	16		16

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Biol. 351—Bacteriology	4	Phys. 152, 154—General Physics	4
Zool. 370—Microtechnique	2	Pol.Sci. 202—Nevada Constitution	1
Phys. 151, 153—General Physics	4	Electives (Courses 300 or above)	11
Pol. Sci. 201—U. S. Constitution	1		
Zoology[1] 368—Histology	2		
Electives (Courses 300 or above)	3		
	16		16

[1]Recommended, but not required.

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

A student completing the three-year premedical-technologist course in residence at this University may be granted a Bachelor of Arts or a Bachelor of Science degree from the University of Nevada when he or she has, in addition, completed the 12 to 18 months' technologist training course, has received a certificate or diploma from the laboratory where the training was taken, and 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.

Premortuary, See Biology

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*
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bot. 103—General Botany	3	Chem. 102—Gen. Inorganic Chem.	2
Chem. 101—Gen. Inorganic Chem.	4	Chem. 242—Introductory Organic	4
Engl. 101—Comp. and Rhetoric	3	Engl. 102—Comp. and Rhetoric	3
Hist. 101—United States	3	Zool. 103, 104—General Zool.	4
Electives	2	Electives	2
	16		16

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Foreign Language	5	Foreign Language	5
Soc. 102—Social Problems	3	Soc. 201—Principles of Soc.	3
Psych. 201—General Psychology	3	Zool. 224, 226—Physiology	4
Zool. 223—Human Anatomy	4	Electives	3
	16		16

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Biol. 351—Bacteriology	4	Biol. 340—Genetics	3
English or Foreign Language	3	English or Foreign Language	3
Pol.Sci. 201—U. S. Constitution	1	H.Ec. 250—Food and Nutrition	3
Electives (Courses 300 or above)	8	Pol.Sci. 202—Nevada Constitution	1
		Electives (Courses 300 or above)	6
	16		16

Prepharmacy, See Biology

Psychology

Students interested in psychology as a field of concentration may choose either of two plans. Plan 1 is for prospective professional psychologists and for those interested in a systematic and representative study of psychology as a science. Plan 2 is for those students who do not expect to become psychologists. It emphasizes fields of application. Plan 2 might be undertaken by either of two groups of students, (1) those interested in personal and cultural values in psychology, useful, for example, in homemaking and community living, and (2) those who would find practical uses for psychology in related occupations such as personnel management, business, teaching, law, counseling and guidance, social work, medicine, nursing, writing, journalism, public relations, government and politics, home economics, and any other field in which human behavior is of significance.

Professional

Major-interest subject (30 credits)—Psychology 201 (3 credits), 301 (3 credits), 310 (3 credits), 361 (3 credits), 404 or 408 (2 credits), 411 (3 credits), 441 (3 credits), and 10 credits in psychology to be chosen in consultation with the adviser. *Related subjects* (20 credits)—To be selected in consultation with the adviser, 15 from one of the 3 departments or subjects of zoology, sociology, or philosophy, and 5 credits from either or both of the other two.

General

Major-interest subject (30 credits)—Psychology 201 (3 credits), 301 (3 credits), 361 (3 credits), 411 (3 credits), and 18 credits in psychology to be chosen in consultation with the adviser. *Related subjects* (20 credits)—To be selected in consultation with the adviser, 15 from one of the departments or subjects listed below and 5 from one of the other departments or subjects listed. The related departments and subjects are home economics, sociology, philosophy, zoology, art, history and political science, English, speech and drama, journalism, economics and business administration, mathematics, education, military, music, and physical education.

Romance Languages, See Foreign Languages

Sociology

Major-interest subject (30 credits)—Sociology 201, 357, 364, 370, 371, 385, 392, 492 (22 credits), and 8 additional credits in sociology. *Related subjects* (20 credits)—Psychology 201, 310, 361 (9 credits); and 11 credits selected with the approval of the department from economics, history, philosophy, political science, or Zoology 211 (Archaeology).

Social Work

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

Spanish, See Foreign Languages

Speech and Drama

Public Speaking and Debate

Major-interest subject (30 credits)—18 credits selected from Speech 111, 112, 217, 218, 311, 315, 317, 318, 413, 415, 416, 417, 418; 411, 412 (4 credits); 4 credits selected from 219, 220, 225, 425, 426, 427, 428, 429; 4 credits selected from 221, 222, 321, 322, 323, 324. 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* (20 credits)—20 credits selected from the following courses, at least 6 credits of which shall be in psychology: English 281, 291,

441-442, 443, 465, 485; History 303, 305, 306, 312, 393-394; Philosophy 107, 221; Psychology 201, 361, 363, 364.

Theatre and Interpretation

Major-interest subject (30 credits)—6 credits selected from Speech 111, 112, 217, 218, 311, 315, 317, 318, 413, 415, 416, 417, 418; 411, 412 (4 credits); 14 credits selected from 219, 220, 225, 425, 426, 427, 428, 429; 6 credits selected from 221, 222, 321, 322, 323, 324. Students doing outstanding work in theatre and interpretation 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* (20 credits)—20 credits selected from one of the following plans: a. *English* 281, 291, 355-356, 441-442, 465-466; b. *Art* 101-102, 105, 261, 346, 359, 360, 362, 462; c. *Philosophy* 101, 102, 107, 351, 352, 354, 455, 499 ; d. *Foreign languages:* French 103-104, German 103-104, or Spanish 103-104 (6 credits); and 14 credits selected from French 351-352, 357-358, 369-370, 371-372, German 357-358, 369-370, 371-372, Spanish 357-358, 369-370, 371-372; e. *Special interest:* For students having special interests not well reflected in one of the above groups, 20 credits to be chosen in consultation with the adviser and with the approval of the Dean of the College.

Prelegal Curriculum with Concentration in Speech

Major-interest subject (30 credits)—20 credits selected from Speech 111, 112, 217, 218, 311, 315, 317, 318, 413, 415, 416, 419, 420; 6 credits to be selected from 221, 222, 321, 322, 323, 324; 4 credits to be selected from 427, 428, 429. Students may sometimes, with the consent of the adviser, substitute other courses in the department for the courses listed above. *Related subjects* (40 credits)—40 credits selected from the list of recommended courses in the Prelegal Curriculum.

Wildlife Management, See Biology

Zoology, See Biology

College of Business Administration

Departments of Instruction: Business Administration; Economics; and Executive Secretarial Studies.

Objectives

In response to the increasing demand for professionally educated business people in Nevada, resulting from the rapid economic growth of the State and the West, the College of Business Administration was authorized by the Board of Regents as a separate professional college of the University in 1955. It will function as a professional college commencing with the fall term of the academic year 1956–1957.

The major objective of the College of Business Administration is to provide a broad, well-balanced, professional, and cultural education for young men and young women planning careers of responsibility in business or industry.

Sound programs of instruction have been designed to include emphasis upon: (1) theory and technique, principles and practices, in basic subjects in the professional fields of business and economics; (2) development of ability to think analytically and logically, specifically to recognize the importance of clear definition of business problems, of assembling relevant data, of analyzing and weighing carefully both favorable and unfavorable factors involved, of formulating possible solutions and testing them objectively; (3) understanding human relationships involved in business activities, in particular the important social and civic responsibilities of persons in business; (4) understanding problems of future economic development of Nevada and the arid lands region of which it is a part.

Requirements for a Baccalaureate Degree in Business Administration

A student who has satisfied the requirements of the University for admission to regular standing, and who has successfully completed 128 credits of required and elective courses, is eligible to be recommended for the degree of Bachelor of Arts or the degree of Bachelor of Science in Business Administration as appropriate. Of the total credits presented for graduation, a minimum of 40 must be in courses numbered 300 and above.

The required and elective courses are distributed as follows:

1. General requirements in the University—40 credits.[1]
2. Basic requirements within the College—27 credits.
3. Courses required for the field of study—30 credits.[2]
4. Elective courses chosen with the approval of the adviser to make a total of 128 credits.

The required courses are outlined in detail below.

1. General Requirements in the University

The following courses totaling 40 credits are required for the degree of Bachelor of Science in Business Administration.

	Credits
Military (for men)—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
English 101-102—Composition and Rhetoric	6
Humanities (Art, English, Foreign Languages, Music, Philosophy, Speech and Drama)	6
Natural Science (including Mathematics)	10
Pol.Sci. 201-202—United States, Nevada Constitutions	2
Social Science other than Economics (Geography, History, Political Science, Psychology, Sociology)	8

For the degree of Bachelor of Arts, in addition to the above requirements, the student must complete 16 credits of foreign languages (or the equivalent as specified under Prescribed Courses in the College of Arts and Science).

2. Basic Requirements Within the College

All students who are candidates for a baccalaureate degree are required to take the following courses totaling 27 credits.

	Credits
Bus.Adm. 153—Introduction to Business	3
Bus.Adm. 365—Corporation Finance	3
Bus.Adm. 373-374—Business Law	6
Econ. 164—Economic History of the United States	3
Econ. 201-202—Principles of Economics	6
Econ. 353—Money and Banking	3
Econ. 361—Statistics	3

3. Fields of Study

The program of the College combines opportunities for acquiring a broad cultural background with opportunities for concentration in eight fields of professional specialization: accounting, banking and finance, economics (for either the degree of Bachelor of Arts or Bachelor of Science in Business Administration), general business, management, marketing, personnel, and executive secretarial studies (two-year program only).

Each of these fields of study requires 30 credits (except economics, which only requires 25 credits) of course work chosen from a list of courses available from the Dean of the College.

---

[1]56 credits are required for the degree of Bachelor of Arts.
[2]25 credits are required for a field of study with a professional specialization in economics.

Suggested Freshman Year

The following is the suggested program for the first year for all fields of study except executive secretarial studies.

First semester	*Credits*	*Second semester*	*Credits*
Mil. 101—First Year Basic	1	Mil. 102—First Year Basic	1
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bus.Adm. 153—Intro. to Bus.	3	Econ. 164—*Economic History*	3
Engl. 101—Comp. and Rhetoric	3	Engl. 102—Comp. and Rhetoric	3
Humanities Natural Science Mathematics Social Science	8 or 9	Humanities Natural Science Mathematics Social Science	8 or 9
	16		16

Executive Secretarial Studies

(Two-Year Program)

SUGGESTED CURRICULUM

The executive secretarial studies curriculum includes the following 64 credits of prescribed courses (68 credits for men taking military) and Secretarial Studies 101-102 (4 credits) or proficiency equivalent.

First Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 101—First Year Basic	1	Mil. 102—First Year Basic	1
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Bus.Adm. 153—Intro. to Bus.	3	Econ. 164—Economic History	3
Engl. 101—Comp. and Rhetoric	3	Engl. 102—Comp. and Rhetoric	3
Pol.Sci. 201—U. S. Constitution	1	Pol.Sci. 202—Nevada Const.	1
Psych.[1] 121—Personal Psych.	2	Sec.St.[2] 102—Typewriting	2
Sec.St.[2] 101—Typewriting	2	Sec.St. 112—Stenography	3
Sec.St. 111—Stenography	3	Sec.St. 129—Office Machines	2
Speech 111—Public Speaking	2	Speech 112—Public Speaking	2

[1]Psychology 201, General Pyschology (3 credits) may be substituted with the approval of the Chairman, Department of Psychology and Sociology.
[2]Or proficiency equivalent.

Second Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—*Sophomore* Activities	1
Bus.Adm. 101—Elem. Accounting	4	Bus.Adm. 374—Business Law	3
Bus.Adm. 373—Business Law	3	Econ. 202—Principles of Econ.	3
Econ. 201—Principles of Econ.	3	Sec.St. 212—Adv. Stenography	2
Sec.St. 211—Adv. Stenography	2	Sec.St. 229—Office Management	2
Sec.St. 231—Responsibilities	3	Sec.St. 232—Responsibilities	3
		Electives	4

College of Education

Departments of Instruction: Education, Elementary Education, Higher and Adult Education, Secondary Education, School Administration and Supervision.

Objectives

The main objective of the College of Education is to prepare adequately professional school personnel. For the welfare of the State, the College also aims to stimulate in the teaching and administering personnel and the public a deeper interest in the promotion of good teaching practices and sound educational policies.

Four-year curricula, leading to the baccalaureate degree, are offered in both elementary and secondary teaching fields and include courses in the other colleges on the campus. The College also offers specific courses for school administrators and supervisors, and master's degrees are granted with majors in the following basic areas: general education, kindergarten-primary education, elementary education, secondary education, guidance, library education, school administration and supervision, education for the handicapped, and higher and adult education.

The various curricula under the supervision of the College are designed to:

1. Encourage students who practice desirable and effective citizenship and who have both character and personality qualifications suitable for work with children and youth to prepare for the profession of teaching.
2. Select and retain the most promising candidates in teacher education.
3. Provide a background of general academic education for effective participation in American citizenship.
4. Stimulate the student to secure adequate mastery of the fields and subjects which he desires to teach.
5. Develop proficient skills in the professional techniques and attain knowledge for effective teaching.
6. Enable the development of an understanding of the role of the school and the teacher in a democratic society.
7. Help the prospective teacher to obtain an understanding of the characteristics of the child and the nature of his educational growth.
8. Develop an abiding interest in professional growth and in the teaching profession.
9. Provide specialized education on an advanced level for teaching and for administrative leadership in the schools and colleges.

Teaching offers excellent professional opportunities in both the elementary and the secondary schools for students with keen, alert minds and the desire, ability, and energies to be successful in one of the oldest and most respected professions—teaching. Both young men and young women are needed critically in order to supply the large demand for new teachers who will be needed each year during the next decade.

The College provides numerous services for schools and communities throughout the State and the region. The services of its faculty

are available for consultant purposes, workshops, civic groups, school surveys, school and community meetings, in-service education conferences, and demonstration work in the departmental specialties.

Guidance and Counseling

Candidates for admission to the College of Education are requested to report to the Dean of the College for general advisement as early as possible. The primary purposes of this early advisement are to plan carefully for the specific needs of each student and to enable better understanding of the requirements for the curriculum selected. In addition, it is necessary for the College of Education to become well acquainted with the prospective student teacher and to provide for appropriate arrangements for later required laboratory experiences in observation and supervised teaching.

Entering freshmen are given placement tests in general college aptitude, English, health, hearing, speech, and reading. Other tests helpful for counseling purposes may be given. All students will be provided with continuous personal and professional guidance and counseling appropriate to the problems presented. Group meetings for orientation to the University and to the profession of teaching are provided early in the freshman year.

In addition, there will be a personal interview with each candidate to determine satisfactory qualifications to do professional work in teacher education. These qualifications pertain to personality, character, scholarship, health, and other factors which contribute to teaching success.

Each student is assigned a committee of three, including the College of Education adviser, and advisers from the major and minor teaching fields. He should report to the chairman of his committee regularly.

Certification

By law no person may teach in any public school in Nevada unless he holds an appropriate certificate. *These certificates are issued by the State Department of Public Instruction, Carson City, Nevada,* in accordance with specific regulations.

Certificates for Teaching in the Elementary School

The most satisfactory course for elementary teaching will require four years and will entitle the student to a bachelor's degree. Students entering the University with definite intent to remain four years and to enter teaching upon graduation should recognize that the opportunities in teaching are much more numerous in the elementary than in the secondary field. They should plan, therefore, from the first to follow a curriculum through the four years that will thoroughly equip

them for an elementary position. Early consultation with the Dean of the College of Education is urgently recommended to such students.

Based on Four Years of Study. A first grade elementary certificate, valid for five years, is issued by the State Department to graduates of the University if they have completed the four-year curriculum in elementary education.

Certificates for Teaching in the Junior and Senior High Schools

For advice concerning courses in secondary education fields consult the Dean of the College of Education or the advisers of the major and minor teaching field curricula. Junior and senior high school teaching certificates, valid for five years, may be granted to candidates completing work satisfactorily in selected teaching fields.

Certificates for Teaching Vocational Agriculture and Vocational Home Economics

Vocational certificates are issued by the State Board for Vocational Education for teachers of vocational agriculture and vocational home economics. Prospective teachers of these subjects should consult the material under *Agricultural Education* or under *Home Economics Education* as outlined in the section of this catalogue entitled *Max C. Fleischmann College of Agriculture.* Those who complete these courses at the University of Nevada also become eligible for the certificate for teaching in the high school. The professional courses in education required for these vocational certificates are offered in the College of Education.

Requirements for a Baccalaureate Degree in Education

A student may select either a curriculum leading to the professional degree of Bachelor of Arts in Education or Bachelor of Science in Education, depending upon the teaching field selected and the specific requirements in foreign languages or science in the curriculum.

1. General Requirements

Candidates for recommendation for the baccalaureate degrees in the College of Education must have, *first,* satisfied the requirements for admission to regular standing; and *second,* earned credits in prescribed and elective courses aggregating 128 credits, of which at least 40 must be in courses numbered 300 or above. The student must have earned at least two grade points for each credit for which he has been registered at the University of Nevada, except in cases of W, and have at least a C or 2.0 average in his major teaching field.

Each graduate is required to meet all general University requirements for graduation.

2a. General Academic Education Requirements for Elementary Teaching Curricula—(Kindergarten-Primary, Intermediate, Upper Grades)

	Minimum Credits
Communication Skills	8
Freshman English	6
Speech	2
Humanities	10
English literature	3
American literature	3
Music (fundamentals)	2
Art (fundamentals)	2
Social Studies	20
Political Science 201-202 (or equivalent)	2
European history	6
United States history	6
Geography (physical, regional, cultural, or economic)	6
Science and Mathematics	12
Biological science	4–6
Physical science	5–6
Mathematics (general)	2
Psychology (general)	3
Health and Physical Education	6
Military Science (men)	4

or 2b. General Academic Education Requirements for Secondary Teaching Curricula

The principal purpose of the general education requirement, basic to all teacher education curricula, is to provide for the subject matter course experiences necessary for effective citizenship, a satisfactory personal life, and a general cultural background, regardless of the vocational or professional specialization of the individual student.

Students are required to meet all general academic education course requirements approved by the University and by the College of Education. Course work should be distributed in at least four or five broad subject matter areas, inclusive of the major teaching field.

Advisers and the Dean of the College of Education will counsel with students and help them to plan this phase of their programs. Approximately 50 credits in general academic education courses are recommended as follows:

	Minimum Credits
Communication Skills	8
Freshman English	6
Speech	2
Humanities	7
English or American literature	3
Art, music, philosophy, or speech	4
Social Studies	10
Political Science 201-202 (or equivalent)	2
History	3
Economics, geography, journalism, or sociology	5
Psychology	6
General psychology	3
Educational psychology	3
Health and Physical Education	2–4
Military Science (men)	4
For B.A. Degree in Education—	
Foreign languages (see arts and science requirements)	16
or	
For B.S. Degree in Education—	
Biological and physical sciences in two fields (mathematics may be counted up to 5 credits)	10

3a. Elementary Teaching Field (or Fields)

Courses for the elementary teaching fields are included under Foundations for Elementary Teaching IV.

or 3b. Secondary Teaching Field (or Fields)

Students who wish to prepare to teach in secondary schools should complete one major and at least one minor or related teaching field. Two teaching minors are recommended, especially for students planning to teach in the junior high school.

Students should select major and minor teaching fields from the list below. In general, it is expected that the student will determine his or her choice in the sophomore year, although this decision may be made at the beginning of the freshman year on advisement of the Dean of the College of Education. Each student will be assigned an adviser for his major field and his minor field following the conference with the Dean. Mimeographed outlines of the departmental and interdepartmental curricula requirements are available for each major and minor teaching field given below:

MAJOR TEACHING FIELDS

(Consult the specific curriculum for details)

Agriculture (vocational)
Art (elementary and secondary)
Biological Sciences (Biology, Botany, Zoology, or Physiology, etc.)
Business Education (Bookkeeping, Business Law, Distributive Education, General Business Subjects, Secretarial Training, Shorthand, or Typewriting, etc.)
Chemistry
English (Literature, Grammar Fundamentals, or Oral and Written Composition, etc.)
Foreign Languages (French, German, Latin, or Spanish, etc.)
History (American, European, or Asiatic, etc.)
Home Economics (vocational)
Journalism
Mathematics (Algebra, Geometry, or Advanced Mathematics, etc.)
Music (Instrumental and vocal—elementary and secondary)
Physical Education and Coaching for Men.
Physical Education for Women
Physics
Physical Sciences (Chemistry, Geology, Physical Geography, or Physics, etc.)
Political Science
Social Studies (Cultural Geography, Economics, History, Political Science, Psychology, or Sociology, etc.)
Speech and Drama
Special Subjects—see Dean or adviser for details

MINOR TEACHING AND SUPPORTING FIELDS

(16–18 Credits in Single Fields and 20–24 Credits in Composite Fields)

Art
Biology
Business education
Chemistry
Economics
Elementary education
English
French
Geography
Geology
German
Health education
History
Italian
Journalism
Latin
Library education
Mathematics
Music
Physical education, men
Physical education, women
Political science
Psychology
Science
Social studies
Sociology
Spanish
Special education
Speech
Special subjects, see Dean

4. Professional Education Foundation Areas and Courses

Five Foundations for Teaching provide the framework for the professional education requirements for supervised teaching, certification, and graduation. Enrollment in all Foundations for Teaching courses must be made with the approval of the Dean of the College of Education. Satisfactory completion of the basic requirements in each prior Foundation Area is required for admission to supervised teaching.

Certification requirements in Nevada and surrounding states are generally met in the following pattern of 43 credits of course work for elementary teaching or 20 credits of course work for secondary teaching.

FOUNDATIONS FOR ELEMENTARY TEACHING

		Credits	Minimum Credits
I.	*The Sociological Bases for Education*		5
	Ed. 101—Orientation to Professional Education	2	
	Ed. 201—Introduction to Education: School Law, Organization, and Social Foundations	3	
II.	*Human Growth and Development*		2–3
	El.Ed. 220—Human Growth and Development	3	
	or		
	Psych. 233—Child Psychology	2	
III.	*Evaluation and Guidance*		3
	Psych. 321—Educational Psychology	3	
IV.	*General Principles, Methods, and Materials for Elementary Education*		23
	Ed. 302—Children's Literature	3	
	Ed. 401—Audio-Visual	3	
	El.Ed. 322—Arithmetic	2	
	El.Ed. 323—Language Arts	5	
	El.Ed. 324—Music	3	
	El.Ed. 325—Elementary Science	2	
	El.Ed. 326—Art	2	
	El.Ed. 334—Kindergarten Education[1]	2	
	El.Ed. 424—Social Studies	3	
V.	*Supervised Teaching in Elementary Education*		9
	El.Ed. 427 and 428—Supervised Teaching	8	
	Ed. 417—Professional Problems in Supervised Teaching	1	

[1]For students preparing to teach in the kindergarten.

FOUNDATIONS FOR SECONDARY TEACHING

		Minimum Credits
I.	*The Sociological Bases for Education*	5
	Ed. 101—Orientation to Professional Education	2
	Ed. 201—Introduction to Education: School Law, Organization, and Social Foundations	3
II.	*Human Growth and Development*	2
	Psych. 231—Psychology of Adolescence	2
III.	*Evaluation and Guidance*	3
	Sec.Ed. 340—Introduction to Guidance and Counseling	3
IV.	*General Principles, Materials, and Methods for Secondary Education*	5
	Sec.Ed. 341—General Principles, Materials, Methods	3
	Special Methods (teaching field)	2
V.	*Supervised Teaching in Secondary Education*	5
	Sec.Ed. 457—Supervised Teaching	4
	Ed. 417—Professional Problems in Supervised Teaching	1

SUPERVISED TEACHING

All supervised teaching facilities are provided in the public schools of Reno and Sparks through the courtesy of the school authorities in these two cities. By this arrangement students meet typical school problems and secure training for teaching under the most favorable conditions. In every instance the student is assigned to one of the regular teachers in the school system, designated as a cooperating teacher, who assigns to the student the material for teaching, checks his lesson plans, observes his teaching, and gives suggestions for improvement.

Each regular staff member of the College of Education is likewise responsible for the supervision of a group of student teachers, making regular visits to observe the student's teaching, and holding conferences with the student and his cooperating teacher concerning the teaching. There is always a close cooperation between the department and the cooperating teacher.

Prerequisites for Supervised Teaching

To protect the interests of the public school children, great care is exercised in according the privileges of supervised teaching to students. Only those students who have shown by their previous record a satisfactory ability in scholarship, dependability and earnestness, and a real interest in the problems of education, are accepted for teaching. The failure on the part of the student teacher to meet any requirement imposed may result in the immediate forfeiture of his teaching privilege.

Admission to supervised teaching is secured through the Offices of the Dean of the College of Education and the Supervisor of Student Teaching for either the elementary or secondary teaching fields. Application should be made for supervised teaching at least three months before the teaching is to be taken.

Prerequisites for admission to supervised teaching for regular University of Nevada students:

A. Elementary grades—Kindergarten through the eighth grade.
   1. Completion of at least 24 credits in professional courses in elementary education, including the teaching of reading and language arts.
   2. Completion of at least 85 credits of college courses leading to a bachelor's degree with a minimum scholarship average of C or 2.0. (An exception may be made for the student planning to receive a teaching permit with less than a bachelor's degree by permission of the State Board of Certification.)
   3. Completion of Foundations for Elementary Teaching I, II, and III.
   4. Recommendation of Chairman of the Department of Elementary Education and Dean of the College of Education.

B. Secondary (high school) grades—seventh grade through twelfth grade. (Junior high and senior high.)
   1. Completion of at least 85 credits of college work leading to a bachelor's degree with a minimum scholarship average of C or 2.0.
   2. Completion of at least 24 credits of the course work required for a major teaching field (e.g. English, social studies, etc.), for which special methods and supervised teaching courses have been authorized by the College of Education, with at least a C average.
   3. Completion of at least two-thirds of the course work for an approved minor teaching field.
   4. Completion of Foundations for Secondary Teaching I, II, and III, and IV completed or in progress.
   5. Recommendation of Chairman of the Department of Secondary Education and Dean of the College of Education.

Prerequisites for admission to supervised teaching for students who have *transferred* to the University of Nevada:

A. Fulfillment of all the requirements listed above.

B. Completion of at least 15 credits in residence at the University of Nevada, including at least 6 credits in appropriate methods courses.

Electives

After meeting the requirements of the general academic education area, major and minor teaching fields, and the professional education courses, the student devotes the remainder of the 128 credits to free electives. He is advised to select courses which will help him prepare for the varied responsibilities. Further depth of subject matter in his teaching field is especially critical. Extracurricula activities should be considered, also.

Suggested Curriculum for Field of Concentration or Major in Elementary Education

Note to Student and Adviser: The following *suggested curriculum* is submitted for guidance in the general advisement of the student who wishes to do a field of concentration in elementary education. Even though certain courses are listed, there is a possibility of *substitution of courses designated as equivalent* by the adviser and the Dean of the College of Education. A minimum of 128 credits is required for this curriculum, including general academic, professional and elective courses. Each student must secure approval for his program from his adviser and the Dean of the College of Education.

Freshman Year

Requirement	*Course*	*1st Sem.*		*2d Sem.*
Military	Mil. 101-102	1		1
Physical Education	P.E. 101-102	1		1
Freshman English	Engl. 101-102	3		3
History	Hist. 101-102 or 105-106	3		3
Biological Science	Bot. 103 or Zool. 103	3	or	2
Geography	Geog. 101, 103, 106			
or				
Physical Science	Chem. 101, 102; Geol. 101, 102; Phys. 101, 102, 107, 117, 118, 119, 151, 152	3		3
Mathematics	Math. 105	2	or	2
Foundation I (Elem.)	Ed. 101	2	or	2

Sophomore Year

Military	Mil. 201-202	1		1
Physical Education	P.E. 201-202	1		1
History	Hist. 101-102 or 105-106	3		3
Speech		2	or	2
General Psychology	Psych. 201	3		–
Art		2		–
Music		–		2
Geography or Physical Science (see Freshman Year)		3		3
Foundation I (Elem.)	Ed. 201	3	or	3
Foundation II (Elem.)	El.Ed. 220 or Psych. 233	2	or	3
Electives (see adviser)				

Junior Year

Health Education	Physical Education	2	or	2
English Literature	Engl. 235 or 236	3	or	3
Political Science	Pol.Sci. 201-202	1		1
Foundation III (Elem.)	Psych. 321	–		3
Teaching of Arithmetic[1]	El.Ed. 322	–		2
Teaching of Lang. Arts[1]	El.Ed. 323	–		5
Teaching of Science[1]	El.Ed. 325	2		–
Teaching of Art[1]	El.Ed. 326	–		2
Kindergarten Education[2]	El.Ed. 334	2		–
Foundation V (Elem.)	El.Ed. 427	–		2
Electives (see adviser)				

Senior Year

American Literature	Engl. 441 or 442	3	or	3
Foundation V (Elem.)	El.Ed. 428	4–8	or	4–8
Foundation V (Elem.)	Ed. 417	1	or	1
Children's Literature[1]	Ed. 302	3	or	3
Audio-Visual Methods[1]	Ed. 401	3		–
Teaching of Music[1]	El.Ed. 324	3		–
Teaching of Social Studies[1]	El.Ed. 424	3		–
Electives (see adviser)				

[1]Foundations for Elementary Teaching IV courses.
[2]For students preparing to teach in the Kindergarten.

Graduate Programs in Education

Requirements concerning the graduate degrees of Master of Arts and Master of Education with majors or minors in education are described in the next section. Details concerning procedure to follow are listed in the section of this catalogue entitled *Graduate Study*. Students who wish to become candidates for these degrees should consult that section and must make application for admission to do graduate work with the Office of Admissions. Counsel is available from the Dean of the College of Education, the adviser for the major field or area of concentration, and the Dean of the Graduate School.

Graduate students may specialize in kindergarten education, elementary education, elementary principalship, secondary principalship, secondary education, school administration, supervision, higher and adult education, guidance services, educational research, special education, audio-visual education, and in other similar fields in professional education. The specific requirements for the curriculum to be followed and the thesis problem to be undertaken are adapted to the professional needs of the student. Students should not enroll in any course for graduate credit without first securing the approval of the department head that such course or courses are acceptable toward a major or minor. Approval for graduate credit for each course must be secured from the Dean of the Graduate School at the time of registration for the course.

General improvement courses for in-service education on the graduate level should also be considered by the student. These courses will also be offered in extension or branch centers, workshops, short conferences, evening schools, and individual problem courses by appropriate arrangement. Inquiries are encouraged.

Requirements for Graduate Degrees

The Master of Arts degree requires 24 credits of approved course work with a major in education and a 6-credit thesis. High standards of research work are required. Specific programs with emphasis on either teaching or administration and supervision are available on request. All candidates for this degree are required to take a course in methods of research to prepare them to carry on research investigations.

The Master of Education degree requires 32 credits of acceptable graduate course work with a major consisting of at least 16 credits in one of the fields of education, 8 credits in a minor field, and 8 credits in cognate courses or education electives.

No thesis is required, but the candidate must prepare a professional paper or report which represents the equivalent of a 2-credit individual research course (Elementary Education 528, Secondary Education 558, School Administration Education 588, or Higher and Adult Education 598). This paper must be completed and approved before the student may take the final examination for the degree. It should represent an investigation of current practices, research literature, or a creative project in the candidate's major graduate field. Two copies must be filed with the Dean of the College of Education, one for the Dean's official records and one for the chairman of the candidate's committee.

Each candidate for the Master of Education degree must have completed a minimum of two academic years of satisfactory teaching or administrative experience, or equivalent.

Other requirements for these master's degrees are listed in the section of this catalogue entitled *Graduate Study.*

The Teacher Placement Service

For the purpose of bringing school authorities who are looking for competent teachers into touch with promising candidates, the College of Education has maintained a Teacher Placement Service since 1923.

Only those candidates are accepted for enrollment with the placement service whose ability and character are well known to the College of Education. For those enrolled the placement office secures all data possible, both personal and academic, and recommendations from persons in official positions competent to speak of the character or teaching ability of the candidate. This material is kept on file, and on request is sent to interested school authorities.

The only fee charged for the service rendered is $5 to be paid by the candidates at the time of enrollment to cover the necessary costs of postage, printing, and stenographic help.

College of Engineering

The School of Civil Engineering.
The School of Electrical Engineering.
The School of Mechanical Engineering.

Objectives

The departments of the College of Engineering are adequately staffed and equipped to give sound basic training to those students whose interests and capabilities permit them to undertake the preparation for activity within these areas of the engineering profession. Upon successful completion of the course requirements as outlined below, the student will become eligible for a baccalaureate degree. All curricula prescribed by the College have been carefully examined and fully accredited by the Engineers' Council for Professional Development which is an agency supported by most segments of the engineering profession for the purpose of examining the offerings of schools of engineering throughout the nation. Being in direct contact with national engineering organizations, the members of the staff of the College are in a position to adjust the curricula from time to time in order that the offerings may be consistent with current industrial and managerial requirements and anticipated future demands expected of engineering graduates. The aim is to maintain a well-balanced program whereby the student will be trained not only to meet the technical demands of the profession, but also to enable him to take his place as a citizen of his community. As the detailed descriptions of the curricula will indicate, the objectives of the College are accomplished through lectures, recitations, laboratory experimentations, drafting room periods, and design periods.

Professional Engineering Degrees

The professional engineering degrees of Civil Engineer (C.E.), Electrical Engineer (E.E.), and Mechanical Engineer (M.E.) may be conferred upon graduates of the College of Engineering who have held positions of professional responsibility in industry or teaching and who submit an acceptable thesis of an advanced nature. (See *Graduate Study* in the index.)

Requirements for a Baccalaureate Degree in Engineering

The degrees of Bachelor of Science in (a) Civil Engineering, (b) Electrical Engineering, and (c) Mechanical Engineering are conferred

upon students who have stisfactorily completed the full course in the Schools of (a) Civil Engineering, (b) Electrical Engineering, and (c) Mechanical Engineering, aggregating 146 credits in each case.

Curricula in Engineering

Uniform Freshman Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 101—First Year Basic	1	Mil. 102—First Year Basic	1
P.E. 101—Freshman Activities	1	P.E. 102—Freshman Activities	1
Chem. 101—Gen. Inorganic Chem.	4	Chem. 102—Gen. Inorganic Chem.	2
Engl. 101—Comp. and Rhetoric	3	Chem. 124—Qualitative Analysis	2
Math. 151—Elem. Math. Analysis	5	Engl. 102—Comp. and Rhetoric	3
M.E. 105—Engineering Drawing	2	Math. 152—Elem. Math. Analysis	5
Electives[1]	2 or 3	M.E. 106—Descriptive Geometry	2
		Electives[1]	2 or 3
	18 or 19		18 or 19

Civil Engineering

Uniform Freshman Year (see above)

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
C.E. 241—Plane Surveying	3	C.E. 242—Plane Surveying	4
C.E. 245—Engineering Problems	2	C.E. 246—Construction Materials	3
Math. 251—Engineering Calculus	4	Math. 252—Engr. Calculus	4
Phys. 203—Gen. Phys. for Engr.	4	Phys. 204—Gen. Phys. for Engr.	4
Phys. 205—Phys. Measurements	2	Phys. 206—Phys. Measurements	2
Speech 111—Public Speaking	2		
	19		19

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 363—Curves, Earthwork	3	C.E. 366—Roads, Pavements	4
C.E. 367—Elem. Fluid Mechanics	4	C.E. 368—Fluid Mechanics Lab.	1
C.E. 369—Nonmet. Testing Lab.	1	C.E. 374—Metals Testing Lab.	1
Econ. 203—Survey of Economics	3	C.E. 376—Mechanics of Mat.	4
Math. 341—Analytic Mechanics	3	C.E. 491—Contracts, Specific	2
Pol.Sci. 201—U. S. Constitution	1	Math. 342—Analytic Mechanics	2
Electives[1]	2	Pol.Sci. 202—Nevada Constitution	1
		Electives[1]	3
	17		18

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 481—Framed Structures	5	C.E. 484—Structural Design	4
C.E. 485—Reinforced Concrete	4	C.E. 486—Reinf. Concrete Design	2
C.E. 489—Sanitary Engineering	3	C.E. 488—Engineering Economy	2
M.E. 353—Fund. Thermodynamics	3	C.E. 490—Sanitary Engineering	3
Electives[1]	3	C.E. 492—Found., Soil Mech.	4
		Electives[1]	3
	18		18

[1]Electives in the freshman and sophomore years are to be chosen from the humanistic social studies with the approval of the adviser. Electives in the junior and senior years should be chosen preferably so as to be a part of a well-integrated program of professional development, e. g., business administration, economics, and psychology for those who intend to enter business; mathematics and physics for those who intend to enter research; education for those who expect to teach, etc.

Electrical Engineering

Uniform Freshman Year (see page 96)

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
C.E. 241—Plane Surveying	3	Math. 252—Engineering Calculus	4
Math. 251—Engineering Calculus	4	Mech.A. 226—Mfg. Processes	1
Phys. 203—Gen. Phys. for Engr.	4	Met. 206—Engr. Materials	2
Phys. 205—Phys. Measurements	2	Phys. 204—Gen. Phys. for Engr.	4
Speech 111—Public Speaking	2	Phys. 206—Phys. Measurements	2
Electives[1]	2	Electives[1]	3
	19		18

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Bus.Adm. 153—Intro. to Bus.	3	C.E. 372—Strength of Materials	3
E.E. 351—Direct Current Mach.	3	E.E. 352—Alt. Current Mach.	3
E.E. 353—Dir. Curr. Mach. Lab.	2	E.E. 354—Alt. Curr. Mach. Lab.	2
E.E. 355—Intro. to Elect. Cir.	2	E.E. 356—Alt. Current Circuits	2
Math. 341—Analytic Mechanics	3	E.E. 368—Intro. to Electronics	3
Math. 351—Differential Eqtns.	2	Math. 342—Analytic Mechanics	2
Electives[1]	3	Electives[1]	3
	18		18

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
E.E. 457—Adv. Elect. Circuits	2	E.E. 462—Engineering Analysis	3
E.E. 461—Adv. Alt. Curr. Mach.	3	E.E. 464—Adv. Alt. Curr. Lab.	3
E.E. 463—Adv. Alt. Curr. Lab.	3	E.E. 466—Generation of Power	3
E.E. 481—Advanced Electronics	3	or	
E.E. 483—Adv. Electronics Lab.	1	E.E. 482, 484—Communication and Communication Lab.	4
M.E. 457—Machine Design	3	E.E. 488—Seminar	1
Pol.Sci. 201—U. S. Constitution	1	M.E. 353—Fund. Thermodynamics	3
Electives[1]	2	M.E. 462—M.E. Laboratory	2
		Pol.Sci. 202—Nevada Const.	1
		Electives[1]	1 or 2
	18		18

Mechanical Engineering

Uniform Freshman Year (see page 96)

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
C.E. 241—Plane Surveying	3	Math. 252—Engineering Calculus	4
Math. 251—Engineering Calculus	4	Mech.A. 226—Mfg. Processes	1
Phys. 203—Gen. Phys. for Engr.	4	Met. 206—Engr. Materials	2
Phys. 205—Phys. Measurements	2	Phys. 204—Gen. Phys. for Engr.	4
Speech 111—Public Speaking	2	Phys. 206—Phys. Measurements	2
Electives[1]	2	Electives[1]	3
	19		18

[1]See footnote 1, page 96.

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
E.E. 351—Direct Current Mach.	3	C.E. 374—Metals Testing Lab.	1
E.E. 353—Dir. Curr. Mach. Lab.	2	C.E. 376—Mechanics of Mat.	4
Math. 341—Analytic Mechanics	3	E.E. 352—Alt. Current Mach.	3
Math. 351—Differential Eqtns.	2	E.E. 354—Alt. Curr. Mach. Lab.	2
M.E. 351—Kinematics	3	Math. 342—Analytic Mechanics	2
M.E. 355—Thermodynamics	3	M.E. 356—Appld. Thermodynamics	3
Electives[1]	2	Electives[1]	3
	18		18

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 367—Elem. Fluid Mechanics	4	M.E. 458—Machine Design	3
C.E. 368—Fluid Mechanics Lab.	1	M.E. 465—M.E. Laboratory	2
M.E. 457—Machine Design	3	M.E. 472—Air Cond. and Refrig.	3
M.E. 461—Heat Transfer	3	M.E. 476—Mech. Vibrations	3
M.E. 464—M.E. Laboratory	2	M.E. 477—Int. Combust. Engines	3
M.E. 471—Heat-Power Engr.	2	Pol.Sci. 202—Nevada Const.	1
Pol.Sci. 201—U. S. Constitution	1	Electives[1]	3
Electives[1]	2		
	18		18

[1]See footnote 1, page 96.

Mackay School of Mines

Departments of Instruction: Geology-Geography, Metallurgy, Mining.
Nevada Bureau of Mines.
Nevada Mining Analytical Laboratory.

Objectives

The purpose of the Mackay School of Mines is to give the student professional training in the sciences and technologies of the mineral industry and to provide a general education that will fit him to become a worthy citizen of his country and a leader among his people.

Students who enter the Mackay School of Mines should possess a serious purpose, willingness to do consistently hard work, and demonstrated ability and interest in scientific subjects. If the above qualifications and aptitudes are lacking it is not advisable for the student to undertake the study of any of the curricula offered in the School. The student is expected to apply himself diligently; for scholarship requirements are high and competition is keen.

Degrees

The Mackay School of Mines offers four undergraduate curricula which lead to the degrees of Bachelor of Science in Geology, Geological Engineering, Metallurgical Engineering, and Mining Engineering. The Master of Science degree may be earned in the same subjects. Professional degrees of Geological Engineer (Geol.E.), Metallurgical Engineer (Met.E.), and Engineer of Mines (E.M.) may be conferred upon graduates of the Mackay School of Mines who have held positions of professional responsibility in industry or teaching and who submit an acceptable thesis of an advanced nature. (See *Graduate Study* in the index.)

A student applying for admission as a graduate student in Geology or Geological Engineering must submit with his application recent test scores of the Aptitude and Advanced (Geology) Tests of the Educational Testing Service, at Los Angeles 27, California, or at Princeton, New Jersey. If these test scores are not submitted at the time of application for admission to graduate study in these subjects, the student will be required to take the Aptitude and Advanced (Geology) Tests at his expense after admission.

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 and Yerington, Nevada; lead and zinc mines at Pioche, Nevada; oil and gas fields in southern California, eastern Nevada, and western Utah; magnesite and brucite mines at Gabbs, Nevada; tungsten and iron mines at many places in Nevada; mineral operations involving gold, silver, talc, limestone, fluorite, gypsum, silica sand, perlite, diatomite, mercury, and many other materials throughout Nevada and the adjacent portions of California, Oregon, Idaho, and Utah.

Excellent relationships exist between the School and the mining companies of the region, and with many companies in foreign areas. The student, therefore, has no difficulty in obtaining summertime mining employment, and this he is expected to do to gain experience. The School has been very successful in placing its graduates in good positions.

Associated State and Federal Organizations

Associated with the Mackay School of Mines are several State and Federal organizations, whose offices are in the Mines Building or in nearby buildings on the campus. The Nevada Bureau of Mines has offices in the Mines Building and its library is combined with that of the School. The Nevada Mining Analytical Laboratory, which assays ores and identifies geologic material for Nevada citizens, also has offices and laboratories in the Mines Building. The U. S. Bureau of Mines maintains a large station on the University campus. The U. S. Geological Survey generally conducts some geological investigations within the State, frequently with headquarters at the School.

Friendly and cooperative relationships are maintained with these organizations and by special permission their apparatus and libraries are available to the students and faculty of the School. Often these organizations seek part-time or summer help, and students welcome such work as an additional means of employment and of gaining valuable experience. Association with the staff members of these organizations is valuable for students.

Requirements for a Baccalaureate Degree in the Mackay School of Mines

The student is permitted to graduate in any of the curricula offered by the Mackay School of Mines as listed at the time of his entrance or at the time of his graduation. The student's choice of electives must meet the approval of his department and, in general, electives should be chosen to broaden his education in humanities and social studies or fields of study related to his major subject, rather than to increase his specialization in it. Elective credits make it possible for a student to elect advanced military courses in his junior and senior years in order to qualify for a reserve commission from the ROTC at the time of graduation.

The curricula, of 146 credits each, leading to the degrees of Bachelor of Science in Geology, Geological Engineering, Metallurgical Engineering, and Mining Engineering are outlined as follows:

Curricula in Mackay School of Mines

Uniform Freshman Year for all Options

The following first-year program is specified for all students in the Mackay School of Mines.

First semester	*Credits*
Mil. 101—First Year Basic	1
P.E. 101—Freshman Activities	1
Chem. 101—Gen. Inorganic Chem.	4
Engl. 101—Comp. and Rhetoric	3
Math. 151—Elem. Math. Analysis	5
M.E. 105—Engineering Drawing	2
Min. 101—Mineral Industry Lec.	1
	17

Second semester	*Credits*
Mil. 102—First Year Basic	1
P.E. 102—Freshman Activities	1
Chem. 102—Gen. Inorganic Chem.	2
Chem. 124—Qualitative Analysis	2
Engl. 102—Comp. and Rhetoric	3
Geol. 101—Physical Geology	3
Math. 152—Elem. Math. Analysis	5
M.E. 106—Descriptive Geometry	2
	19

Summer Work

Min. A.,[1] Practical Mining; Two months. No credit.

[1]Not required in Curriculum in Geology or Geological Engineering.

Geology

The curriculum leading to the degree of Bachelor of Science in Geology is offered primarily for those students who plan to take post-graduate work in geology or who want to obtain a broad education in geology and the related basic sciences, as well as an introduction to social studies and humanities. Those students who plan to enter the field of applied geology upon completion of their undergraduate study should take the Curriculum in Geological Engineering.

Some of the elective credits are restricted as noted below:

BIOLOGY: An additional laboratory course of 3 or more credits is required.

FOREIGN LANGUAGE: A student must present either: (1) two years

of German or French in college, or (2) one year of German or French in college plus two or more years of one modern foreign language in high school. If the student can demonstrate a satisfactory reading knowledge of German or French as a result of high school or one year of college language work, he will be permitted to take the elementary course in the other language; otherwise he must take the other year in the same language.

GEOLOGY: The student may not offer more than 45 credits in geology.

SOCIAL STUDIES AND HUMANITIES: 9 credits are required in addition to those listed in the curriculum below. They should be chosen from: "College of Arts and Science, Requirements for a Baccalaureate Degree in Arts and Science, Prescribed Courses, 3 and 4 (Groups 2 and 3)."

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Geol. 211—Mineralogy	3	Geol. 102—Historical Geology	3
German (or French)—First Year	5	Geol. 212—Mineralogy	3
Phys. 151—General Physics	3	German (or French)—First Year	5
Phys. 153—Gen. Physics Lab.	1	Phys. 152—General Physics	3
Electives (Social Studies)	3	Phys. 154—Gen. Physics Lab.	1
	17		17

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 241—Plane Surveying	3	Geol. 326—Opt. Mineral. Petrol.	4
Engl. 201—Advanced Composition	2	Geol. 332—Struct. Geology	3
Geol. 325—Opt. Mineral. Petrol.	4	Geol. 450—Field Methods	1
Electives	9	Math. 220—Math. Statistics	3
		Zool. 103—Gen. Zoology	2
		Zool. 104—Gen. Zool. Lab.	2
		Electives	3
	18		18

Summer Camp

Geol. 451[2]—Summer Field Geology.....6 credits.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Econ. 201—Prin. of Economics	3	Geog. 222—Weather and Climate	3
Geol. 461—Invert. Paleontology	4	Geol. 468—Stratigraphy	3
Pol.Sci. 201—U. S. Constitution	1	Pol.Sci. 202—Nevada Const.	1
Electives	9	Speech 112—Public Speaking	2
		Electives	8
	17		17

[2]In special cases, and with written consent of the student's adviser, department chairman, and dean, this course may be replaced by C.E. 242, or additional geology and/or other related courses.

Geological Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Chem. 231—Quant. Analysis	3	Chem. 232—Quant. Analysis	3
Geol. 211—Mineralogy	3	Geol. 102—Historical Geology	3
Math. 251—Engineering Calculus	4	Geol. 212—Mineralogy	3
Phys. 203—Gen. Phys. for Engr.	4	Math. 254—Engr. Calculus	2
Phys. 205—Phys. Measurements	2	Phys. 204—Gen. Phys. for Engr.	4
		Phys. 206—Phys. Measurements	2
	18		19

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 241—Plane Surveying	3	Geol. 326—Opt. Mineral. Petrol.	4
Geol. 325—Opt. Mineral. Petrol.	4	Geol. 332—Struct. Geology	3
Math. 341—Analytic Mechanics	3	Geol. 450—Field Methods	1
Min. 465—Mine Sampl. and Val.	2	Geol. 484—Ground Water	3
Pol.Sci. 201—U. S. Constitution	1	Pol.Sci. 202—Nevada Const.	1
Social Studies or Humanities[3]	3	Social Studies or Humanities[3]	3
	16		15

Summer Camp

Geol. 451—Summer Field Geology.....6 credits.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
Art 107[4]—Freehand Drawing	1	Econ. 202—Prin. of Economics	3
Econ. 201—Prin. of Economics	3	Geol. 468—Stratigraphy	3
Geol. 461—Invert. Paleontology	4	Met. 322—Mineral Dressing	4
Geol. 471—Ore Deposits	3	Social Studies or Humanities[3]	3
Social Studies or Humanities[3]	3	Electives	5
Electives	4		
	18		18

[3]These subjects must be chosen from: "College of Arts and Science, Requirements for a Baccalaureate Degree in Arts and Science, Prescribed Courses, 3 and 4 (Groups 2 and 3)." Advanced Military Science and Tactics may be substituted for these courses.

[4]May substitute other courses by permission of department chairman or dean.

Metallurgical Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Chem. 231—Quant. Analysis	3	Chem. 232—Quant. Analysis	3
Geol. 211—Mineralogy	3	Econ. 201—Prin. of Economics	3
Math. 251—Engineering Calculus	4	Geol. 212—Mineralogy	3
Phys. 203—Gen. Phys. for Engr.	4	Math. 254—Engineering Calculus	2
Phys. 205—Phys. Measurements	2	Phys. 204—Gen. Phys. for Engr.	4
		Phys. 206—Phys. Measurements	2
	18		19

Junior Year

First semester	*Credits*	*Second semester*	*Credits*
Chem. 353—Physical Chemistry	2	Chem. 354—Physical Chemistry	2
C.E. 241—Plane Surveying	3	C.E. 372—Strength of Materials	3
Econ. 202 or Mil. 301	3	Met. 322—Mineral Dressing	4
E.E. 375—Prin. Elec. Circ. Mach.	3	Met. 450—Prin. Phys. Met.	3
Math. 341—Analytic Mechanics	3	Min. 432—Mining Methods	3
Met. 311—Fire Assaying	2	Pol.Sci. 201—U. S. Constitution	1
Met. 431—Pyrometallurgy	3	Social Studies or Humanities[5]	3
	19		19

[5]See footnote 3, page 103.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 361—Hydraulics	3	Geography or Geology	3
Min. 465—Mine Sampl. and Val.	2	M.E. 353—Fund. Thermodynamics	3
Met. 433—Hydrometallurgy	3	Met. 344—Ferrous Metallurgy	2
Met. 451—Physical Metallurgy	3	Met. 436—Electrometallurgy	2
Met. 522—Adv. Mineral Dressing	3	Met. 476—Met. Problems	2
Pol.Sci. 202—Nevada Const.	1	Met. 496—Metallurgy Project	2
Social Studies or Humanities[6]	3	Social Studies or Humanities[6]	3
	18		17

[6]See footnote 3, page 103.

Mining Engineering

Sophomore Year

First semester	*Credits*	*Second semester*	*Credits*
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Chem. 231—Quant. Analysis	3	Chem. 232—Quant. Analysis	3
Geol. 211—Mineralogy	3	Geol. 212—Mineralogy	3
Math. 251—Engineering Calculus	4	Math. 254—Engineering Calculus	2
Phys. 203—Gen. Phys. for Engr.	4	Met. 206—Engr. Mat. Processes	2
Phys. 205—Phys. Measurements	2	Phys. 204—Gen. Phys. for Engr.	4
		Phys. 206[7]—Phys. Measurements	2
	18		18

[7]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	2
E.E. 375—Prin. Elec. Circ. Mach.	3	C.E. 372—Strength of Materials	3
Math. 341—Analytic Mechanics	3	Econ. 201—Prin. of Economics	3
Met. 311—Fire Assaying	2	Geol. 322—Lithology	2
Min. 312—Rock Break. Excav.	3	Met. 322—Mineral Dressing	4
Social Studies or Humanities[8]	3	Min. 432—Mining Methods	3
		Social Studies or Humanities[8]	3
	17		20

Summer Camp

Min. 442—Mine Surveying—2 credits.

Senior Year

First semester	*Credits*	*Second semester*	*Credits*
C.E. 361—Hydraulics	3	Econ. 202—Prin. of Economics	3
Geol. 471—Ore Deposits	3	Geol. 332—Struc. Geology	3
Met. 433—Hydrometallurgy	3	Min. 426—Mine Plant and Design	4
Min. 451—Mine Safety and Vent.	3	Min. 462—Mineral Indus. Econ.	3
Min. 465—Mine Sampl. and Val.	2	Pol.Sci. 202—Nevada Const.	1
Pol.Sci. 201—U. S. Constitution	1	Social Studies or Humanities[8]	3
Social Studies or Humanities[8]	3		
	18		17

[8]See footnote 3, page 103.

Graduate Study

Opportunity for Graduate Work

The University offers graduate work leading to the advanced degrees of Master of Arts, Master of Science, and Master of Education. In addition certain professional degrees are granted in the College of Engineering and the Mackay School of Mines. Most of the departments of the University will accept candidates for the master's degree. Specialization in any department, however, will be limited to the specialties of the departmental staff. The University does not offer the degree of doctor of philosophy or doctor of education.

Professional engineering degrees are given on satisfactory completion of certain professional work and a thesis as described later in section entitled *Professional Engineering Degrees.*

Although, in general, all work for the master's degree will be expected to be done in residence, certain departments, at their discretion, may allow a portion of the course work to be done at other recognized graduate schools. Whenever a student is accepted for graduate work leading to the master's degree, he may be assured that he will be given instruction of superior quality, and counseling that will be intimate and generous. Since these degrees are the only advanced degrees offered by the University, effort is made to keep the work exceptionally high in standard, and in value to the student.

Admission to Graduate Study

Admission to graduate study does not imply admission to candidacy for a higher degree. A student can acquire the right to such candidacy only by demonstrating that he has the requisite preparation and ability. He must make application to become a candidate and must be accepted by the department and the Dean of the Graduate School. Forms for making application to become a candidate will be supplied by the Registrar or the Dean of the Graduate School.

Undergraduate Prerequisite

Excepting the special case of senior undergraduates in residence at the University of Nevada (see *General Regulations* p. 111) no student will be accepted for graduate work unless he has earned the bachelor's degree from an accredited college or university.

A student, who is a candidate for a master's degree must have completed such undergraduate work as the department concerned, with the approval of the dean of his college and the Graduate Study Committee, may require. The prerequisite for a graduate major normally amounts

to an undergraduate major or its equivalent in the department, and in no case may this prerequisite be less than the requirements for an undergraduate minor or its equivalent. If a student is deficient in undergraduate prerequisites he must make up such deficiencies. In case of uncertainty as to the candidate's ability to undertake graduate work in the department, the chairman of the department may require the candidate to take a qualifying examination.

Graduate record examinations may be required for admission to graduate study in some departments. If a graduate record examination has been taken at any time by the applicant, he should supply the results of this examination along with his application for admission.

Every department reserves the right to determine which candidates it will accept for graduate work.

Graduate Courses

Graduate courses consist of those numbered 500 and above, and any courses numbered 300(G) to 399(G) and 400 to 499 (except those specifically excluded by the course description) that the student's major department may accept for graduate credit. To be acceptable for graduate credit, these courses will require such additional and individual work as the instructor may deem necessary to demonstrate ability on the part of the student to do independent study and thinking. No such course will be acceptable for graduate credit if the student has already received undergraduate credit in it.

Status of Graduate Students

1. *Candidates for the Master's Degree—*
   Any student who has made proper application to become a candidate, as later described, and who has been accepted as a candidate for the master's degree by the Dean of the Graduate School, the dean of his college, the student's major department.
2. *Other Students Taking Graduate Courses—*
   a. A student (noncandidate for a degree) holding a baccalaureate degree from a recognized university or college, who has presented proof to the Office of Admissions of his graduation and who does not wish to work for an advanced degree at the University of Nevada.
   b. A person who is qualified to certify that he holds a baccalaureate degree from an accredited university or college, may, without presentation of credentials, register for fewer than 7 credits in graduate courses in any given semester or registration period.

A student who has taken graduate courses without being a candidate for a degree, and who wishes to become a candidate for a master's

degree, must make proper application, as later described, and be approved by the Dean of the Graduate School, the dean of the college for his major, and the major department. The graduate credit he has previously received will be reviewed, and, if accepted by the major department, may be applied toward the requirements for the master's degree as later described.

Procedure for Becoming a Candidate for the Master's Degree

The candidate should receive an application blank for admission to candidacy from the Dean of the Graduate School or the Registrar, and in consultation with his major and minor professors, and the dean of his college, should indicate upon the blank the general program of studies that he is to pursue. The blank should be returned to the Dean of the Graduate School or Registrar before registration is begun.

Registration Procedure

1. Before registering for any graduate course, the student should receive an admission card from the Office of Admissions, University of Nevada, Reno, Nevada.
2. In order to receive an admission card, the student should submit to the Office of Admissions, considerably in advance of the registration date, an official transcript of record showing that he holds a baccalaureate degree from an accredited university or college.
3. Registration: At the date of registration, the graduate student will (a) secure his registration coupons from the Registrar, (b) secure the signature of the instructor of each course in which he wishes to enroll, (c) secure the signature of his dean and the Dean of the Graduate School, (d) make out his class cards, (e) present the registration card to the Registrar for computation of fees to be paid, and (f) present the card to the Comptroller and pay the fees.

Fees

Graduate students are required to pay the matriculation fee, the consolidated graduate fee, specialized instruction expenses, tuition (for out-of-State students), and Summer Sessions fees as specified (see *Financial Information* in the index). A fee of $8 is charged to cover the cost of the diploma. If the student does not desire to buy the master's hood, it is possible to rent one for the Commencement ceremony through the University for a nominal fee. Graduate students are not required to pay the ASUN and Health Service fees, but they may avail themselves of the services provided by payment of these fees.

Graduate Teaching, Research, and Curator Assistants or Fellows are exempt from the consolidated graduate fee and out-of-State tuition fee.

Requirements for the Masters' Degrees

The Master of Arts or Master of Science Degree—A candidate for the Master of Arts (M.A.) or Master of Science (M.S.) degree is required to complete a minimum of 24 credits of course work carrying graduate credit. He is also required to complete 6 credits of research thesis. For course requirements, see procedure 1 or 2 under *Course Requirements* which follows.

The Master of Education Degree—The requirements for the Master of Education (M.Ed.) degree are outlined in a later section. A thesis is not required.

Course Requirements

The candidate for the Master of Arts or Master of Science degree shall choose one of the two following procedures for the selection of graduate courses:

1. He shall select a department in which to pursue a major field of study to comprise at least 12 of the 24 graduate credits and he shall select a minor field of study to comprise at least 6 credits. The minor may be in a different department or it may be in a second division of the major department, when the major department consists of two or more separate divisions, frequently organized as departments. Whatever number of the necessary credits is not required for the major or minor may be elected in any department by the student with the approval of his adviser, the chairman of his major department, and the dean of his college; they will normally be chosen to support the candidate's thesis.
2. He shall select a department offering courses for a field of concentration. The department, the dean of his college, and the student will then arrange such a program of graduate courses as will best meet the needs and abilities of the student.

A student should not enroll in any course for graduate credit without first securing the approval of the chairman of his major department, and the dean of his college, that such courses are acceptable toward a major or a minor. Not any 6 or 12 credits may be chosen, but only such as combine to make the design that the student may or should have in mind.

It should be emphasized, however, that, although there are these certain formal requirements expressed in a specified number of credits, the student should not think of graduate work as primarily the completion of a number of required courses. These courses are intended to give the student a comprehensive understanding of his whole major field and of some segment of his minor field.

Residence Requirements

A thesis and a total of 24 credits in graduate courses (for definition see *Graduate Courses*) are required in residence at the University of Nevada or, by special arrangement, at other approved institutions as follows:

1. 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.
2. For graduates of other institutions: 8 credits of graduate courses in other institutions may be accepted under the conditions specified above.

Candidates for the master's degree must spend on the *main campus* sufficient time in graduate course study to earn not fewer than 10 credits, or one-third the total required for the degree.

Thesis Requirements

Graduate study at the University of Nevada is designed to lay the foundation for further graduate study and research. This objective of graduate study is sought in the thesis requirement.

As the thesis is considered the most distinctive characteristic of the Master of Arts or Master of Science degree, great importance is assigned to it in determining the eligibility of the candidate for the degree. Generally the thesis should demonstrate the ability of the student to select and delimit a specific problem or topic, to assemble the pertinent and necessary data, to make some original research or contribution, to organize ideas and data acceptably, and to prepare a written report in clear and effective English.

As the thesis usually requires close and constant supervision by the director in charge, the candidate should plan to develop the thesis while in residence. It is almost impossible to make satisfactory progress on the thesis wholly or largely in absentia. The candidate should not expect therefore to carry a full load of graduate courses in residence and do the thesis away from the campus. When considerable progress has been made while in residence in collecting data and in outlining the thesis, the candidate may be permitted to attempt the completion of the thesis away from the campus, under such arrangements as the supervisor of the thesis may specify.

All students who have been assigned a thesis director must register for thesis. They may register for from 1 to 6 credits of thesis per semester. The number of credits taken in any one semester should be arrived at in consultation with the director of the thesis. No grade is reported on the thesis by the thesis director, however, satisfactory or unsatisfactory progress is reported to the Registrar at the end of each semester.

Credits for the Thesis—When the candidate has been recommended

by the Graduate Study Committee and approved by the faculty for the Master of Arts or Master of Science degree, 6 credits will be recorded on his official scholarship record for the work completed on the thesis.

Date of Submission—The thesis must be completed in typed form, unbound, and submitted to the thesis director one week before it is to be submitted to the examining committee. Each member of the examining committee shall have a copy of the unbound thesis not later than four weeks before the date of the Commencement at which the degree is to be conferred. Subject to the approval of the Dean of the Graduate School, the date of the examination, set by the director of the thesis, shall be one week after the thesis has been submitted to 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[1]; on all such items the practice should be consistent throughout the thesis. A sample of the formal title page may be secured from the Dean of the Graduate School.

When the thesis has been approved by the examining committee at least three copies should be bound in accord with specifications prepared by the Graduate Study Committee.

Copies for Deposit—Three bound copies of the thesis, signed by the chairman of the major department and thesis director, must be submitted to the Graduate Study Committee; not all of these copies need be the first impression, but, if carbon copies are included, they should be distinct and easily legible. Two copies will be deposited in the University Library and one copy will be retained by the major department. Majors in the College of Education may submit an additional copy to be forwarded to the U. S. Office of Education, Washington, D. C., to be deposited there for cataloguing and for inter-library loan purposes.

The Final Examination

Not later than three weeks before the date of the Commencement at which the degree is to be conferred, a final examination will be held. This examination is usually oral, and is conducted by a committee of five, appointed by the Graduate Study Committee. In the examination the student should be able to demonstrate a comprehensive understanding of a broad field, and a somewhat more detailed understanding of a more limited field. The examination may cover also the contents of the thesis, and facts, principles, or theories related to or suggested by the thesis.

[1]Example—Campbell, W. G., "Form and Style in Thesis Writing," Houghton Mifflin Co.

The examining committee consists of five members of the faculty: a representative of the major department, a representative of the minor department, a member of the Graduate Study Committee, some member to represent the faculty at large, and the professor directing the thesis.

Whenever the decision of the examining committee is not unanimously favorable on either the examination or the thesis, it shall be the responsibility of the Graduate Study Committee to give consideration to the merits of the case and to make final determination.

General Regulations

1. Graduate credit will not be allowed in any course in which the grade received is less than C. The candidate is required to have a B average grade on all courses taken or transferred for graduate credit. This means any D grades made will be included in the average. The transfer credit (0-12) accepted as applying toward the master's degree will be given the grade that is recorded on the official transcript of the school from which the student transfers.
2. A candidate will not be recommended to the faculty for the master's degree unless he has been approved by the examining committee both on the thesis and on the final oral examination.
3. No graduate student may register for more than 14 credits of graduate work in any semester, nor for more than 6 in any six-week summer session. Candidates should not plan to enroll for the maximum number of credits in every session or they will not have adequate time for work on the thesis.
4. All the requirements for the master's degree must be satisfied within the period of 6 calendar years immediately preceding the granting of the degree.
5. The major department may require a reading knowledge of a foreign language (usually French or German).
6. Correspondence and extension courses will not be accepted for credit towards the master's degree.
7. A candidate for the master's degree may not at the same time be a candidate for any other degree.
8. An undergraduate at the University of Nevada who lacks less than 15 credits to complete the requirements for the bachelor's degree may enroll in approved courses for graduate credit, providing such credit is requested by the student and approved by the instructor at the time of enrollment.
9. A member of the University staff who is employed on full-time salary may not register for more than 6 credits during one semester.
10. A veteran must carry a minimum number of 9 credits of graduate work to be eligible for full veteran's benefits. A veteran actually carrying on his thesis preparation while in residence may register

for as many credits of thesis work, to a maximum total of 6 for all semesters, as the chairman of the major department may approve; it must be understood that such thesis credits cannot be included in the 24 credits of required graduate course work, and that final credit for thesis will not be officially recorded until the candidate has been approved by the faculty for the master's degree.

11. At least three months before the expected date of the final examination, the candidate for the master's degree must report to the Dean of the Graduate School, with the approval of his college dean and the professor directing the thesis, the date that he expects to be ready for the final examination.

Master of Education Degree

A candidate for this degree must meet all requirements of the Master of Arts degree, except as follows:

1. The candidate should have completed a minimum of two years of satisfactory teaching or administrative experience, or equivalent.

2. No thesis is required, but the candidate must prepare a professional paper which represents the equivalent of a 2-credit individual research course (Elementary Education 528, Secondary Education 558, School Administration Education 588, or Higher and Adult Education 598). This paper should involve a practical problem based on an acceptable thesis. Two copies of the paper must be filed with the Dean of the College of Education.

3. The candidate must complete a minimum of 32 credits of acceptable graduate course work with a major consisting of at least 16 credits and a minor consisting of at least 8 credits. Of the 16 credits in professional education graduate courses, at least 2 credits in research methods must be earned. The remaining 8 credits may be in academic cognate courses or education electives, depending upon the minor the candidate elects.

Professional Engineering Degrees

The professional engineering degrees—Civil Engineer (C.E), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), Geological Engineer (Geol.E.), Metallurgical Engineer (Met.E.), and Engineer of Mines (E.M.)—may be conferred upon graduates of 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 presentation of the work of others.

The professional engineering degrees may also be conferred upon graduates of the College of Engineering or of the Mackay School of Mines of the University of Nevada and upon graduates of other engineering colleges of equal standing, who, after graduation, have been engaged for a period of at least one year in honorable and successful engineering work in a position of responsibility, and who subsequently complete successfully one year of graduate work in engineering, including thesis, at the University of Nevada. Graduates of other institutions must include in their graduate work any subjects in the corresponding undergraduate curricula which are required by the College of Engineering or the Mackay School of Mines of the University of Nevada, but whose equivalents were lacking in their undergraduate courses.

Formal application for a professional engineering degree must be filed with the Registrar not later than the beginning of the second semester of the year in which the degree is sought, and approved in turn by the faculty of the College of Engineering or of the Mackay School of Mines and by the Graduate Study Committee. The application must be accompanied by detailed and satisfactory evidence as to the extent and character of the applicant's professional work. The thesis shall have the general form prescribed for the master's thesis, or shall be a reprint of an article appearing in a reputable magazine. In the case of a nonresident applicant, it shall be presented to the faculty of the College of Engineering or of the Mackay School of Mines and to the Graduate Study Committee at least eight weeks before the date set for conferring the degree. The diploma fee for a professional engineering degree is $8.

Military Science and Tactics

The Army Reserve Officers Training Corps at Nevada is organized under authority of the National Defense Act, primarily to qualify students for positions of military leadership in time of national emergency. The local unit offers required courses in a branch general curriculum and training leading to a reserve commission as 2d Lieutenant in the Army of the United States.

Requirements for Commission

To obtain a commission as 2d Lieutenant, Army of the United States, the student must satisfactorily complete the following requirements:

1. Academic courses:
   Freshman Year—First-Year Basic Military 101, 102.
   Sophomore Year—Second-Year Basic Military 201, 202.
   Junior Year—First-Year Advanced Military 301, 302, Summer Camp 303.
   Senior Year—Second-Year Advanced Military 401, 402.
2. Obtain a degree.
3. Receive the approval of the President of the University and of the PMS&T.
4. Satisfactorily pass physical examination prescribed by Army regulations.

Entrance Into Advanced Courses

Students desiring to enter in the advanced course Senior Division ROTC must meet the following requirements:

1. Be selected by the PMS&T and the President of the University, within quota limitations assigned by Department of the Army.
2. Have completed the basic course Senior Division ROTC or have received credit in lieu thereof as prescribed.
3. Successfully complete such survey and general screening tests as may be prescribed.
4. Execute a written agreement with the Government as prescribed by Army regulations.
5. Must not have reached 27 years of age at the time of initial enrollment.
6. Must pass the physical examination prescribed by Army regulations.

Commissions

Commissions in all branches (Arms and Services) of the Army may be obtained subject to quota limitations as prescribed by the Department of the Army. The requirements are:

1. Pursuit of technical or scientific field of study applicable to the branch desired.
2. Successful completion of both basic and advanced courses ROTC and successful completion of an ROTC Summer Camp.
3. Receive the approbation of the PMS&T and the President of the University.

Commissions in Regular Army

Selected students from the advanced courses, upon recommendation of the President of the University and the PMS&T, are authorized to compete nation-wide for appointment as 2d Lieutenant in the United States Army (Regular Army).

Deferment From Induction

Under the provisions of the Universal Military Training and Service Act of 1951 (Public Law 51, 82d Congress) male students *within quota limitations allotted by Department of the Army* who meet the following conditions will be recommended to their local Selective Service Boards for deferment:

1. Students must enroll in the Senior Division ROTC courses.
2. Students must be recommended by the University Deferment Board as prescribed by Special Regulations 145-90-5.
3. Students must receive the approbation of the PMS&T.
4. Students must remain in good standing in both academic and military courses.
5. Students must demonstrate a proper and sufficient aptitude to indicate that further instruction will qualify them for a commission in the Army of the United States.
6. Students must maintain a continuous attendance except for periods of nonattendance which must be approved by the PMS&T.
7. Advanced course students must execute a deferment agreement.

Supplies and Equipment

Students of the basic courses are furnished uniforms, texts, and instructional equipment at the expense of the Government.

Students in the advanced course, in addition to receiving texts and instructional equipment at the expense of the Government, are also granted an allowance for the purchase of one uniform. This allowance accrues over a period of eighteen months, and in the event the student fails to complete the course, or accept his commission if tendered, the student will be required to reimburse the Government in an amount determined by dividing the number of months remaining in the training period after the separation of the student, by the total number of months in the training period, and multiply the quotient by the commutation allowance received.

Deposit

To protect the University against any charge for loss or damage to Government property arising from misuse or neglect on the part of the student, a deposit of $20 will be required from each basic and advanced course student.

Pay

1. Students taking the basic course do not receive pay or allowances.
2. Students enrolled in the advanced courses under contract with the Government will receive:

a. Commutation in lieu of uniforms at a rate prescribed by Department of the Army (this allowance is approximately $100 for 18 months' training period).

b. Commutation of subsistence at a rate prescribed by the Department of the Army (approximately $27 per month).

c. Pay during summer camp training period, at $78 per month.

3. Travel to and from summer camp is paid by the Government.

Credit by Virtue of Previous Service

Students who have had active military service may receive credit towards graduation in any college upon presentation of the separation papers to the PMS&T in accordance with the following:

1. Those who have served two years on active duty as commissioned officers may receive 18 credits. Other veterans will be granted credit for active military service as follows:

a. Service in an enlisted status for 12 months or more, equivalent to the entire basic course, may receive 4 credits.

b. Service in an enlisted status for 6 months or more, but not to exceed 12 months, equivalent to the first year basic course, may receive 2 credits.

2. No credit will be granted if the active military service was performed more than 5 years prior to application.

3. No grade will be attached to credit given for military service.

Awards for Military Excellence

A number of honors and awards for military excellence are described in the booklet *Scholarships and Prizes*, available at the Office of the Registrar.

Courses of Instruction

In this section, 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.

Departments and Staff

Listed below, by colleges, are the departments of instruction and the staff of each department for the academic year 1955-1956. The courses offered by each department are given in abbreviated form after the name of the department.

MAX C. FLEISCHMANN COLLEGE OF AGRICULTURE

Agricultural Economics (Ag.Econ.)—Chairman, FISCHER, Associate Professor.

Professor WITTWER; Assistant Professors SEUFFERLE, WOOD; Assistant Agricultural Economists HARTLEY, WALLACE.

Agricultural Education and Agricultural Mechanics (Ag.Ed. and Ag. Mech.)—Chairman, CHRISTENSEN, Assistant Professor.

Professor TITUS.

Agronomy and Range Management (Agron. and R.Mgt.)—Chairman, ROBERTSON, Associate Professor.

Assistant Professors CORDS, HESSE, KINSINGER; Agronomist SCHULZ; Assistant Agronomists BERNHARD, PETERSON; Assistant Range Conservationist KILPATRICK.

Animal Husbandry (A.H.)—Chairman, KIDWELL, Associate Professor.

Assistant Professors BOHMAN, WEETH; Assistant Animal Husbandmen HUNTER, MANKIN, MELENDY, TORELL, WALKER; Laboratory Technician WADE.

Home Economics (H.Ec.)—Chairman, SWIFT, Professor.

Associate Professors HARPER, HORN, TRIPPLE; Assistant Professor SIDWELL.

Soils and Plant Nutrition (Soils)—Chairman, DUNN, Associate Professor.

Research Chemist SPENCER; Research Technician TOWNSEND.

COLLEGE OF ARTS AND SCIENCE

Art (Art)—Chairman, YATES, Assistant Professor.

Associate Professor SHEPPARD (on leave); Mr. HOLLADAY.

Biology (Biol., Bot., and Zool.)—Chairman, LA RIVERS, Associate Professor.

Associate Professor RICHARDSON (on leave); Assistant Professors COONEY, JONES, MILLER, RYSER (Las Vegas); Mr. DE ROTH.

Chemistry (Chem.)—Chairman, MOOSE, Professor.

Professors DEMING, WILLIAMS; Associate Professor MORRIS; Assistant Professor SEIM; Mr. FALK, Mr. KEMP.

English Language and Literature (Engl.)—Chairman, WOOD, Professor.

Professors ELDRIDGE, HUME, LAIRD (on leave); Associate Professors BRINK (Las Vegas), FRANK, GORRELL; Assistant Professors DICKINSON (Las Vegas), MORRISON; Mrs. HENRICH, Mr. LONEY (Las Vegas), Miss WITTROCK.

Foreign Languages (Fr., Ger., Ital., and Span.)—Chairman, GOTTARDI, Professor.

Associate Professors DANDINI, MELZ; Assistant Professor KLINE.

Health, Physical Education, and Athletics (P.E.)—Chairman, BROTEN, Associate Professor.

Professor MARTIE; Associate Professors RUSSELL, SCRANTON; Assistant Professors LAWLOR, MCEACHRON, SMITHWICK; Miss FITZGIBBONS, Miss WILSON.

History and Political Science (Hist., Pol.Sci.)—Chairman, HICKS, Professor.

Professor SMITH; Associate Professors ELLIOTT, HUTCHESON, MACK (Las Vegas); Assistant Professor SHEPPERSON.

Journalism (Jour.)—Chairman, HIGGINBOTHAM, Professor.
Associate Professor JANULIS; Members of the staffs of *The Reno Evening Gazette, The Nevada State Journal, The Nevada State News, The Sparks Tribune,* the *Carson City Nevada Appeal,* The United Press, The Associated Press, Radio Station KOH, Radio Station KWRN, Television Station KZTV, Reno Press Service, and the Thomas C. Wilson Advertising Agency.

Mathematics and Mechanics (Math.)—Chairman, BEESLEY, Professor.
Professor HARRIS; Assistant Professor DEMERS; Mr. SLIGO.

Military Science and Tactics (Mil.)—Chairman, BEREUTER, Professor.
Assistant Professors CLARK, HOLT, SINGLETON.

Music (Mus.)—Chairman, FREEBURNE, Associate Professor.
Associate Professor MACY; Assistant Professor HICKMAN.

Philosophy (Phil.)—Chairman, IRWIN, Professor.
Assistant Professor MONSON; Mr. HALBERSTADT.

Physics (Phys.)—Chairman, LEIFSON, Professor.
Associate Professor WORLEY (on leave); Assistant Professor FRAZIER; Mr. SKABELUND, Mr. SOLTYSIK.

Psychology and Sociology (Psych. and Soc.)—Chairman, IRWIN, Professor.
Associate Professor SECORD; Assistant Professors BACKMAN, MCQUEEN; Mr. HILER, Mr. REED.

Speech and Drama (Speech)—Chairman, GRIFFIN, Professor.
Associate Professor MILLER; Assistant Professor WILSON.

COLLEGE OF BUSINESS ADMINISTRATION

Business Administration (Bus.Adm.)
Assistant Professors FIRST, HOYT; Mr. REED.

Economics (Econ.)
Associate Professor PLUMLEY; Mr. CLAUNCH.

Secretarial Studies (Sec.St.)
Associate Professor BREWINGTON (Las Vegas)

COLLEGE OF EDUCATION

Professors BROWN, CARLSON, HOLSTINE, WILLEY; Associate Professors RUSSELL, SCRANTON, SECORD, TRIPPLE, TUCKER; Assistant Professors CHRISTENSEN, HICKMAN, MCQUEEN, MEAD, NEWBRY; Miss HEINLE, Mr. HOLLADAY, Mr. KELLY; Assistants in Reno and Sparks affiliated schools.

Elementary Education (El.Ed.)—Chairman, WILLEY, Professor.

Higher and Adult Education (H.A.Ed.)—Chairman, HOLSTINE, Professor.

School Administration and Supervision (Sch.Adm.) — Chairman, TUCKER, Associate Professor.

Secondary Education (Sec.Ed.)—Chairman, NEWBRY, Assistant Professor.

COLLEGE OF ENGINEERING

Civil Engineering (C.E.)—Chairman, BLODGETT, Professor.
Associate Professor BONELL; Mr. BREESE.

Electrical Engineering (E.E.)—Chairman, PALMER, Professor.
Professor SANDORF; Associate Professor GARROTT; Assistant Professor MENKE.

Mechanical Engineering (M.E. and Mech.A.)—Chairman, VAN DYKE, Professor.
Professor HARRIS; Assistant Professor VAN TASSEL; Mr. RYAN.

MACKAY SCHOOL OF MINES

Geology and Geography (Geol. and Geog.)—Chairman, LARSON, Associate Professor.
Assistant Professors KERSTEN, LINTZ, MCGIRK, SLEMMONS.

Metallurgy (Met.)—Chairman, SMYTH, Professor.
Assistant Professors HAMMOND, WINSTON.

Mining (Min.)—Chairman, SMYTH, Professor.
Associate Professor NELSON.

Curricula

Requirements for fields of concentration, majors, and professional curricula are listed in the sections of this catalogue entitled *Max C. Fleischmann College of Agriculture, College of Arts and Science, College of Business Administration, College of Education, College of Engineering,* and *Mackay School of Mines.*

Key to Symbols Used in Course Descriptions

101 to 299	Lower-division courses. The numbers 101 to 199 are used for courses *primarily* for freshmen. Usually, beginning courses in all subjects are designated 101, 102, etc. The numbers 200 to 299 are used for courses *primarily* for sophomores.
300 to 399	Upper-division courses *primarily* for juniors.
300(G) to 399(G)	Courses which may be taken for graduate credit.
400 to 499	Courses *primarily* for seniors. Any of these courses (except those specifically excluded by the course description) may be taken for graduate credit.
500 to 599	Courses *primarily* for graduate students.
a, b, c, etc.	Indicate successive terms of the same course which may be repeated for credit.
A or B	Noncredit courses.
(3 + 0), (1 + 6), etc.	The number of fifty-minute class periods of lecture (or recitation or discussion) plus the total number of periods

KEY TO SYMBOLS USED IN COURSE DESCRIPTIONS—*Continued*

of laboratory (or workshop or studio) per week. The number of class periods is not necessarily the same as the number of times the class meets. Thus, (3 + 0) means the course meets for 3 periods of lecture per week and does not have any laboratory periods. Likewise, (1 + 6) means the course meets for 1 period of lecture and 6 periods of laboratory per week; the laboratory may meet twice a week for 3 periods each or three times a week for 2 periods each. For more specific information for a particular course, the student should consult the *Schedule of Classes.*

1, 2, 3, etc. credits — The numeral appearing after the parenthesis indicates the number of credits the course carries each semester.

F, S — The half-year during which a semester course is offered. For example, "F," first semester; "S," second semester; "F, S," both semesters.

F-S — The course is given throughout the school year, the first half of the course (bearing the odd-number) usually is offered first semester, and the second half of the course (bearing the even-number) usually is offered second semester.

Ev — An Evening Division or Saturday course.

Su — A Summer Session course.

Agriculture (Ag.)

(Also see Agricultural Economics, Agricultural Education, Agricultural Mechanics, Agronomy, Animal Husbandry, Range Management, and Soils).

103 **Introduction to College Study** (0 + 3) 1 credit F

Familiarizes the student with the principles of learning as these relate to the study of specific school subjects; diagnoses the student's reading skill and begins a systematic program designed to improve his reading comprehension, and when desirable, his reading rate; assists the student to recognize and develop his aptitudes, interests, and abilities as the basis for selecting attainable life goals. Freshman year.

104 **Orientation in Agriculture** (0 + 2) 1 credit S

Familiarizes the student with the demands, required skills, and rewards of various occupational areas in agriculture; acquaints the student with the scope of the curricula and vocational opportunities in the fields of specialization in the School of Agriculture. Freshman year.

350 **Agricultural Genetics** (3 + 0) 3 credits S

An introduction to genetics with consideration of its application to agriculture. Prerequisite: Bot. 103 or Zool. 103 and 104.

352 **Genetics Laboratory** (0 + 3) 1 credit S

Illustrates the principles developed in Ag. 350. Prerequisite: Must be taken concurrently with or following Ag. 350.

357 **Methods in Agricultural Statistics** (3 + 0) 3 credits F

Application of statistical methods to experimentation and research in agriculture.

401–402 Agricultural Seminar (1 + 0) 1 credit each F–S
Prerequisite: Senior standing.

Agricultural Economics (Ag.Econ.)

101 Economics of Farming and Ranching (2 + 0) 2 credits S
Acquaints the student with the economic problems and opportunities of agriculture with emphasis on the knowledge needed for successful farm and ranch operation. Will discuss the acquisition and use of land, management of a farm or ranch as a business, problem of year to year variation in income, and the future of ranching.

212 Agricultural Economics (3 + 0) 3 credits S
An introduction to agricultural economics with emphasis on the application of economic principles to the solution of agricultural problems. Prerequisite: Econ. 201 or 203.

245 Farm Accounting (2 + 2) 3 credits F
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.

322 Economic Aspects of Farm Legal Problems (3 + 0) 3 credits S
The farm as influenced by the legal framework in its purchase, leasing, financing, and operation. A legal-economic analysis of contractual arrangements, water rights, range allotments, market agreements, tax liability, and inheritance laws as they relate to the farmer. (Offered in odd-numbered years.)

352(G) Agricultural Economic Policy (3 + 0) 3 credits S
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: Ag.Econ. 212.

355(G) Agricultural Finance (2 + 0) 2 credits F
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: Ag.Econ. 212.

356(G) Land Economics (3 + 0) 3 credits S
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: Ag. Econ. 212.

357(G) Marketing of Agricultural Products (3 + 0) 3 credits F
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: Ag.Econ. 212.

464 Cooperative Organizations (2 + 0) 2 credits S
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: Ag.Econ. 212.

465 **Agricultural Prices** (3 + 0) 3 credits F
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: Ag.Econ. 212.

471 **Current Economic Problems of Agriculture** (2 + 0) 2 credits F
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: Ag.Econ. 212.

476 **Farm and Ranch Management** (3 + 0) 3 credits S
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: Ag.Econ. 212.

591 **Thesis** 1 to 6 credits F, S

Agricultural Education (Ag.Ed.)

See Secondary Education for descriptions of the following courses taught by the members of the staff of this department for agricultural students.

444 **Methods and Materials of Teaching Farm Mechanics**

446 **Problems in Agricultural Education**

447 **Methods in Teaching Vocational Agriculture**

457 **Supervised Teaching in the Secondary School**

550 **Workshop in Agricultural Education**

Agricultural Mechanics (Ag.Mech.)

211 **Agricultural Mechanics I** (0 + 4) 2 credits F
Instruction and practice in heating, bending, and shaping of mild steel. Forging and tempering of tool steel. Soldering and sheet metal work.

221 **Agricultural Mechanics II** (0 + 4) 2 credits F
General mechanics. Tool sharpening, rope-work, belts on pulleys, pipe fitting, bolt threading, pumps and water supply, electrical equipment and appliances. (Offered in odd-numbered years.)

312 **Welding** (1 + 3) 2 credits S
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: Ag.Mech. 211.

332 **Farm Machinery and Equipment** (1 + 3) 2 credits S
A study of the construction, operation, care, and repair of farm machinery and equipment. (Offered in even-numbered years.)

341 **Farm Structures** (1 + 3) 2 credits F
Building materials and their use, concrete masonry, farming construction, elementary drafting, blueprint reading, cost estimating, lighting, heating, ventilation, painting. (Offered in even-numbered years.)

353 Gas Engines and Tractors (1 + 3) 2 credits F

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. (Offered in odd-numbered years.)

356 Irrigation and Irrigation Structures (2 + 3) 3 credits S

Acquaints 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 201.

Agronomy (Agron.)

102 Elements of Horticulture (2 + 3) 3 credits S

A survey of the field of horticulture; fruit growing, vegetable gardening, floriculture, and ornamental gardening. (Offered in odd-numbered years.)

106 Principles of Agronomy (2 + 3) 3 credits S

A study of principles of crop production. Culture, improvement, structure, use, quality, and identification of crops will be considered.

205 Forage Crops (2 + 3) 3 credits F

A study of production, harvesting, preservation, and utilization of the principal forage crops; the use and adaptation of individual crops will be considered. Prerequisite: Bot. 103.

346(G) Weeds and Weed Control (2 + 3) 3 credits F

Recognition and control of noxious and common competitive and poisonous weeds, their biological and economic effects on crops and livestock. Response of plants to herbicides in the laboratory and greenhouse. Practice in chemical methods of control on University Farm. Prerequisite: Agron. 106 and Chem. 242. (Offered in odd-numbered years.)

354(G) Cereal Crops (2 + 3) 3 credits F

History, classification, morphological characteristics, and varieties and strains of cereal crops. Practices and problems involved in production, judging, grading, and exhibition. Prerequisite: Must be taken concurrently with or following Agron. 106 and Ag. 350. (Offered in even-numbered years.)

456 Plant Breeding (2 + 3) 3 credits S

A study of methods of plant breeding and their application to various crops. Prerequisite: Ag. 350. (Offered in even-numbered years.)

491–492 Special Problems 1 or 2 credits each F – S

An intensive study of a special problem in the field of agronomy. Prerequisite: Senior standing with a grade point average of 3.0.

591 Thesis 1 to 6 credits F, S

Animal Husbandry (A.H.)

101 Elements of Animal Husbandry (2 + 3) 3 credits F

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.

201 **Livestock Judging** (0 + 6) 2 credits S
The relation of form to function in farm animals. Visual appraisal of the live animals. All classes of commercial and purebred livestock are studied.

202 **Poultry Production** (2 + 3) 3 credits S
A survey of the poultry industry in the United States and Nevada, including history, development, and present status. An introductory study of the principles underlying production and market requirements of poultry in relation to flock management. Prerequisite: Chem. 101; Zool. 103, 104. (Offered in odd-numbered years.)

203 **Farm Meats** (2 + 0) 2 credits F
Slaughtering of domestic and game animals. Wholesale and retail cuts of meat. Meat selection and preservation. Carcass grading and selection. (Offered in even-numbered years.)

207 **Diseases and Parasites of Domestic Animals** (2 + 3) 3 credits F
An introductory study of diseases and parasites of domestic animals with emphasis on those of importance to the livestock industry of Nevada.

301 **Advanced Livestock Judging** (0 + 6) 2 credits F
A continuation of A.H. 201 with emphasis on grading. Prerequisite: A.H. 101, 201.

303 **Animal Nutrition—Feeds and Feeding** (3 + 0) 3 credits F
The basic principles of feeding farm animals; feeding standards; composition and nutritive value of feeds; compilation and preparation of rations. Prerequisite: A.H. 101; Chem. 242.

304 **Livestock Production** (3 + 3) 4 credits S
A study of the application of the several sciences underlying livestock production to purebred and commercial herd and flock management. Beef cattle, sheep, horses, and swine are considered. Emphasis is given Nevada and western conditions. Several week-end field trips. Prerequisite: A.H. 101 and junior standing.

305 **Dairy Production** (3 + 3) 4 credits F
A study of the application of the several sciences underlying dairy production to herd management. Prerequisite: A.H. 303.

306(G) **Advanced Animal Nutrition** (3 + 0) 3 credits S
The fundamental principles of nutrition including a study of metabolism and energy relations, maintenance, growth, and reproduction; chemistry and digestion of proteins, fats, and carbohydrates; functions of minerals, vitamins, enzymes, and water. Prerequisite: A.H. 303; Chem. 371.

307(G) **Physiology of the Domestic Animals** (4 + 3) 5 credits F
The physiology of the neuromuscular, central nervous, circulatory, respiratory, digestive, endocrine, reproductive, and excretory systems with special reference to the anatomy and function of the domestic animals. Prerequisite: Chem. 371; Phys. 152; Zool. 309.

310(G) **Reproduction in Domestic Animals** (2 + 3) 3 credits S
Reproductive organs and processes and their relation to insemination, gestation, parturition, and lactation. Prerequisite: A.H. 307, or Zool. 224 or 446.

405 **Animal Breeding** (3 + 0) 3 credits F
The application of the principles of population genetics to animal improvement. A study of selection methods, selection indexes, systems of mating, relationship and inbreeding, heterosis, heritability, the formulation of breeding plans. Prerequisite: Ag. 350, 357.

408 Animal Nutrition Laboratory (0 + 6) 2 credits S
The techniques and methods of nutritional evaluation of feedstuffs and the nutritional status of livestock. Prerequisite: Must be taken concurrently with or following A.H. 306.

497–498 Special Study for Advanced Undegraduates 1 to 3 credits each F – S
Independent research on some problem pertinent to animal husbandry. Prerequisite: Senior standing with a grade point average of 3.0.

591 Thesis 1 to 6 credits F, S

Art

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 (0 + 4) 2 credits each F – S
Principles of drawing, values and perspective, taught in the freehand drawing of models and still life in monochrome. Yates or Holladay.

105 Design (0 + 4) 2 credits F
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. Holladay.

107 Freehand Drawing (0 + 2) 1 credit F
Designed for engineering students. Sheppard.

115 Art Appreciation (2 + 0) 2 credits F, S
Lectures and slides. Course to illustrate the place of art in social and cultural life, past and present. Planned to give an intelligent appreciation of the visual arts by logical analysis and criticism of painting, sculpture, and architecture. Holladay or Yates.

121–122 Freehand Drawing (0 + 2) 1 credit each Ev
Sketching from models and still life. May be repeated for credit as Art 121-122a, b, and c.

251–252 Water-color Painting (0 + 6) 3 credits each F – S
The technique and handling of water color in still life and landscape. Holladay.

253–254 Intermediate Drawing (0 + 6) 3 credits each F – S
Drawing from models and still life in several media, charcoal, conti, chalk, etc. A preparation for work in portrait and life classes. Also rapid figure sketching in different media. Prerequisite: 4 credits in drawing. Yates or Holladay.

257–258 Oil Painting (0 + 6) 3 credits each F – S
The technique and handling of oil colors in still life, portrait, figure, and landscape. Sheppard or Holladay.

261 History of Ancient and Classical Art (3 + 0) 3 credits S
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. Yates.

271–272 Beginning Ceramic Design (2 + 4) 3 credits each F – S
Problems in hand-made pottery; the study of clay formation and the compounding of clay bodies. Introduction to glazing and glazing methods. Yates.

277-278 **Figure Composition** (1 + 3) 2 credits each F - S
Portrait and figure painting in various media. Figure composition and anatomical construction, placing stress on space, form, and volume. Sheppard or Holladay.

283 **Crafts** (1 + 3) 2 credits S
Laboratory problems in the various crafts, such as metal design, leather working, enameling, metal casting, and forming. Yates.

326 **Teaching of Elementary Art** (1 + 3) 2 credits S, Su
(Same as El.Ed. 326.) Techniques of handling art media—finger paint, clay, easel paint, chalk, water color, etc. Planned especially for students preparing to teach in the elementary schools. Prerequisite: Art 101 or equivalent. Holladay.

346 **Methods and Materials in Teaching Art in the Secondary School** (1 + 3) 2 credits S, Su
(Same as Sec.Ed. 346.) Techniques in the handling of a variety of art media; drawing, design, commercial art, and group projects. Planned especially for students preparing to teach in the secondary schools. Prerequisite: Art 101 or equivalent. Holladay.

351(G)-352(G) **Advanced Water-color Painting** (0 + 6) 3 credits each F - S
Comprehensive problems in the technique and application of aqueous media. Prerequisite: Art 251-252. Holladay.

353-354 **Advanced Drawing** (2 + 4) 3 credits each F - S
Advanced figure drawing, stressing multiple figure composition; action and animal study, with emphasis on technique and rendering. Prerequisite: Art 253-254. Yates.

355-356 **Commercial Art** (2 + 0 or 4) 1 or 3 credits each F - S
Practical modern methods of reproduction used in commercial art. Problems in color and black and white, in various media. Class is handled as much like an advertising agency as possible to give students actual working problems. Prerequisite: Art 101-102, 251-252. Lecture may be taken for 1 credit without the laboratory, and without prerequisite. Sheppard.

357(G) **Advanced Oil Painting** (2 + 4) 3 credits F, S
Figure, portrait, and landscape problems in oil and mixed media. Prerequisite: Art 257-258. Sheppard or Holladay.

358(G) **Advanced Oil Painting** (2 + 4) 3 credits F, S
A continuation of Art 357.

359-360 **Art Structure and Pictorial Composition** (1 + 3) 2 credits each F - S
Creative structure and graphic expression. An analytical approach to composition created through movement, color, techniques, theories, and methods. Sheppard.

362 **History of European Art** (3 + 0) 3 credits
Lecture and slides. The study of the related arts, painting, sculpture, and architecture of western Europe from the Byzantine period to the French Revolution. (Not offered in 1956-1957.) Yates or Holladay.

363-364 **Clay Modeling** (0 + 6) 3 credits each F - S
An exploratory course in three dimensional form. Portrait, figure, and animals from life. Problems in the composition and design of form. Casting methods. (Not offered in 1956-1957.) Sheppard.

371–372 Intermediate Ceramics (2 + 4) 3 credits each F – S
Mold making, casting, and ceramic production methods. The study of glaze formulation. Problems in kiln firing and temperature control. Yates.

381 Graphics (2 + 4) 2 credits F
Laboratory study of the various methods of graphic reproduction, such as lithography, etching, engraving, block printing, and serigraphy. Yates.

455–456 Advanced Commercial Art (2 + 4) 3 credits each F – S
Professional problems in commercial and industrial arts. Prerequisite: Art 355-356. (Cannot be taken for graduate credit.) Sheppard.

462 History of Contemporary Art (3 + 0) 3 credits F
Lecture and slides. A study of art history in the western world from the French Revolution to the present, to show the contributions which have influenced contemporary painting, sculpture, and architecture. Yates.

463–464 Sculpture (0 + 6) 3 credits each F – S
Advanced problems in three dimensional form and composition, working in various sculpture media. (Not offered in 1956-1957.) Prerequisite: Art 363-364. Sheppard.

471 Ceramic Seminar (2 + 0) 1 credit F, S
Advanced study in ceramic design, glaze formulation, clay structures, production methods, and kiln firing. May be repeated for credit as Art 471a, b, and c. Prerequisite: Art 371-372. (Cannot be taken for graduate credit.) Yates.

Astronomy, See Physics 107

Biology (Biol.)

(Also see Botany and Zoology)

103 General Biology (2 + 3) 3 credits F
An introduction to the principles of botany and zoology. Cannot be used as a prerequisite for other botany and zoology courses. Ryser.

210 Biological Principles of Conservation (2 + 0) 2 credits S
The study of the animal, plant, soil, and water resources of our country, and the biological principles relating to the intelligent usage of these resources. Ryser.

340(G) Principles of Genetics (3 + 0) 3 credits F
An introduction to the science of heredity and variation among plants and animals. Prerequisite: Bot. 103 and Zool. 103.

351(G) Bacteriology (2 + 6) 4 credits F
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: Bot. 103 or Zool. 103, 104. Jones.

355(G) Evolution (2 + 0) 2 credits F
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. (Alternates with Zool. 463.) de Roth.

420 **Limnology** (2 + 4) 3 credits S

Acquaints the advanced wildlife student with the biologic, chemical, and physical characteristics of the aquatic environment, with particular emphasis on the application of limnologic principles to fisheries biology. Prerequisite: Chem. 101, 102; Zool. 333, 359; and a course in qualitative chemical analysis (Chem. 122 or 124) is recommended. (Alternates with Zool. 333, 334.) La Rivers.

480 **Biological Survey Techniques** 2 credits Su

Two weeks immediately following Commencement Exercises in June of each year. Provides training in the collecting of museum and herbarium specimens, in the observation of animals and plants in the field, and practice in organizing ecological surveys of given areas. Transportation will be provided. May be repeated for credit as Biol. 480a, b, and c. Prerequisite: Certification by Biology Staff of ability to handle a botanical or zoological specialty in the field. La Rivers.

Botany (Bot.)

(Also see Biology and Zoology)

103 **General Botany** (2 + 3) 3 credits F, S

An introduction to the classification, structure, and physiology of the flowering plants. Cooney and Staff.

104 **Survey of the Plant Kingdom** (2 + 0) 2 credits S

The structure and life cycles of representative types of algae, fungi, mosses, ferns, gymnosperms, and angiosperms. Cooney.

105 **Survey of the Plant Kingdom Laboratory** (0 + 6) 2 credits S

An optional course to accompany Bot. 104. Cooney.

222 **Systematic Botany of Flowering Plants** (2 + 6) 4 credits S

An introduction to the characters and relationships of the principal plant orders, families, and genera; principles of taxonomy; collection and identification of plants by means of keys. Prerequisite: Bot. 103. Miller.

231 **Plant Anatomy** (2 + 6) 4 credits F

A study of the origin, growth, and structure of plant cells, tissues, and organs; comparative anatomy of roots, stems, leaves, and flowers. Prerequisite: Botany 103. Miller.

307(G) **Economic Botany** (2 + 0) 2 credits F

The history, structure, and occurrence of the principal plants used for drugs, fibers, oils, foods, and industrial uses. Importance of exploration for new plant sources. Prerequisite: Bot. 103.

315(G) **Dendrology** (1 + 6) 3 credits S

The intensive study of the taxonomy, silvics, and practical identification of the important North American forest trees. Prerequisite: Bot. 222.

355(G) **Plant Physiology** (2 + 6) 4 credits F

An introduction to the basic physiological processes in plants; nutrition, metabolism, growth, and development. Prerequisite: Bot. 103 and Chem. 242. Miller.

364(G) **Mycology and Plant Pathology** (2 + 0) 2 credits F

The study of molds, mushrooms, yeasts, rusts, and other fungi. Emphasis on fungi active as plant disease organisms, spoilage organisms, and those forms used in commercial processes. Prerequisite: Bot. 103. Cooney.

365(G) Mycology Laboratory (0 + 6) 2 credits F
An optional course to accompany Bot. 364. Cooney.

370(G) Plant Microtechnique (1 + 6) 3 credits S
An introduction to the methods of preparing plant material for microscopic examination; micrometry; fundamentals of photomicrography. Prerequisite: Bot. 231. (Alternates with Zool. 370.) Miller.

380(G) Introduction to Plant Ecology (2 + 3) 3 credits S
A study of the major factors regarding plants and plant communities in relation to their environment, and methods of measuring these factors and those which govern their distribution. Prerequisite: Bot. 222. Miller.

450 Wildlife Food Plants (1 to 3 + 0) 1 to 3 credits F
Problems in the identification of plants utilized as food by fishes, birds, and mammals. Prerequisite: Bot. 222. Miller.

491–492–493–494 Botanical Problems 1 to 3 credits each F – S
Special problems in some field of botany. The student is limited to a total of 8 credits. Prerequisite: The equivalent of two years of botany.

495–496 Seminar in Botany 1 credit each F – S
Student presentation and discussion of topics of a botanical nature. May be repeated for credit.

591 Thesis 1 to 6 credits F, S

Business Administration (Bus.Adm.)

(Also see Economics and Secretarial Studies)

101–102 (243–244) Elementary Accounting (2 + 4) 4 credits each F – S
Accounting cycle, journalizing, posting, adjustments, statements, closing, proprietorships, partnerships, corporations, stocks, bonds, investments, cost accounting, statement analysis. Prerequisite: None for accounting majors, sophomore standing for nonaccounting majors.

153 (241) Introduction to Business (3 + 0) 3 credits F, S
A general survey of the business world, general functions of business, tools and policies of business.

203–204 Intermediate Accounting (3 + 0) 3 credits each F – S
Brief review of elementary accounting. Theory and practice of accounting for cash, receivables, prepaid and accrued items, fixed assets, intangible assets, current liabilities, fixed liabilities, common and preferred stocks, retained income, capital surplus, reserves, correcting adjustments, single entry, statement analysis, insurance. Prerequisite: Bus.Adm. 101-102.

305(G)–306(G) (355–356) Advanced Accounting (2 + 0) 2 credits each F – S
Theory and practice of partnerships, joint ventures, consignments, source and application of funds, branch accounting, consolidated statements, receiverships, estates and trusts. Prerequisite: Bus.Adm. 203-204, or permission of instructor.

307 Governmental Accounting (2 + 0) 2 credits
The various fund and budget accounts of local governmental units and the accounting problems peculiar thereto. Treatment of fund accounts, budget and budget accounts, revenues, appropriations, disbursements, and assessments. Prerequisite: Bus.Adm. 101-102.

309(G)–310(G) (385–386) Cost Accounting (3 + 0) 3 credits each F – S
A study of materials, labor, and overhead in cost accounting. Job order costing, process costing, and flexible budgets. Second semester is an exhaustive and detailed study of the advantages, construction, operation, and use of a standard cost accounting system for all phases of business. Prerequisite: Bus.Adm. 101-102.

333 Credits and Collections (2 + 0) 2 credits
The principles of short-term credit extensions to business firms and to individuals. Topics handled include the operation of a credit department, credit standards, and collection policies.

346 Salesmanship (2 + 0) 2 credits
The importance of selling in the economy, product planning, product lines, pricing, sales costs, sales aids, brands. The phases of selling; approach, demonstration, answering objections, and closing are studied.

351 (366) Principles of Management (3 + 0) 3 credits S
The fundamentals of administrative, staff, and operative management. Successful management principles are given for all types of organizations: objectives, policies, functions, executive leadership, organizational structure, morale, operation procedures, and control procedures.

365(G) Corporation Finance (3 + 0) 3 credits F
The problems of financing business enterprises including the topics of financial instruments, capitalization, management of working capital and dividend policy, expansion and business reorganization.

367(G) Personnel Management (3 + 0) 3 credits F
The objectives, functions, and organization of a typical personnel program. Job analysis and evaluation, selection and placement, training, safety and health, employee services, employee relations, wages and hours, legislation, executive development, merit rating, wage classification.

368(G) Marketing (3 + 0) 3 credits S
A study of distribution policies, methods, and channels used in the marketing of consumers' and industrial goods. Topics include the consumer, retail, and wholesale institutions, channels, marketing of agricultural products.

369(G) Principles of Insurance (2 + 0) 2 credits S
Nature of risks and uncertainty, the insurance mechanism, legal problems, various types of contracts, purchase of insurance by the individual. Prerequisite: Econ. 201, 202.

370(G) Investments (3 + 0) 3 credits S
Analysis of investment risks, medias, and investment portfolios with relation to the requirements and policies of individuals and also of various institutions.

371(G) Merchandising (2 + 0) 2 credits F
Operation of retail stores, treating specifically problems of location, layout, organization, buying, pricing, service policies, management of the sales force, salesmanship, and general financial and management problems.

373(G) Business Law (3 + 0) 3 credits F
An introductory course which is concerned primarily with the rules, forms, and procedures of the law of contracts, agency, and personal property. The pertinent legal documents either are furnished or are referred to during the semester.

374(G) Advanced Business Law (3 + 0) 3 credits S

An advanced course which lays particular stress on negotiable instruments, partnerships, corporations, and security transactions. The pertinent legal documents either are furnished or are referred to during the semester.

375 The Economics of Real Estate (2 + 0) 2 credits

A study of real estate in terms of some of the economic forces which bear upon it: the physical characteristics of land and improvements, succession, the factors which condition market transactions, the behavior of the real estate market, real estate cycles, land use patterns and their change, mortgages, finance.

376 Sociological Problems of Land Use (2 + 0) 2 credits

The relationships between people and their use of land in urban and rural population concentrations. Including, among others, investigation of the following areas: human ecology, the city as an organism, problems of planning, problems of zoning, problems of slums and slum clearance, the future of urban-rural developments.

377 Principles of Real Estate (3 + 0) 3 credits

A practical study of the economic and legal aspects of real estate designed to provide a grasp of the dynamic forces underlying the realty business.

378 Real Estate Law (2 + 0) 2 credits

The guiding principles of law which apply to real estate transactions. A few of the topics are: land contracts, survey of property, deeds, leases, title transfer and title insurance, land title registration, abstract of title, escrow agreements, foreclosure of mortgages and land contracts, real estate law pertaining to brokers and salesmen. The pertinent documents will be furnished for examination.

379 Real Estate Appraisal (2 + 0) 2 credits

A study of the process and techniques of valuation: collecting pertinent data, analysis of neighborhood and site, architecture and construction, depreciation, building inspection.

412 (492) Auditing (3 + 0) 3 credits S

The public accounting profession and its requirements, internal control, verification of accounts, auditor's reports. Comprehensive practice set to be worked by students. Prerequisite: Bus.Adm. 101-102.

413–414 (387–388) Federal Tax Accounting (3 + 0) 3 credits each F – S

Study of current Internal Revenue Code. Preparation of tax returns for individuals, partnerships, corporations, estates, and trusts. Study of income, expenses, inclusions, deductions, exemptions, estimated taxes, payments, and amended returns. Prerequisite: Bus.Adm. 101-102.

443 Sales Management (3 + 0) 3 credits

The problems of distribution from a managerial standpoint. General topics include merchandising policies; sales planning and promotion; sales department organization and operation; selection, training, and management of sales force; control of stocks, margins, and profits.

460 Advanced Management and Personnel Problems (2 + 0) 2 credits F

A survey and discussion of current management problems based on the current publications of the American Management Association. Oral and written reports on case problems. Prerequisite: Bus.Adm. 351, 367, or permission of instructor.

465 Problems in Industrial Relations (2 + 0) 2 credits
Human relations, trends in industrial relations, industrial relations policy, negotiating a labor contract, seniority problems, settling labor disputes, executive development, production incentive plans, employment records, and job classification.

468 Purchasing and Materials Control (2 + 0) 2 credits
Principles of sound procurement procedure. Organization for purchasing, quality and quantity control, price policies, sources of supply, inspection, traffic, storing, issuing, and standards of performance.

490 (390) Business Research (3 + 0) 3 credits S
Theory and technique of research in the social sciences with application to business problems.

494 Seminar in Accounting 3 credits
A survey of various special fields in accounting such as: budgeting, controllership, systems, distribution costs, and accounting theory. Permission of the instructor required.

501–502 C.P.A. Problems (3 + 0) 3 credits each F – S
A comprehensive review of accounting problems of all types, theory, auditing, and business law preparatory for the C.P.A. examination. Permission of the dean of the college required.

Chemistry (Chem.)

101 General Inorganic Chemistry (3 + 4) 4 credits F
The fundamental principles of chemistry and the properties and uses of the common nonmetallic elements.

102 General Inorganic Chemistry (2 + 0) 2 credits S
The fundamental principles of chemistry, the properties and uses of the common metals, their compounds, and a brief introduction to the chemistry of carbon. Prerequisite: Chem. 101.

122 Qualitative Analysis (1 + 6) 3 credits S
The principles and techniques of the semimicromethod of systematic qualitative analysis. Prerequisite: Must be taken concurrently with or following Chem. 102.

124 Qualitative Analysis (1 + 3) 2 credits S
Similar to Chem. 122 but designed for students in the College of Engineering and the Mackay School of Mines. Prerequisite: Must be taken concurrently with or following Chem. 102.

231 Quantitative Analysis (1 + 6) 3 credits F
The fundamental principles and techniques of accurate volumetric and gravimetric methods of analysis. Special emphasis placed on calculations needed for quantitative determinations. Prerequisite: Chem. 122 or 124. Seim.

232 Quantitative Analysis (1 + 6) 3 credits S
The application of quantitative principles to the analysis of ores. Designed for students in the Mackay School of Mines. Prerequisite: Chem. 231. Seim.

233 Quantitative Analysis (2 + 6) 4 credits F
The fundamental principles and techniques of accurate volumetric and gravimetric methods of analysis. Special emphasis placed on calculations needed for quantitative determinations. Prerequisite: Chem. 122 or 124. Williams.

234 Quantitative Analysis (2 + 6) 4 credits S
The application of quantitative principles to the analysis of common ores and biological materials. Prerequisite: Chem. 231 or 233. Williams.

242 Introductory Organic Chemistry (3 + 3) 4 credits S
Acquaints students with some of the fundamental principles of carbon chemistry. Prerequisite: Must be taken concurrently with or following Chem. 102. Morris.

341(G)–342(G) Organic Chemistry (2 + 6) 4 credits each F – S
The fundamental principles of the chemistry of carbon and carbon compounds. Prerequisite: Chem. 232 or 234. Morris.

353(G)–354(G) Introduction to Physical Chemistry (2 + 0) 2 credits each F – S
The applications of physical methods to chemical problems. Designed especially for students who desire an introductory course concerned with the qualitative aspects of the field of physical chemistry. Prerequisite: Chem. 231 or 233. Deming.

NOTE: The combination of lecture courses 353–354, 455 and the laboratory course 457, constitutes the standard "year" of physical chemistry, required for the chemistry and chemical technology curricula.

371 Physiological Chemistry (3 + 0) 3 credits F
Covers some of the chemical processes essential to plant and animal physiology. Prerequisite: Chem. 242. Morris.

387–388 Current Chemical Literature (1 + 0) 1 credit each F – S
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 of college chemistry.

391(G) Special Problems 2 credits F, S
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: Chem. 232 or 234.

415 The Periodic Law (3 + 0) 3 credits F
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. Williams.

432 Instrumental Analysis (1 + 6) 3 credits S
The theory and use of instruments in chemical analysis. Prerequisite: Chem. 455, 457. Seim.

443 Qualitative Organic Analysis (2 + 6) 4 credits F
A study of the methods available for the detection and identification of organic compounds. Prerequisite: Chem. 342. Morris.

455 Physical Chemistry (2 + 0) 2 credits F
Application of the methods of calculus and the laws of thermodynamics to the subjects discussed in Chem. 353-354. Prerequisite: Chem. 354; one year of college physics and one year of calculus. Deming.

457 Physical Chemistry Laboratory (0 + 6) 2 credits F
Designed to accompany Chem. 455. Prerequisite: Same as for Chem. 455; must be taken concurrently with or following Chem. 455. Deming.

461 **The Chemical Technology of Unit Operations** (3 + 0) 3 credits F
The application of chemical and physical fundamentals to unit processes and the manufacture of industrial chemicals. Prerequisite: Chem. 342. Moose.

462 **Industrial Chemical Technology** (2 + 0) 2 credits S
Industrial process calculations. Calculations dealing with a cross-section of chemical manufacturing processes. Material and energy balances. Raw materials and production costs. Prerequisite: Chem. 342, 354. Kemp.

497–498 **Senior Problems** (0 + 6) 2 credits each F – S
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. (Cannot be taken for graduate credit.) Prerequisite: Three years of college chemistry.

513 **Chemistry of the Less Familiar Elements** (1 + 6) 3 credits F
The chemistry of the less familiar elements not included in other inorganic chemistry courses. (Open to seniors with the consent of the instructor.) Williams.

516 **Advanced Inorganic Topics** (2 + 0) 2 credits S
Advanced topics and recent developments in inorganic chemistry. (Open to seniors with the consent of the instructor.) Seim.

542 **Techniques in Organic Chemistry** (1 + 6) 3 credits S
Acquaints the student with research procedures and techniques in organic chemistry. Prerequisite: Chem. 342, 443. Morris and Kemp.

543 **Advanced Organic Chemistry** (3 + 0) 3 credits F
Advanced topics in organic chemistry. Modern theories on structure and reaction mechanisms. Special assignments. Prerequisite: Chem. 342, 455, 457. Morris.

552 **Electrochemistry** (2 + 0) 2 credits F
A problem-discussion course dealing with the theories of electrochemistry. Prerequisite: Chem. 455, 457. Deming.

556 **Chemical Thermodynamics** (3 + 0) 3 credits S
The thermodynamic functions and their applications to chemistry. Prerequisite: Chem. 455. (Open to seniors with the consent of the instructor.) Deming.

587–588 **Seminar** (1 + 0) 1 credit each F – S
Gives practical experience in the organization and presentation of reports on selected chemical topics. Prerequisite: Chem. 388. (Open to seniors with the consent of the instructor.)

591 **Thesis** 1 to 6 credits F, S

Civil Engineering (C.E.)

241 **Plane Surveying** (2 + 3) 3 credits F
An introductory study of the fundamental principles of plane surveying and the instruments used in ordinary plane surveying operations. Prerequisite: Math. 152.

242 **Plane Surveying** (2 + 6) 4 credits S
A continuation of C.E. 241 leading to a detailed study of topographical surveying methods, field astronomy, and other problems usually encountered

in civil engineering practice. (The lecture may be taken for 2 credits without the laboratory by students in the Mackay School of Mines and by other students with special permission.) Prerequisite: C.E. 241.

245 Engineering Problems (1 + 3) 2 credits F
The systematic solution of typical problems encountered in engineering practice. The use of the slide rule and other computational aids is contemplated. Prerequisite: Math. 152.

246 Construction Materials (3 + 0) 3 credits S
A detailed study of the source, manufacture, and use of the materials ordinarily used in construction and machines. Prerequisite: Sophomore standing in engineering.

361 Hydraulics (3 + 0) 3 credits F
Gives a sound working knowledge of the laws concerning the flow of water through open and closed conduits and metering devices. Hydrostatic problems are also considered. Prerequisite: Math. 252 or 254. Civil and mechanical engineering students enroll for C.E. 367.

363 Curves and Earthwork (2 + 3) 3 credits F
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: C.E. 242.

364(G) Hydrology (3 + 0) 3 credits
The fundamental principles of hydrology and its related problems of climatology, stream-flow, runoff, underground water and snow surveys. An elective course.

366 Roads and Pavements (4 + 0) 4 credits S
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: C.E. 242.

367 Elementary Fluid Mechanics (3 + 3) 4 credits F
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: Math. 252.

368 Fluid Mechanics Laboratory (0 + 3) 1 credit F, S
Exemplifies the principles studied in C.E. 367. Prerequisite: C.E. 367.

369 Nonmetallic Testing Laboratory (0 + 3) 1 credit F
A study of the physical properties of the nonmetallic materials used in construction, including soils, hydraulic cements, concrete, stone, brick, tile, timber, and bituminous materials. Prerequisite: Math. 252 and C.E. 246.

372 Strength of Materials (3 + 0) 3 credits S
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: Math. 341. Civil Engineering students enroll in C.E. 376.

374 Metals Testing Laboratory (0 + 3) 1 credit S
A detailed study of the physical properties of the metals generally used in engineering operations. This course is coordinated with, and supplements C.E. 376. Prerequisite: Math. 341.

376 Mechanics of Materials (3 + 3) 4 credits S
A more extensive course than C.E. 372. Prerequisite: Math. 341.

481 **Framed Structures** (3 + 6) 5 credits F
An introductory presentation of the classification and analysis of simple (statically determinate) structural frames. Algebraic and graphical methods are presented. Loadings are fully considered. Prerequisite: C.E. 376.

484 **Structural Design** (2 + 6) 4 credits S
Comprehensive and total problems in the structural design of typical engineering structures. Prerequisite: C.E. 481.

485 **Mechanics of Reinforced Concrete** (3 + 3) 4 credits F
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: C.E. 376.

486 **Reinforced Concrete Design** (1 + 3) 2 credits S
A continuation of C.E. 485 with emphasis upon the total design of typical engineering structures wherein the use of reinforced concrete predominates. Prerequisite: C.E. 485.

487 **Highway Engineering** (3 + 0) 3 credits
A continued and more detailed study of topics introduced in C.E. 366, with supplementary information abstracted from current Road Builders publications and periodicals. An elective course. Prerequisite: C.E. 363, 366.

488 **Engineering Economy** (2 + 0) 2 credits S
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.

489 **Sanitary Engineering** (3 + 0) 3 credits F
The collection, treatment, and distribution of potable water supplies. The Public Health aspects are contemplated. Prerequisite: C.E. 367.

490 **Sanitary Engineering** (3 + 0) 3 credits S
The collection, treatment, and disposal of storm and domestic sewage and industrial wastes. The Public Health aspects are contemplated. Prerequisite: C.E. 489.

491 **Contracts and Specifications** (2 + 0) 2 credits S
An elementary presentation of the basic legal and ethical principles of importance to the engineer engaged in preparing specifications and letting contracts for public or private construction. Prerequisite: Junior standing in engineering.

492 **Foundations and Soil Mechanics** (3 + 3) 4 credits S
An introduction to the principles of soil mechanics and the application of these principles, and the principles of reinforced concrete, to the design and construction of foundations for engineering structures. Prerequisite: C.E. 376, 485.

494 **Irrigation Engineering** (3 + 0) 3 credits
A study is made of the collection, storage, and distribution of water for irrigation, with emphasis on the engineering aspects of these problems. An elective course. Prerequisite: C.E. 364, 367, 481, 485.

510 **Hydraulics of Open Channels** 2 credits
An advanced study of the flow of water through open channels. Prerequisite: C.E. 367.

511 **Hydraulic Machinery** 2 credits
The theory, construction, operation, and characteristics of hydraulic turbines, pumps, and other hydraulic machinery. Prerequisite: C.E. 367.

514 Advanced Hydraulic Problems credit to be arranged
Offers an opportunity for the superior student to undertake detailed studies in the field of hydraulics not dealt with in other courses. Prerequisite: C.E. 367.

520 Advanced Structural Design 3 credits
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. Prerequisite: C.E. 484, 486.

521 Advanced Structural Design credit to be arranged
A continuation of C.E. 520 affording the superior student an opportunity for specialized study in the field of structural design and stress analysis. Prerequisite: C.E. 520.

524–525 Special Engineering Problems credit to be arranged
Specialized study in any of the subjects pertaining to civil engineering. The subject matter may be arranged after conference with the staff members and administrative officers concerned.

591 Thesis 1 to 6 credits F, S

Drama, See Speech

Economics (Econ.)

(Also see Business Administration and Secretarial Studies)

107 Economic Geography (3 + 0) 3 credits F, S
Resources and industries of the world with special reference to their bearing on geographic specialization and international trade.

164 Economic History of the United States (3 + 0) 3 credits S
The economic background of American national development.

201 Principles of Economics (3 + 0) 3 credits F, S
An introduction to economic theory. A discussion of economic problems together with economic principles applicable to their solutions. Prerequisite: Sophomore standing.

202 Principles of Economics (3 + 0) 3 credits F, S
A continuation of Econ. 201. Prerequisite: Econ. 201.

203 Survey of Economics (3 + 0) 3 credits F
A short course in the principles of economic analysis. Primarily for students who are not majors in economics or business administration.

301(G) Comparative Economic Systems (3 + 0) 3 credits F
An analysis of the economic institutions of capitalism and other economic systems. Prerequisite: Any introductory course in the social sciences or philosophy.

318(G) Economics of Consumption (3 + 0) 3 credits S
Economic principles applied to consumption. Living standards, living costs, consumer surveys, evaluation of consumer buying guides, consumer legislation. Prerequisite: Econ. 201 and 202, or 203.

351(G) Public Finance (3 + 0) 3 credits F
Taxation and other public revenues, government expenditures, the growth and significance of public debt; the use of government financial activities in promoting economic stability. Prerequisite: Econ. 201, 202.

353(G) **Money and Banking** (3 + 0) 3 credits F
Nature and functions of money; the banking system; and the relationship of money and bank credit to the economy. Prerequisite: Econ. 201, 202.

354(G) **Business and Public Policy** (3 + 0) 3 credits S
Equal attention is given to the major types of public policy toward business activity: maintaining competition, supplementing competition, substituting regulation for competition, and substituting public for private enterprise. Prerequisite: Econ. 201, 202.

357(G) **Economic Theory** (3 + 0) 3 credits F
An advanced course in the problems and techniques of economic analysis. Includes the economic methodology, economic aspects of individual choice, and market behavior under competitive, oligopolistic, and monopolistic conditions. Prerequisite: Econ. 201, 202.

358(G) **International Trade** (3 + 0) 3 credits S
The theory of international trade: tariffs, tariff history, and international finance. Prerequisite: Econ. 201, 202.

361(G) **Statistical Methods** (2 + 2) 3 credits F, S
Elementary statistical methods as used in business and in the social sciences.

362(G) **Transportation** (2 + 0) 2 credits S
The growth and development of transportation in the United States with emphasis on bases of rate structures and regulation. Prerequisite: Econ. 201, 202. (Offered in odd-numbered years.)

363(G) **Economic History of Europe** (2 + 0) 2 credits S
The economic background of European national and international development with emphasis upon the modern period.

365(G) **Labor Economics** (3 + 0) 3 credits F
A study of the wage earner, his compensation and problems of insecurity together with industrial and governmental solutions. Prerequisite: Econ. 201, 202.

366(G) **Special Labor Problems** (3 + 0) 3 credits S
A continuation of Econ. 365 with special emphasis upon current problems facing the employer, the employee, and the public. Prerequisite: Econ. 365.

373(G) **Business Cycles** (3 + 0) 3 credits F
Analysis of factors involved in business fluctuations. Examination of the various theories of the causes for recurring periods of business prosperity, crises, and depression; and proposed methods of controlling the cycle. Discussion of current problems. Prerequisite: Econ. 201, 202.

491 **Early Economic Thought** (3 + 0) 3 credits F
(Same as Soc. 491.) Development of economic and social ideas to the period of the English and French Enlightenment. Prerequisite: Econ. 201, 202.

492 **History of Economic Thought** (3 + 0) 3 credits S
Development of economic ideas from the time of Adam Smith to the present day. Prerequisite: Econ. 201, 202.

498 **Seminar in Social Organization** (2 + 0) 2 credits S
(Same as Soc. 498.) An analysis of inter-related topics in economic and social behavior. Choice of semester topic to be determined by student interest and need. Prerequisite: Senior standing in economics or sociology, or consent of instructor.

Education (Ed.)

(Also see Elementary Education, Higher and Adult Education, School Administration and Supervision, and Secondary Education)

101 Orientation to College and Professional Education (2 + 0) 2 credits F, S

Required of all freshman students in the College of Education; adjustment to college work; the qualifications, job opportunities, supply and demand, tenure, salaries, responsibilities, prestige, community responsibilities, code of ethics and other pertinent information used by teachers; staff will participate. Mead.

190 State School Organization and School Law (2 + 0) 2 credits F, Su

Principles of good state school organization, study of the School Code of Nevada, and practical applications of basic principles of school law in Nevada. Meets certification requirements concerning School Law of Nevada. Brown.

201 Introduction to Education: School Law, Organization, and Social Foundations (3 + 0) 3 credits F, S, Su

A general introductory course treating the social and cultural background of educational development in Nevada and the United States. Includes selected elements of history and philosophy of education. Meets Nevada State Board of Education requirements in school law for certification. Brown.

301(G) Introduction to Library Education and Reference Sources (3 + 0) 3 credits F, Su

Acquaints the student with the philosophy and work of the school librarian. Particular emphasis is placed on the sources of information needed in school library work. Prerequisite: Foundations for Teaching I, II, III, or equivalent.

302(G) Literature Selection for Children (3 + 0) 3 credits F, S, Su

Prepares teacher-librarians and administrators to evaluate and select pamphlets, books, and other library materials for children. Deals with children's reading interests, use of books and integration of library materials with the basic elementary subjects. Prerequisite: Foundations for Teaching I, II, III, or equivalent.

304(G) Book Selection for Young People (3 + 0) 3 credits S, Su

Prepares teacher-librarians and administrators for the evaluation and selection of books and other library materials for pupils in the high school age groups. Reading interests of the adolescent and young adult, book selection for high schools, utilization of books in the high school are among selected units.

306(G) Organization and Classification of Library Materials (2 + 0) 2 credits Su

Includes classification and cataloguing of library materials, utilization of printed catalogue cards, subject headings for pamphlet files, etc.

308(G) Administration of the School Library (3 + 0) 3 credits Su

Includes the functions of the school library, relationship and responsibility of the library to the school's total instructional program, preparation of the library budget, problems of purchasing, planning library facilities, giving library instruction, and use of assistants in the library. Prerequisite: Ed. 301, 302, 304, 306, or equivalent, or permission of the instructor.

321(G) Educational Psychology (3 + 0) 3 credits F, S, Su

(For description, see Psychology 321.)

401 **Audio-Visual Methods in Teaching** (2 + 1) 3 credits F, S, Su

For both elementary and secondary students; a study of the operation and use of machines used in audio-visual education; and such laboratory work as making lantern slides, flannel boards, strip films, models, mockups, posters, and other teaching materials. Mead.

402 **Workshop in School Library Problems** (2 + 0) 2 credits Su

Specific problems pertaining to the administration and operation of a school library are discussed primarily from the point of view of the teacher-librarian. Students who have credit in Ed. S362, or equivalent, may repeat this course once as Ed. 402a.

407 **Supervised Library Practice** (1 + 1 per credit) 1 to 4 credits S

Provides opportunities for supervised library practice under the direction of a professionally trained librarian in a specific school situation. Prerequisite: Ed. 301, 302, 304, 306, and 308, or equivalent, or permission of instructor.

417 **Professional Problems in Supervised Teaching** (1 + 0) 1 credit F, S, Su

Required of all student teachers during the last semester of supervised teaching. Orients beginning teachers to specific problems and standards of the teaching profession. Superintendents, principals, experienced classroom teachers, patrons, parents, pupils, and fellow student teachers will contribute to the discussion and demonstrations. Holstine.

421 **Psychology of Learning** (2 + 0) 2 credits F, Su

(For description, see Psychology 421.)

458 **Advanced Supervised Teaching** (0 + 2½ per credit) 1 to 4 credits F, S, Su

For the student who desires further teaching experience under supervision. Prerequisite: El.Ed. 428 or Sec.Ed. 457 and permission of Dean and adviser.

500 **Introduction to Graduate Study** (2 + 0) 2 credits F, Su

A beginning course available for all graduate students majoring in education. First, students are introduced to the nature and responsibilities of advanced professional study. Second, they are made familiar with all the essential library materials and techniques which they shall need. Third, they are given considerable experience in locating and defining problems, doing research, and writing up conclusions and recommendations. And, finally, students are given individual help in planning a long-term program of professional development. Tucker.

501 **History of Education** (2 + 0) 2 credits F, Su

A general course. The development of educational thought and practice viewed as a phase of social progress. Brown.

502 **History of Education in the United States** (2 + 0) 2 credits S, Su

A study of factors and conditions which have been influential in the shaping of educational thought, ideals, theories, and practices of current American education. Brown.

506 **Educational Uses of Radio and Television** (3 + 0) 3 credits S, Su

An analysis of trends in utilization of radio, television, and magnetic recordings for educational use. Includes program production, evaluation, and methods of teaching with these media. Kelly.

507 Administration of the Instructional Materials Center (2 + 0) 2 credits Su

Assists the faculty member in performing more efficiently the duties of the administrator of the audio-visual educational program, including such factors as survey, utilization, selection, preparation, production, and evaluation of audio-visual and other instructional materials: an analysis of the functions of the audio-visual materials program. Prerequisite: Ed. 506 or equivalent. Holstine and Mead.

508 Problems in Audio-Visual Education (2 + 1) 2 credits F, Su

Meets the needs of individual students primarily in production and utilization of audio-visual materials. Includes study of the problems pertinent to production of good educational materials. Prerequisite: Ed. 401 or 506, or equivalent. Kelly.

510 Philosophies of Education (2 + 0) 2 credits Su

An analysis of various philosophies of education in public, private, and parochial school systems. Brown.

511 Comparative Education (2 + 0) 2 credits F, Su

A comparative study of national ideologies, philosophies, and systems of education in North and South America, Europe, and Asia. Brown.

512 Educational Tests and Evaluation (2 + 0) 2 credits F, Su

Study and discussion of modern testing, marking, reporting, and analysis procedures; with special stress placed upon the building of a testing program suited to individual schools. Brown.

513 Methods of Educational Research (2 + 0) 2 credits S, Su

Provides a knowledge of the technique of instituting, carrying on, and reporting educational research; of value to students interested in scientific research in education.

514 Individual Research in General Professional Education 1 to 4 credits F, S, Su

Selected basic problem or problems from one of the professional areas listed under general professional education.

515 Fundamentals of Aviation Education (2 + 0) 2 credits Su

Prepares instructors for teaching in the high school air patrol cadet programs and/or the elementary teachers who wish to construct units for grades 1-8. Deals with the general science of aviation and the theory of flight, meteorology, navigation, air force, and commercial aviation, and basic demonstrations. Newbry.

516 The Education of the Handicapped (2 + 0) 2 credits F, Su

Problems of teaching mentally retarded children and youth, the physically handicapped and the socially maladjusted. Basic course.

517 Problems of the Education of the Physically Handicapped (2 + 0) 2 credits Su

Deals specifically with certain problems of the physically handicapped child, youth, and adult, crippled, hard of hearing, partially sighted, cardiacs, etc. The course will be adjusted to treat specific problems presented by the students.

518 Problems of the Education of the Mentally Retarded (2 + 0) 2 credits Su

Discusses nature and courses of retardation; physiological and psychological characteristics; observation in classrooms, visits to clinical facilities; demonstrations; studies of selected cases and problems.

519 **Problems in the Education of the Gifted** (2 + 0) 2 credits Su
Designed for the purpose of developing stimulating environments and procedures for the maximum development of the gifted or superior child, youth, or adult. Specific cases with demonstrations provided.

597 **Thesis** 1 to 6 credits F, S, Su

Electrical Engineering (E.E.)

231–232 **Electrical Engineering Laboratory** (0 + 3 or 6) 1 or 2 credits each F – S
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.

251 **Electrical Engineering Problems** (1 + 3) 2 credits F
Elementary electrical calculations and measurements, nomenclature, symbols, circuit diagrams, technical literature, electrical safety, and sources of electrical energy. Prerequisite: Math. 151-152.

323 **Elements of Electrical Engineering** (2 + 0) 2 credits F
An elementary course in electric circuits, machinery, electronics, and measurements. Includes lectures and demonstrations. Intended particularly for students not taking electrical or mechanical engineering.

351 **Direct Current Machinery** (3 + 0) 3 credits F
The theory, characteristics, construction, and operation of direct current machines and circuits for electrical and mechanical engineering students. Prerequisite: Phys. 204; Math. 252.

352 **Alternating Current Machinery** (3 + 0) 3 credits S
A continuation of E.E. 351 covering a similar study of alternating current machines and circuits. Prerequisite: E.E. 351.

353 **Direct Current Machinery Laboratory** (0 + 6) 2 credits F
To be accompanied or preceded by E.E. 351.

354 **Alternating Current Machinery Laboratory** (0 + 6) 2 credits S
To be accompanied or preceded by E.E. 352.

355 **Introduction to Electric and Magnetic Circuits** (2 + 0) 2 credits F
Study of the electrostatic field, electric potential, dielectrics, capacitance, magnetic field, forces in electric and magnetic fields, and induced electromotive forces. An introduction to vector analysis is included and applied. Prerequisite: Phys. 204; preceded or accompanied by Math. 351.

356 **Alternating Current Circuits** (2 + 0) 2 credits S
A continuation of E.E. 355, including a study of series and parallel alternating current circuits, coupled circuits, and transmission lines. Complex quantities and vector notation are employed. Prerequisite: E.E. 355; Math. 351.

367 **Electrical Illumination** (2 + 0) 2 credits F
A study of the principles and practice of electrical illumination. Prerequisite: College physics.

368 **Introduction to Electronics** (2 + 3) 3 credits S
Theory and application of vacuum and gas-filled tubes and circuits. Prerequisite: E.E. 355 or equivalent; and preceded or accompanied by E.E. 356.

373 Elementary Electronic Circuits (2 + 0) 2 credits F
Principles of electronics. Emphasis upon the application of electronic tubes and circuits to industrial and biological instruments and processes. Lectures and demonstrations. Intended particularly for students not taking electrical or mechanical engineering.

375 Principles of Electric Circuits and Machines (2 + 2) 3 credits F, S
Characteristics of electric circuits, controls, and machines. Includes direct and alternating current circuits and machines, electric controls and instruments, measurement of electric power and energy, and electric power transmission and distribution. Primarily for engineering students (nonelectrical). Prerequisite: One year of college physics and calculus.

391(G)–392(G)–393(G)–394(G)
Electrical Engineering Project (0 + 3 or 6) 1 or 2 credits each F – S
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.

457 Advanced Electric Circuits (2 + 0) 2 credits F
A continuation of E.E. 356 including filters, and other networks, and transients in linear systems. Prerequisite: E.E. 356.

461 Advanced Alternating Current Machinery (3 + 0) 3 credits F
A continuation of E.E. 352. Prerequisite: E.E. 352, 356.

462 Engineering Analysis (3 + 0) 3 credits S
Study of the principles underlying engineering analysis and design. Emphasis is placed upon the use of available knowledge of electrical and mechanical engineering and mathematics to solve new or unfamiliar problems. Prerequisite: E.E. 461.

463 Advanced Alternating Current Laboratory (2 + 3) 3 credits F
A continuation of E.E. 353 and 354, normally accompanied by E.E. 461.

464 Advanced Alternating Current Laboratory (2 + 3) 3 credits S
A continuation of E.E. 463.

466 Generation and Distribution of Power (3 + 0) 3 credits S
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: E.E. 461.

481 Advanced Electronics (3 + 0) 3 credits F
A continuation of E.E. 368, including the study of amplifiers, oscillators, rectifiers, modulators, etc., as used in the power and communication fields. Prerequisite: E.E. 356, 368.

482 Electrical Communication (3 + 0) 3 credits S
The principles of communication by wire and radio, including microphones, loud-speakers, and microwave systems. Prerequisite: E.E. 457, 481.

483 Advanced Electronics Laboratory (0 + 3) 1 credit F
Normally accompanying, and having the same prerequisite as, E.E. 481.

484 Communication Laboratory (0 + 3) 1 credit S
Normally accompanying E.E. 482.

487–488 Seminar (1 + 0) 1 credit each F – S
Discussion of technical articles appearing in current periodicals. Prerequisite: Senior standing.

495–496 **Undergraduate Thesis** 1 to 3 credits each F – S
The subject and its scope must have the approval of the instructor.

573 **Servomechanisms and Control** (2 + 3) 3 credits
Study of the steady state and transient characteristics of servomechanisms and control devices. The Laplace Transform is used in the analysis of the stability of single and multiloop systems. Prerequisite: E.E. 461.

574 **Symmetrical Components** (3 + 0) 3 credits
Study of symmetrical components and their use in the analysis of faults on transmission lines, transformers, and rotating machines. Prerequisite: E.E. 461.

575 **Magnetic and Dielectric Amplifiers** (3 + 0) 3 credits
Study of the steady state and transient characteristics of magnetic and dielectric amplifiers, including the effects of feedback. Included is an analysis of the saturable reactor, magnetic elements in computers, and in instrumentation. Prerequisite: E.E. 461.

581 **Microwaves** (3 + 0) 3 credits
Study of microwave devices and systems, including magnetrons, klystrons, traveling wave tubes, and others, and associated components and systems. Prerequisite: E.E. 482.

582 **Electrical Computers** (3 + 0) 3 credits
Study of both digital and analogue types, the basic principles of each, the type of work for which best suited, encoding of data and work with computer circuits. Prerequisite: E.E. 482.

591 **Thesis** 1 to 6 credits F, S

Elementary Education (El.Ed)

(Also see Education, Higher and Adult Education, School Administration and Supervision, and Secondary Education)

111 **Principles of Elementary Education** (2 + 0) 2 credits Su
A discussion of objectives, curricular organization, and recommended procedures in the good elementary school and the problems and suggestions for improved instruction by the elementary school teacher. Mead.

220 **Human Growth and Development: Observation and Laboratory Experience** (2 + 2) 3 credits F, S, Su
Principles of human growth and development are studied in actual observation of, and participation with, children. Two hours per week will be spent in the college classroom and curriculum laboratory and two hours per week will be spent with children in the public schools, YMCA or YWCA, playgrounds, public libraries, and other public service agencies. Willey.

233 **Child Psychology** (2 + 0) 2 credits F, S, Su
(For description, see Psychology 233.)

236 **Theory and Practice in Rural Elementary Education** (2 + 0) 2 credits S, Su
Provides a factual comprehensive study of rural education including a critical analysis of the aims of rural education, its procedures, and its specific problems. Typical problems considered are rural school management, grouping children, record keeping, and school community relationships. Willey.

322(G) Teaching of Elementary Arithmetic (2 or 3 + 0) 2 or 3 credits F, S, Su

Methods of teaching arithmetic; diagnostic and remedial treatment of pupil difficulties; readiness; objectives of arithmetic; recent trends. Mead, Willey.

323 Teaching of Elementary Language Arts (3 or 5 + 0) 3 or 5 credits F, S, Su

A study of the language needs of children and the nature of the reading process, writing, speaking, and listening as revealed by recent research and modern practices with emphasis placed upon building a sound developmental program.

324 Teaching of Elementary Music (3 + 0) 3 credits F, S, Su

(For description, see Music 324.)

325(G) Teaching of Elementary Science (2 or 3 + 0) 2 or 3 credits F, S, Su

Gives elementary teachers a working concept of the fundamental principles involved in teaching children science; demonstrations; experiments; projects; evaluation of curricula materials; directed observations. Mead.

326 Teaching of Elementary Art (1 + 3) 2 credits S, Su

(For description, see Art 326.)

327(G) Methods and Materials of Teaching Physical Education in the Elementary Schools (2 + 0) 2 credits S, Su

(For description, see Physical Education 327.)

329(G) Field Work and Clinical Practice in Elementary Education (3 + 0) 3 credits S, Su

Typical areas for concentration in this course are: practice in a psychoeducational clinic; field study of school learning problems; practice in a reading clinic; participation in action research projects in curriculum improvement; field work in child development. Prerequisite: El.Ed. 220, or equivalent. Willey.

330(G) Elementary School Guidance, Diagnosis, and Evaluation (2 or 3 + 0) 2 or 3 credits S, Su

A study of the role of the classroom teacher in the prevention and correction of pupil adjustment difficulties. In addition to a study of the informal methods of gathering data about children, attention will be given to the use of educational tests and measurements and other quantitative techniques in educational diagnosis. Willey.

334(G) Kindergarten Education (2 + 0) 2 credits F, S, Su

Acquaints the student with the practical problem of organizing the kindergarten programs. Special emphasis is given to organization, methods, materials, and the developmental aspects of learning. Includes observation in the public schools.

336(G) Organization and Management of Rural Schools (2 + 0) 2 credits Su

Problems adapted to small rural schools, including such topics as beautification of buildings and grounds, school health, classroom organization and control, grading and promotion of pupils, the daily program, records, and reports. Suggested for all students preparing for rural teaching. Willey.

338(G) Fundamentals and Teaching of Conservation (2 + 0) 2 credits Su

(For description, see Geography 338.)

339(G) **Field Studies in Elementary Education** (2 or 3 + 0) 2 or 3 credits F, S

Each student individually organizes and interprets data relative to an approved problem in elementary education. Encouragement will be given to such experimentation as the development of curriculum, improved parent-teacher relations, grouping of pupils, organization of guidance services, etc. Willey.

424 **Teaching of Elementary Social Studies** (3 + 0) 3 credits F, S, Su

The nature of social growth of children in a democratic culture. Instructional materials are arranged and developed around the developmental patterns of growth. Much time is devoted to the actual development of instructional materials used at the various grade levels. Willey, Mead.

426 **Principles of the Elementary School Curriculum** (2 or 3 + 0) 2 or 3 credits F, Su

A knowledge of the organization and sequence of purposeful experiences in the elementary school curriculum as determined by the developmental tasks of children and the basic needs and values of our society. Willey.

427 **Supervised Teaching in the Elementary Grades** (2 + 1) 2 credits F, S, Su

An introduction to student teaching with an over-all study of the elementary school, its program as it relates to child development, and to the various subject-matter areas. The major part of the course will be directed observation and teaching of small groups of children. Units of work and other teaching plans will be constructed employing the facilities of the curriculum laboratory and the advisory services of the education staff. Course should be selected the second semester of junior year or first semester of senior year. Prerequisite: Foundations for Elementary Teaching I, II, III completed, and IV completed or in progress or equivalent. Willey.

428 **Supervised Teaching in the Elementary Grades** (0 + 2½ per credit) 4 to 8 credits F, S, Su

Provides supervised teaching in actual classroom situations. Directed observations, planning of teaching units, classroom management, supervised teaching, participation and direction of school activities, individual and group conferences, and other factors related to effective teaching are presented. Prerequisite: El.Ed. 427 (or may be taken concurrently with it).

Application for supervised teaching should be made through the Office of the Dean of the College of Education *three months prior* to the expected enrollment in the course. Early advisement is desirable.

433 **Language Arts in the Elementary School** (2 or 3 + 0) 2 or 3 credits S, Su

Arranged for those students who need additional work in language arts and who have had teaching experience.

434 **Reading in the Elementary School** (2 or 3 + 0) 2 or 3 credits F, Su

Arranged for those students who need additional work in reading methods and who have had teaching experience.

520 **Problems in Child Development** (1 or 2 + 0) 1 or 2 credits S, Su

Advanced problems are discussed as they are related to child development in the elementary school. Willey.

522 **Problems of Teaching Arithmetic and Science** (2 or 3 + 0) 2 or 3 credits S, Su

Advanced study of the teaching procedures in elementary arithmetic and science with consideration of defining and implementing objectives, selection of curriculum materials, developing basic skills, and preparing teacher-resource material. Research problems may be studied and prepared in this course. Mead.

523 Problems of Teaching the Language Arts (2 or 3 + 0) 2 or 3 credits S, Su

An advanced study of teaching procedures used in developing skills in oral and written communication in the elementary school and an analysis of diagnostic, corrective, and remedial techniques.

524 Problems of Teaching Social Studies (2 or 3 + 0) 2 or 3 credits S, Su

Advanced study of teaching procedures in elementary social studies with consideration of defining and implementing objectives, selection of curriculum materials, developing basic skills, and preparing teacher-resource material. Individual and group research problems may be approached in this course. Willey, Mead.

528 Individual Research in Elementary Education 1 to 4 credits F, S, Su

Selected basic problem or problems related to the field of elementary education.

529 Seminar in Elementary Education 1 to 4 credits Su

Includes problems of organization, administration, curriculum, methodology, evaluation, public relations, and other basic areas of elementary education. A review of research procedures is followed by the selection of a problem to be studied in considerable detail. Prerequisite: Basic courses in elementary education.

597 Thesis 1 to 6 credits F, S, Su

English (Engl.)

A Elementary Composition (3 + 0) 0 credit F, S

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. No credit, but counts as part of the student's regular load.

B Elementary Composition for Foreign Students (3 + 0) 0 credit F, S

Practice in idiomatic English for students learning English as a second language. This course may be repeated as Engl. Ba, b, and c.

101 Composition and Rhetoric (3 + 0) 3 credits F, S

The study of English as a means of self-expression, with special attention to the writing of exposition.

102 Composition and Rhetoric (3 + 0) 3 credits F, S

A continuation of Engl. 101. Prerequisite: Engl. 101.

NOTE—At the recommendation of the department, students may be allowed to substitute for either English 101 or 102, or both, certain prescribed courses within the department numbered to 300, provided that at least six units of work in English are completed. Any student whose course requires sophomore English cannot use a course substituted for English 101 or 102 to satisfy the sophomore requirement.

Any student who receives a failure in a course which he has substituted for English 102 will be required to register for English 102 the following semester.

Faculty rules specify that a student who is habitually delinquent in the use of English in connection with any course in the University curriculum may be remanded to the Department of English to take without credit such further work in composition as the chairman of the department thinks advisable.

131–132 Appreciation of Literature (2 + 0) 2 credits each F – S

The reading of recent and contemporary literature of various types, intended to cultivate sound literary taste. Eldridge and Wittrock.

141 **Introduction to the Short Story** (2 + 0) 2 credits S
A study of significant short stories and of the short story as a form of literature. Henrich.

145 **The Modern American Novel** (2 + 0) 2 credits F
A study of the American novel with stress on contemporary writers.

171-172 **Introduction to Shakespeare** (2 + 0) 2 credits each F - S
Shakespeare's principal plays read for their social interest and their literary excellence. Not intended for students selecting a field of concentration in English. Gorrell.

201-202 **Advanced Composition** (2 + 0) 2 credits each F - S
Study of methods of composition with extensive practice adjusted to the interests and experience of the student. Frank and Laird.

231-232 **Great Books** (3 + 0) 3 credits each F - S
Masterpieces from many ages and from various great literatures of the world read in English for recreation and for general culture. Hume.

235-236 **Survey of English Literature** (3 + 0) 3 credits each F - S, Su
A study of selected major writers designed to acquaint the general reader with the scope of English literature from Chaucer to the moderns.

247-248 **The World Novel** (2 + 0) 2 credits each F - S
The reading of significant modern novels for recreation and for the appreciation of the novel as an integrated approach to life. Frank.

281 **Introduction to Language** (3 + 0) 3 credits S
A study of the nature of language with a sketch of the growth of the American language. Laird.

291 **Introduction to Literary Study** (3 + 0) 3 credits F
A critical examination of creative writing and a survey of basic methods of literary study. Gorrell and Hume.
NOTE—English 281 and 291 are required of students with fields of concentration in the department. The courses need not be taken in their numbered sequence.

305-306 **Advanced Training in Creative Writing** (2 + 0) 2 credits each F - S
The course is conducted as a writer's workshop. Required for the field of concentration in creative writing. Continued as Engl. 405-406. Prerequisite: The submission of a sample of superior creative work. Eldridge.

333 **Far Eastern Literature** (2 + 0) 2 credits S, Su
The study of Chinese and Japanese literature in translation, with special emphasis on its relations with Western cultures. Morrison.

337 **The Bible as Literature** (3 + 0) 3 credits F
The study of representative literary types found in the Old and New Testaments. Eldridge and Morrison.

339 **Mythology and Folklore** (2 + 0) 2 credits S
An introduction to primitive literature as a revelation of the human mind, and some attention to folkloristic methodology. Laird and Morrison.

341 **Literature of Nevada and the Far West** (2 + 0) 2 credits S, Su
A study of the literature of western United States and its relations to the cultural development of the area. Special attention will be paid to writers like Twain, Harte, Norris, Miller, London, Jeffers, and Clark.

355(G)-356(G) **Modern Drama** (2 + 0) 2 credits each F - S
Representative English and American dramatists since 1890. Gorrell.

385 Descriptive Grammar (2 + 0) 2 credits F
An objective description of modern English usage, with a sketch of grammar as it is conventionally taught. Designed primarily for prospective teachers. Laird and Eldridge.

405–406 Advanced Training in Creative Writing (2 + 0) 2 credits each F – S
A continuation of Engl. 305-306. Eldridge and Henrich.

441–442 American Literature (3 + 0) 3 credits each F – S
Engl. 441 is a survey of the development of American literature from the beginning to the present; Engl. 442 is an intensive study of special problems in American literature. Eldridge and Hume.

443 Survey of American Literature (3 + 0) 3 credits S, Su
Intended for prospective teachers, this course emphasizes the American literary figures and trends most commonly dealt with in the secondary schools. Eldridge and Hume.

451–452 The Heroic and Medieval Ages (2 + 0) 2 credits each F – S
Engl. 451 is a broad study of English literature from its sources in the Celtic, Germanic, Classical, and Christian traditions to 1500, with emphasis on Chaucer; Engl. 452 is a study of special problems. Frank and Laird.

461 The Renaissance (3 + 0) 3 credits
A broad view of English literature from the end of the Middle Ages to the Restoration, with attention to influences from abroad. Gorrell.

464 The Age of Milton (2 + 0) 2 credits S
An intensive study of Milton's poetry and selected prose, with particular reference to his contemporaries. Gorrell.

465–466 Elizabethan Drama (3 + 0) 3 credits each F – S
Engl. 465 surveys Elizabethan drama with emphasis upon Shakespeare's better known plays; Engl. 466 considers some of the less commonly studied plays of Shakespeare and his contemporaries with special problems of Shakespeare study. Gorrell and Laird.

471 The Age of Reason (3 + 0) 3 credits S
A survey of English literature from Dryden to Burke, with attention to continental influences. Hume.

473–474 The Nineteenth Century (3 + 0) 3 credits each F – S
Engl. 473 surveys English literature and its foreign relations during the Romantic and Victorian periods; Engl. 474 considers trends and writers during the period in some detail. Morrison and Wittrock.

485–486 Modern Literature (2 + 0) 2 credits each F – S, Su
Engl. 485 is a survey of modern writing with emphasis on contemporary American and British literature; Engl. 486 is an intensive study of selected figures in modern literature. Eldridge, Henrich, and Hume.

493 Summary of English Literature (2 + 0) 2 credits S
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.) Gorrell, Hume, and Laird.

495–496, 497–498 **Independent Study** 1 credit each F – S, Su
Open to juniors and seniors specializing in English with permission of the instructor.

501–502 **Seminar** credit to be arranged F – S
Open only to graduate students.

591 **Thesis** 1 to 6 credits F, S, Su

Executive Secretarial Studies, See Secretarial Studies

Foreign Languages, See French, German, Italian, Latin, and Spanish

French (Fr.)

101–102 **Beginning French** (5 + 0) 5 credits each F – S
Essentials of grammar, reading, conversation, and composition.

103–104 **Second Year French** (3 + 0) 3 credits each F – S
Readings from modern French prose writers. A review of grammar. Conversation and composition. Prerequisite: Fr. 101-102 or two years of high school French. Gottardi.

351(G)–352(G) **The French Novel** (2 + 0) 2 credits each F – S
Rapid reading of masterpieces of French fiction: Balzac, Sand, Mérimée, Zola, Daudet, etc. Prerequisite: Fr. 103-104.

355–356 **Intermediate French Composition and Language** (3 + 0) 3 credits each F – S
This course should be taken simultaneously with the first year junior-senior reading courses in French. Prerequisite: Fr. 103-104.

357(G)–358(G) **General Survey of French Literature** (3 + 0) 3 credits each F – S
The history of French literature with detailed study of special periods. Assigned outside readings and reports on works read. Prerequisite: Fr. 103-104.

369(G)–370(G) **French Classic Drama** (2 + 0) 2 credits each F – S
The development of the drama in France with special study of the works of Corneille, Racine, and Molière. Prerequisite: Fr. 103-104.

371(G)–372(G) **Modern French Drama** (2 + 0) 2 credits each F – S
A study of the drama of France in the nineteenth and twentieth centuries. Prerequisite: Fr. 103-104.

379–380 **Advanced French Composition and Conversation** (2 + 0) 2 credits each F – S
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: Fr. 103-104.

381(G)–382(G) **The Eighteenth Century in French Literature** (2 + 0) 2 credits each F – S
A study of the works of Montesquieu, Voltaire, Rosseau, etc. Prerequisite: Fr. 103-104.

389–390 French Phonetics (2 + 0) 2 credits each F – S
A study of pronunciation on the basis of practical phonetics. This course is especially arranged for prospective teachers of French. Prerequisite: Fr. 103-104. Gottardi.

495–496 Independent Study 2 credits each F – S
Open to qualified students specializing in French with the permission of the Chairman of the Department. At least one conference per week with the instructor concerned.

591 Thesis 1 to 6 credits F, S

Geography (Geog.)
(Also see Geol.)

101 Survey of World Geography (3 + 0) 3 credits F
A regional consideration of the geography of the world. World regions, with their characteristic physical environments and human activities, and their inter-relationships, are the focus of the study. Kersten.

103 Physical Geography (3 + 0 or 3) 3 or 4 credits F, S
A geographic analysis of the physical earth. The nature and distribution of landforms, climate, and earth resources. Laboratory work involves the study of maps and other illustrations of physical geographic principles. May be taken with or without laboratory. Satisfies natural science requirements in the College of Arts and Science. Kersten.

106 Cultural Geography (3 + 0) 3 credits S
An analysis of the cultural elements of geography—population, settlements, economic activities, and historical and political factors. The nature, classification, and world distribution of each of the elements is considered. Kersten.

109 Economic Geography (3 + 0) 3 credits F
World distribution of economic activities and their natural bases. Major occupations, such as: agriculture, mining, manufacturing, and trade, are considered in relation to the natural environment. Kersten.

222 Weather and Climate (2 + 3) 3 credits S
The elements of weather and climate. The classification of climates and types of world climates are considered. Satisfies natural science requirements in the College of Arts and Science. Prerequisite: Geog. 103 or Phys. 117. Kersten.

338(G) Fundamentals and Teaching of Conservation (2 + 0) 2 credits Su
(Same as El.Ed. 338.) To provide concentrated information on conservation problems, solution to these problems, and methods of teaching conservation. Methods of integrating conservation information with other subjects in the curriculum on elementary and secondary school levels. Includes field trips to the Sierra and lectures by officials of State and Federal agencies concerned with conservation. Prerequisite: Permission of instructor. Wheeler.

343(G) Geography of Primary Production (3 + 0) 3 credits F
A study of the agricultural, mineral, forest, and fishing industries. The physical bases, methods, products, and world distribution of these industries are examined. Prerequisite: Geog. 103, and 101 or 106. Kersten.

471 **North America** (3 + 0) 3 credits F

A regional study of the United States, Canada, Alaska, and Mexico. The physical environments and the human activities of the continent are considered, with emphasis upon the geographic characteristics of American industry. Prerequisite: Geog. 103, and 101 or 106. Kersten.

482 **Europe** (3 + 0) 3 credits S

Geography of western and central Europe, Scandinavia, and the Mediterranean countries. An over-all examination of the physical and human use characteristics of the continent is followed by the study of the geographic regions of Europe. Prerequisite: Geog. 103, and 101 or 106. (Alternates with Geog. 486.) Kersten.

486 **Asia** (3 + 0) 3 credits S

A regional study of the continent with special emphasis on China, Japan, and the Soviet Union. The various regions are analyzed as to their physical environments, peoples, and economic activities such as: agriculture, manufacturing, mining, trade, and transportation. Prerequisite: Geog. 103, and 101 or 106. (Alternates with Geog. 482.) Kersten.

495–496 **Special Problems** 1 to 3 credits each F – S

Independent study of selected problems of geographic character, including library research, field work, and reports. Prerequisite: Advanced standing in geography, and permission of the instructor.

501–502 **Advanced Geography** 1 to 4 credits each F – S

Consists of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

Geology (Geol.)

(Also see Geog.)

101 **Physical Geology** (3 + 0 or 3) 3 or 4 credits F, S

Lectures on geologic features and processes. Laboratory work involves the reading of topographic and geologic maps, the study and identification of common rocks and minerals, and the study of geologic phenomena. May be taken with or without laboratory.

102 **Historical Geology** (3 + 0) 3 credits F, S

The origin and history of the earth, with a description of the life of the successive geologic periods. Prerequisite: Geol. 101. Larson, Lintz.

211–212 **Mineralogy** (1 + 6) 3 credits each F – S

Elementary crystallography, physical and chemical examination of minerals, and descriptive mineralogy. Prerequisite: Chem. 101 and Geol. 101. McGirk.

322(G) **Lithology** (1 + 3) 2 credits S

The occurrence, classification, and origin of common rocks, with laboratory practice in megascopic identification of rocks. Two Saturday field trips will be taken. Prerequisite: Geol. 101 laboratory or 211. Slemmons.

325(G)–326(G) **Optical Mineralogy and Petrology** (2 + 6) 4 credits each F – S

The fundamentals of optical mineralogy and the composition, classification, and origin of rocks. Laboratory study of rock-forming minerals and practice in microscopic and megascopic identification of rocks. Two Saturday field trips will be taken each semester. Prerequisite: Geol. 212 and physics of light. Slemmons.

332(G) Structural Geology (2 + 3) 3 credits S
A study of structural features of the earth's crust. Laboratory work involves the study and preparation of geologic maps and cross sections. Prerequisite: Geol. 102 and trigonometry. Larson.

441 Geomorphology (2 + 3) 3 credits F
The origin, character, and classification of land forms. The use of geomorphic methods in the interpretation of the geologic history of a region. Prerequisite: Geol. 332. Slemmons.

450 Field Methods (0 + 3) 1 credit S
Introduction to the methods and instruments used by the field geologist; including elementary photogrammetry. Prerequisite: C.E. 241. Larson.

451 Summer Field Geology 6 credits Su
(S. F. Hunt Foundation Field Course.) A six-weeks' course in geological field methods beginning in early June. Students will prepare topographic and geologic maps to accompany a report on the geology of an area in Nevada. Prerequisite: Geol. 322 or 326, 332, 450, and/or permission of the department chairman. Fee (including registration) $75. In addition, $100 to cover the cost of board will be assessed in advance. Larson.

461 Invertebrate Paleontology (3 + 3) 4 credits F
The structure and evolutionary development of fossil invertebrates and their existing representatives. The application of paleontology to stratigraphic problems. A two-day collecting trip will be arranged early in October. Prerequisite: Geol. 102. A knowledge of zoology is desirable. Lintz.

465 Sedimentation (2 + 3) 3 credits F
The formation, transportation, and deposition of sediments. Prerequisite: Geol. 102 and 211. Larson.

468 Stratigraphy (3 + 0) 3 credits S
An outline of the stratigraphy of North America. Emphasis is placed on principles and the relationship of stratigraphy to tectonics. Prerequisite: Geol. 461. Larson.

471 Ore Deposits (2 + 3) 3 credits F
The geology of metallic ore deposits, including origin, mode of occurrence, alterations, and surface expression. Laboratory work emphasizes the study of textures, mineralogy, and paragenesis. A few Saturday field trips will be taken. Prerequisite: Geol. 322 or 326. McGirk.

476 Nonmetallic Mineral Deposits (3 + 0) 3 credits S
The occurrence, distribution, origin, and economic value of the nonmetallic minerals. Prerequisite: Geol. 212. (Alternates with Geol. 482.) Lintz.

482 Petroleum Geology (3 + 0) 3 credits S
The origin, migration, and accumulation of petroleum. Petroleum exploration. Petroliferous provinces of the world, with emphasis on North America. Prerequisite: Geol. 102. (Alternates with Geol. 476.) Lintz.

484 Ground Water (3 + 0) 3 credits S
The occurrence, movement, resources, chemical properties, and utilization of underground water. Prerequisite: Phys. 152 or 204; Math. 152; and Geol. 332. McGirk.

495–496 Geology Project 2 or 3 credits each F – S
Original investigation of a geologic problem. Prerequisite: Geol. 332, and 326 or 461.

501–502 **Advanced Geology** 1 to 5 credits each F – S
(a) General geology, (b) regional geology, (c) mineralogy, (d) ore deposits, (e) paleontology, (f) petrology, (g) stratigraphy, (h) structural geology. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

521–522 **Universal Stage** (0 + 3) 1 credit each F – S
Practice in the use of the universal stage for mineralogic, petrographic, and petrofabric analyses. Prerequisite: Geol. 326, 332, and consent of the instructor. Slemmons.

526 **Igneous Petrology Seminar** (2 + 0 or 3 or 6) 2 or 3 or 4 credits
Lectures, reports, and discussions on the origin and nature of igneous rocks. May be taken with or without laboratory. Prerequisite: Geol. 326 and consent of the instructor. (Alternates with Geol. 528.) Slemmons.

528 **Metamorphic Petrology Seminar** (2 + 0 or 3 or 6) 2 or 3 or 4 credits
Lectures, reports, and discussions on the origin and nature of metamorphic rocks. May be taken with or without laboratory. Prerequisite: Geol. 326 and consent of the instructor. (Alternates with Geol. 526.) Slemmons.

531 **Structural Geology Seminar** (2 + 3) 3 credits F
A study of structural features of the earth's crust; their distribution and the mechanics of their formation. Prerequisite: Geol. 332 and consent of the instructor. Larson.

572 **Mineragraphy** (1 + 3) 2 credits S
Microscopic study of polished ores, the significance of their textures and paragenesis. Prerequisite: Geol. 471. McGirk.

585 **Engineering Geology** 3 or 4 credits
The application of geology to earth and rock work in the construction industry. Will consider such items as: landslide problems; sites for dams, bridges, tunnels, and canals; and possibly certain problems of the control of erosion and sedimentation by rivers and oceans. Prerequisite: Geol. 322 or 326, plus 332. Scheid.

591–592 **Mineral Industry Seminar** credit to be arranged F – S
(For description, see Mining 591-592.)

597 **Thesis** 1 to 6 credits F, S

German (Ger.)

101–102 **Beginning German** (5 + 0) 5 credits each F – S
Essentials of grammar, reading, conversation, and composition.

103–104 **Intermediate German** (3 + 0) 3 credits each F – S
Grammar review. Reading of German short stories, with exercises in conversation and composition. In Ger. 104 additional reading material in the various sciences will be offered as an introduction to scientific German. Prerequisite: Ger. 101-102 or two years of high school German. Melz.

331 **German Literature in Translation** (2 + 0) 2 credits F
A survey of German literature since 1832. Lectures in English on the development of German literature from the death of Goethe to 1880. Selected readings in English translation. Melz.

332 German Literature in Translation (2 + 0) 2 credits S

A survey of German literature from 1880 to the present. Lectures in English and selected readings in English translation. Melz.

335–336 The Age of Goethe (2 + 0) 2 credits each F – S

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. Melz.

351(G)–352(G) The German "Novelle" (2 + 0) 2 credits each F – S

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: Ger. 103-104. Melz.

355–356 Intermediate German Composition and Language (3 + 0) 3 credits each F – S

This course should be taken with the first year of junior-senior reading courses in German. Prerequisite: Ger. 103-104. Melz.

357(G)–358(G) General Survey of German Literature (3 + 0) 3 credits each F – S

The history of German literature with detailed study of special periods. Assigned readings and reports on the works read. Prerequisite: Ger. 103-104. Melz.

359–360 Scientific German (2 + 0) 2 credits each F – S

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: Ger. 103-104.

369(G)–370(G) German Classics (2 + 0) 2 credits each F – S

Reading and technical study of representative works of Lessing, Schiller, and Goethe. Prerequisite: Ger. 103-104.

371(G)–372(G) Modern German Drama (2 + 0) 2 credits each F – S

A study of the German drama from Romanticism to Naturalism: Kleist, Grillparzer, Hebbel, Hauptmann, Schnitzler, etc. Prerequisite: Ger. 103-104 or equivalent. Melz.

379–380 Advanced Composition and Conversation (2 + 0) 2 credits each F – S

This course should be taken simultaneously with the junior-senior reading courses. Prerequisite: Ger. 103-104.

495–496 Independent Study 2 credits each F – S

Open to qualified students specializing in German with the permission of the Chairman of the Department. At least one conference per week with the instructor concerned.

591 Thesis 1 to 6 credits F, S

Health, Physical Education, and Athletics, See Physical Education

Higher and Adult Education (H.A.Ed.)

(Also see Education, Elementary Education, School Administration and Supervision, and Secondary Education)

590 **Supervision of Student Teaching** (1 or 2 + 0) 1 or 2 credits F, S, Su
Primarily for those public school teachers who are functioning as cooperating teachers in the student teaching program. Consideration of the place student teaching has in the teacher education program and of the methods, materials, and techniques required in working with student teachers. There will be development of materials to be used by teachers and students. Newbry.

591 **Supervision in Home Economics** (3 + 0) 3 credits Su
Nature and function of supervision, techniques of supervisory communication, use of cooperative procedures, evaluation of teaching and supervision. Focus on improving the quality of student teaching experiences. Tripple.

595 **Preservice Teaching in Teacher Education** (2 + 0) 2 credits S, Su
Specifically for supervisors and directors of student teaching in colleges and cooperating schools: functions of student teaching, supervision of student teaching, provision for preservice laboratory teaching experiences, organization of teaching units, professional files, seminars in professional problems, etc. Holstine.

596 **Adult Education** (2 + 0) 2 credits Su
Presents the general problems, principles, and procedures for adult education. Development of community adult leadership is discussed.

597 **Thesis** 1 to 6 credits F, S, Su

598 **Individual Research in Adult and Teacher Education** 1 to 4 credits F, S, Su
Selected basic problems related to the teacher or adult education phases of higher education.

599 **Seminar in Supervision in Teacher Education** 1 to 4 credits S, Su
This course will meet in regular schedule and includes problems of organization, administration, curriculum, methodolgy, evaluation, public relations, and other basic areas of higher education. Designed primarily for students interested in professional work in colleges and universities.

History (Hist.)

(Also see Political Science)

101 **United States** (3 + 0) 3 credits F, S
Colonial times to 1861: social, political, and diplomatic. Hicks, Hutcheson.

102 **United States** (3 + 0) 3 credits F, S
1861 to the present: social, political, and diplomatic. Hicks, Hutcheson.

105–106 **European Civilization** (3 + 0) 3 credits each F – S
The development of civilization in Europe from the dawn of history to the present. Shepperson.

303(G) **United States; Colonial Period, 1607–1783** (3 + 0) 3 credits F
The era of discovery; the establishment of the thirteen colonies; the battle for empire; the Revolutionary War; the Treaty of Peace. Hutcheson.

304(G) United States; National Period, 1781–1850 (3 + 0) 3 credits S
Constitution-making; Federalists in power; Jeffersonian democracy; War of 1812; the era of good feelings; Jacksonian democracy; territorial expansion. Elliott.

305(G) United States; Conflict, Reconstruction, and Industrialization, 1850–1896 (3 + 0) 3 credits F
Drifting toward disunion; the Civil War; reconstruction; urban-industrial America; the Populist Revolt. Elliott.

306(G) United States; Recent History, 1896–Present (3 + 0) 3 credits S
Spanish-American War; the Progressive Revolt; the first World War; Normalcy; the Depression and the New Deal; the second World War and after. Elliott.

309(G) The Study of History (2 + 0) 2 credits F
Historiography—history of history—great historians and their works. Methods of historical criticism and writing from sources. "Philosophies" of history; old and new viewpoints. Hutcheson.

312(G) The Westward Movement in the United States (2 + 0) 2 credits F
The westward movement of peoples from the Atlantic Coast, and the influence of this movement upon United States history. Elliott.

314(G) Western North America (3 + 0) 3 credits S
The Far West; the Rocky Mountains and West Coast States; activities of the Spanish, Russians, British, and Americans on the Pacific Coast. Hutcheson.

331(G) Nevada History (2 + 0) 2 credits F
From early exploration through the Comstock era. Hutcheson.

332(G) Nevada History (2 + 0) 2 credits S
From the Comstock era to the present. Elliott.

341(G)–342(G) American Constitutional History (3 + 0) 3 credits each F – S
A narrative and interpretive study of the origin and growth of the institutional forms and principles which have crystallized into the American constitutional system. Elliott.

NOTE: History 341–342 may be substituted for Political Science 201; full credit will be given for History 341–342 even when the student has taken Political Science 201.

371(G)–372(G) Ancient Civilization (2 + 0) 2 credits each F – S
Origins of western civilization in the Near East, Greece, and Rome: art, culture, society, and politics. Hutcheson.

375(G)–376(G) The Late Middle Ages and the Renaissance (2 + 0) 2 credits each F – S
An inquiry into medieval thought, theology, and economic, political, and social organization, followed by a study of the early enlightenment and an examination of its flowering into the Renaissance. Shepperson.

393(G)–394(G) England and the British Empire (3 + 0) 3 credits each F – S
History of England and its empire: social, economic, and political. Background of English literature and law. Second semester begins at Elizabethan age. Shepperson.

395(G) **English Constitutional History** (3 + 0) 3 credits F
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. Hutcheson.

406 **History of American Immigration** (3 + 0) 3 credits S
An historical inquiry into the conditions in Europe and America which produced the great Atlantic migration. The parts of Europe from which the migrants came; the periods of greatest immigration; the areas within the United States in which national groups settled; and the problems and hardships endured by the migrants are among the issues considered. Shepperson.

407 **The Industrial Revolution in Europe** (3 + 0) 3 credits F
Rise and growth of the European industrial society and its relationship to the economic organization, social philosophy, and political institutions of nineteenth century Europe. Shepperson.

408 **Europe Since 1914** (3 + 0) 3 credits S
A detailed study of an age of conflict and its interludes of peace. A continuation of History 407. Shepperson.

411–412 **The French Revolution and Napoleon** (2 + 0) 2 credits each F – S
An intensive study of the great epoch extending from 1789 to 1815.

427–428 **Europe: 1415–1815** (3 + 0) 3 credits each F – S
An economic, political, social, and intellectual study of the rise, growth, and institutional changes of European states. Shepperson.

429–430 **Europe: 1815–1914** (3 + 0) 3 credits each F – S
A study of the political and social development of European institutions. Shepperson.

441–442 **Latin America** (2 + 0) 2 credits each F – S
History of Spanish and Portuguese America from the age of discovery to the present: domestic and international. Hicks.

451–452 **The Far East** (2 + 0) 2 credits each F – S
Domestic and international relations of China and Japan from the earliest times to the present. Hicks.

497–498 **Undergraduate Seminar** credit to be arranged F – S

501–502 **Graduate Seminar** credit to be arranged F – S

591 **Thesis** 1 to 6 credits F, S

Home Economics (H.Ec.)

103 **Orientation** (0 + 2) 1 credit F
A discussion of opportunities in the field of home economics as a basis for the choice of a major. Also application of standards of social conduct to daily living.

113 **Clothing Selection** (3 + 0) 3 credits F
Application of color, lines, and the principles of design in the selection of clothing for the individual. Consideration of the aesthetic and economic factors in wardrobe planning. Grooming.

114 Clothing Construction (1 + 4) 3 credits S

Construction of garments; experience in the use of commercial patterns; study of problems in fitting; variety of construction techniques. A study of fabrics with respect to pattern design and processes of construction. Prerequisite: H.Ec. 113.

120 Personal Growth and Development (2 + 2) 3 credits S

Basic principles of growth and development. Guided observation and discussion of child behavior as a means of interpreting personal behavior.

133 Elementary Nutrition (3 + 0) 3 credits F

A survey of the elements of nutrition and of factors including the ability of the individual and the family to secure and maintain good nutritional status.

134 Food for the Family (1 + 4) 3 credits S

A study of food including the principles of selection, preparation, storage, home processing, and use of foods for maintaining the nutrition of the individual and his family. Emphasis will be placed on food terminology, recipe construction, the functions of processing, simple flour mixtures, dairy products, and eggs.

135 Food for the Family (1 + 4) 3 credits F

A continuation of H.Ec. 134, investigating more complex batters and doughs, meats, fish, poultry, fats, salads, garnishes, and simple meal planning incorporating the principles of nutrition of the group to be served; food selection, preparation, and service. Desirable to have had H.Ec. 133, 134.

216 Textiles (2 + 2) 3 credits S

A study of fibers and fabrics; their selection, use, and care. New textiles and new finishes. Field trips.

250 Food and Nutrition (2 + 2) 3 credits S

A survey course to meet the needs of prenursing majors and others outside the field of home economics who want information and help on the nutritional needs of the individual and the family; planning and preparing meals taking into consideration standards of living and present day market conditions. (Offered in alternate years or on request.)

253 Community, School, and Family Health (2 + 2) 3 credits F

A study covering the important phases of health.

255 The Art and Science of Meal Service (1 + 4) 3 credits S

Student actually purchases, prepares, and serves family meals at various cost levels. All types of service are experienced. Prerequisite: H.Ec. 134, 135, or equivalent.

334(G) Nutrition (3 + 0) 3 credits S

Principles of nutrition in the light of scientific advances in the field; requirements at different stages of growth and development. Prerequisite: Chem. 242, Zool. 224. (Offered in alternate years.)

357 Cookery for Men (1 + 4) 3 credits F

A service course for men who desire to learn short cuts of cookery on the grill, in the camp, or on the range.

363 Tailoring (1 + 4) 3 credits F

A study of tailoring techniques; construction of coats and suits. Advanced problems in construction. Prerequisite: H.Ec. 114.

367 **Family Clothing** (2 + 0) 2 credits F
A study of the wardrobe needs of the family, and problems relating to the purchase, care, and construction of family clothing. Emphasis is given to the selection of children's clothing, men's clothing, and to the purchase of women's ready-to-wear. Field trips.

375(G) **The Nursery School** (3 + 0) 3 credits F
An introduction to the nursery school; its basic philosophy, curriculum, and procedure. Discussion of literature; music; creative, nature, and science experiences for the preschool child.

385 **Household Equipment** (2 + 0) 2 credits F
Use of electricity and gas in the home. Selection, operation, and care of small nonelectrical equipment, small and major appliances. Kitchen planning with emphasis on storage areas, and work centers.

400 **Nutrition** (1 + 0) 1 credit S
A survey course with emphasis on the needs of growing children. Designed primarily for school lunch personnel. (Offered on request.)

402 **Home Economics Seminar** (2 + 0) 2 credits S

418 **Family Economics** (2 + 0) 2 credits S
The economic principles of family consumption.

436 **Diet Therapy** (2 + 2) 3 credits S
A study of the adaption of diet for diseases in which nutrition is a primary concern. Continued application of material in H.Ec. 334. For nutrition majors. (Alternates with H.Ec. 334.)

461 **Family Housing** (3 + 0) 3 credits F
A study of the social, psychological, economic, and technical aspects of housing.

475 **Child Development** (3 + 0) 3 credits F
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 during this period. Growth and development of the child from conception to adolescence. One hour observation per week. Prerequisite: H.Ec. 120, junior standing, or consent of instructor.

476 **Family Life and Relationships** (3 + 0) 3 credits S
Preparation for marriage. Discussion of relationships within the family and the role of each family member. Relationship of the home to the peer group, school, and community. Special consideration of behavior characteristics and problems of adolescents and older age groups as they may relate to the family. Prerequisite: Junior standing, or consent of instructor.

477–478 **Child Guidance** (2 + 2 or 4) 3 or 4 credits F – S
Child guidance based on actual experience with the preschool group.

483–484 **Special Problems in Foods** (1 + 4) 3 credits each F – S
Field work for seniors or graduate students.

486 **Home Management** (2 + 0) 2 credits S
A study of methods homemakers and others may use in managing their time, money, energy, and other personal and family resources. A review of current literature on job simplification and home management principles as applied to the family at different stages.

487 Home Planning and Furnishings (1 + 4) 3 credits S
A study of problems in planning, selecting, and furnishing the home. Application of design principles in selecting and arranging furnishings and accessories. Field trips.

491 Education for Foods and Nutrition Majors (3 + 0) 3 credits F
This course meets the requirements of the American Dietetic Association. (Offered in alternate years.)

494 Experimental Cookery (1 + 2) 2 credits S
Development of experimental methods; application to investigations in cookery. Preparation for independent investigation. Prerequisite: H.Ec. 134, 135.

496 Quantity Cookery (1 + 4) 3 credits S
Meal planning, food production, purchasing, and service for large groups. Prerequisite: H.Ec. 134, 135.

498 Institution Organization and Management (2 + 2) 3 credits S
A study of equipment; furnishings; floor plans; cost control; personnel; labor and sanitation laws governing food preparation in institutions.

499 Demonstration (1 + 4) 3 credits F
Principles and techniques for commercial and classroom demonstrations. Audiences—campus and community. (Offered in alternate years.)

591 Thesis 1 to 6 credits F, S

Horticulture, See Agronomy

Italian (Ital.)

101–102 Beginning Italian (5 + 0) 5 credits each F – S
Essentials of grammar, reading, conversation, and composition.

103–104 Intermediate Italian (3 + 0) 3 credits each F – S
Grammar review. Reading of prose and poetry. Exercises in conversation and composition. Prerequisite: Ital. 101-102 or two years of high school Italian.

351(G)–352(G) The Italian Novel (2 + 0) 2 credits each F – S
Rapid reading of masterpieces of modern Italian fiction: Manzoni, Fogazzaro, Verga, etc. Prerequisite: Ital. 103-104. Gottardi.

355–356 Intermediate Italian Composition and Language (3 + 0) 3 credits each F – S
Prerequisite: Ital. 103-104. Gottardi.

381(G)–382(G) Italian Literature of the Eighteenth and Nineteenth Centuries (2 + 0) 2 credits each F – S
Reading of important works of prose and poetry of the period, with a study of literary movements. Prerequisite: Ital. 103-104. Gottardi.

495–496 Independent Study 2 credits each F – S
Open to qualified students specializing in Italian with the permission of the Chairman of the Department. At least one conference per week with the instructor concerned.

591 Thesis 1 to 6 credits F, S

Journalism (Jour.)

101–102 **Interpreting the Day's News** (3 + 0) 3 credits each F – S

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 Jour. 101 or Jour. 102.

221–222 **News Gathering and Writing** (2 + 4) 3 credits each F – S

What makes news, how news is obtained, and how news is written are studed and the principles applied in reporting news for the *U of N Sagebrush*. Discussions and laboratory. Prerequisite: Sophomore standing. Janulis.

231–232, 361–362, 491–492 **Advanced Interpretation of the Day's News** (1 + 0 or 1) 1 or 2 credits each F – S

Study and interpretation, on an advanced level, of the news of the day. Both for students intending to practice journalism and for those who wish to continue their study of the news as part of a liberal education. Prerequisite: Jour. 101-102. Higginbotham and Janulis.

253 **The Evolution of a Newspaper as a Social Institution** (3 + 0) 3 credits F

The development of the newspaper in America, from colonial times to the present, especially in relation to political, economic, and social movements. The men and the newspapers that created the traditions of modern journalism. Open to juniors and seniors in any college. Higginbotham.

272 **The Law of the Press** (2 + 0) 2 credits S

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: Jour. 221-222. Higginbotham.

301 **Public Relations Techniques** (2 + 0) 2 credits F, S

The tools of public relations, with stress on the journalistic media, and methods of using them successfully. Open to all juniors and seniors. (Offered in alternate years.)

320 **Publicity Methods** (2 + 0) 2 credits F, S

A course for officers and publicity chairmen, present and prospective, of civic, social, religious, professional, recreational, and fraternal organizations in the handling of news of their groups for newspapers and radio stations. Offered in cooperation with Reno and Sparks newspapers. Open to juniors and seniors in any college. Not acceptable toward the requirements for the field of concentration in journalism or the Course in Journalism. (Offered in alternate years.) Higginbotham.

321 **Magazine Reading** (3 + 0) 3 credits F, S

A course designed to introduce students to the reading, enjoyment, and understanding, both in college and after graduation, of various types of primarily journalistic magazines. Open to juniors and seniors in any college. (Offered in alternate years.) Higginbotham.

351–352 **News Editing** (1 + 2 or 4) 2 or 3 credits each F – S

Copy reading, rewriting, headline writing, news evaluation, the mechanics of publishing and make-up, and similar duties of the newspaper copy editor. Prerequisite: Jour. 221-222. Janulis.

354(G) Advanced Reporting (3 + 0) 3 credits F

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: Jour. 221-222. All students concentrating on preparation for editorial work will be expected to elect this course as part of the requirements. (Offered in alternate years.) Higginbotham.

356 The Principles of Advertising (2 + 0) 2 credits F

A survey of the elements which go into successful advertisements, including basic principles, types, planning, media, copy, production, and social responsibilty. Open to juniors and seniors in all colleges. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. Janulis.

357 Advertisement Copy Writing (2 + 0) 2 credits S

Application of the principles of advertising in the writing of copy for newspapers, magazines, and radio stations. Prerequisite: Jour. 356 and upperclass standing. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. Janulis.

365(G)–366(G) Community Newspaper Management (2 + 0) 2 credits each F – S

Principles of journalism peculiar to the country weekly and small city daily, especially in Nevada. Editorial, circulation, and advertising management. Prerequisite: Jour. 221-222. All students concentrating on preparation for community newspaper work will be expected to elect this course as part of the requirements. (Offered in alternate years.) Janulis.

367(G) Editorial Writing 2 or 3 credits F

Study of the interpretation of contemporary events through the newspaper and magazine editorial, coupled with extensive practice in writing. Prerequisite: Jour. 221-222 or upperclass standing. (Offered in alternate years.) Higginbotham.

368(G) The Special Feature Article (2 + 0) 2 credits F, S

Study, writing, and marketing of the special feature article for magazines and newspapers. Prerequisite: Jour. 221-222 or upperclass standing. (Offered in alternate years.) Janulis.

370 Agricultural Journalism (2 + 0 or 1) 2 or 3 credits S

The writing of news stories and feature articles on agriculture and home economics subjects for newspapers and magazines. Open only to upperclass students in the Max C. Fleischmann College of Agriculture. Not acceptable toward the requirements of the Course in Journalism or the field of concentration in journalism. (Offered in alternate years.) Janulis.

373 Typography and Layout (1 + 2) 2 credits F, S

Study and practice of the use of type, illustrations, color, and similar typographic elements in the display of news, advertisements, and other printed journalistic material. The mechanics of publishing. Prerequisite: Jour. 221-222 or 356 and 357. (Offered in alternate years.)

374 Newspaper Advertising (2 + 0) 2 credits F, S

The production and handling of advertising for weekly and daily newspapers from idea to printed page. Emphasis on practices of Nevada newspapers. Prerequisite: Jour. 356. Open to juniors and seniors in any college. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. (Offered in alternate years.)

375 **Pictorial Journalism** (1 + 2½) 2 credits F, S
Study of the principles of reporting news through photography and the application of them in practice work for various publications. Discussion and laboratory. Prerequisite: Jour. 221-222. (Offered in alternate years.) Higginbotham.

379(G) **Journalism and Society** 2 or 3 credits S
Sociological aspects of journalism, including public opinion, newspaper leadership and responsibility, ethics, censorship, propaganda, the world's press, and other contemporary problems. Prerequisite: Jour. 221-222 or upperclass standing. Higginbotham.

386 **Journalism on the Air** (2 + 0 or 1) 2 or 3 credits F, S
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: Jour. 221-222. (Offered in alternate years.) Janulis.

387(G) **Journalism in the High School** (2 + 0) 2 credits F
An introduction to the teaching of journalism in high school and to the supervision of high school newspapers, magazines, and year books. Offered especially for students preparing to teach English in Nevada high schools. Not acceptable for the field of concentration in journalism or the Course in Journalism. (Offered in alternate years.) Janulis.

393(G)–394(G), 395(G)–396(G) **Independent Study** 1 credit each F – S
Aspects of journalism not covered by other courses. Open only to juniors and seniors in journalism who have attained an average grade of B in all their work. Higginbotham.

481–482 **Journalism Internship** (1 + 3 or 5 or 7) 1 or 2 or 3 credits each F – S
Reporting and copy reading as members of the staffs of the *Nevada State Journal*, the *Reno Evening Gazette*, the United Press Association, the Associated Press, the *Sparks Tribune*, the *Nevada State News*, and the *Carson City Nevada Appeal;* advertising work with the Thomas C. Wilson Advertising Agency, or the Reno newspapers; news or advertising work with Radio Station KOH, Radio Station KWRN, or Television Station KZTV; or publicity work with the Reno Press Service. Prerequisite: Open only to seniors in the Course of Journalism and senior students in journalism. Students will be assigned to internships in fields for which their courses in journalism have prepared them. (Cannot be taken for graduate credit.) Higginbotham and cooperators in journalism.

Latin (Lat.)

101–102 **Beginning Latin** (5 + 0) 5 credits each F – S
Essentials of Latin grammar. Translation of easy prose. Word study and composition. Dandini.

103 **Cicero** (3 + 0) 3 credits F
Orations. Study of Roman law and government. Prerequisite: Lat. 102 or two years of high school Latin. Dandini.

104 **Vergil** (3 + 0) 3 credits S
First six books of the *Æneid*. Study of classic myths. Prerequisite: Lat. 103 or three years of high school Latin. Dandini.

331–332 **Greek and Latin Literature in Translation** (3 + 0) 3 credits each F – S
Study of classical literature in translation, considering the contribution of Greek and Latin literature and culture to modern literature. Dandini.

Library Science (Lib.Sci.)

335 Use of the Library (2 + 0) 2 credits F, S

Classification and arrangement of books in the University Library; general principles of cataloguing and filing; major reference works in all fields of knowledge; simple forms of bibliography making; intelligent use of the library. Prerequisite: Sophomore standing. Hill.

Mathematics (Math.)

PLACEMENT EXAMINATION. During the orientation period preceding each fall registration a mathematics placement examination is given. All entering freshmen in the College of Engineering or in the Mackay School of Mines must take this examination. Other students who wish to evaluate their backgrounds in high school algebra may arrange to take the examination.

A Refresher Algebra (4 + 0) 0 credit F

A thorough review of algebra for students who fail to pass the placement examination. This course may be used to remove entrance deficiencies, but cannot be used to fulfill the credit requirements for graduation in any of the colleges. No credit, but counts as part of the student's regular load.

101 Intermediate Algebra (2 + 0) 2 credits F, S, Su

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.

102 Plane Trigonometry (2 + 0) 2 credits F, S

A study of the trigonometric functions, identities, and the solution of triangles. Prerequisite: Plane geometry and Math. 101 or 1½ units of high school algebra.

105 Arithmetic (2 + 0) 2 credits F, S, Su

Principles and applications of arithmetic. Primarily for students preparing to teach. Open to students in those curricula which require it and to others with the consent of the department.

110 College Algebra (3 + 0) 3 credits F, S

Progressions, binomial theorem, logarithms, inequalities, systems of linear and quadratic equations, determinants, elementary theory of equations, permutations and combinations. Prerequisite: Math. 101 or 1½ units of high school algebra.

140 Analytical Geometry (3 + 0) 3 credits S

An analytical treatment of the properties of the straight line, circle, parabola, ellipse, and hyperbola. Polar coordinates, the transformation of coordinates, and the general second-degree equation in two variables are studied. Prerequisite: Math. 102 and 110 or equivalent. With the permission of the instructor, Math. 110 and 140 may be taken concurrently.

151 Elementary Mathematical Analysis (5 + 0) 5 credits F, S

A unified treatment of the elements of college algebra, trigonometry, and analytic geometry, with special emphasis upon the applications. Math. 151 and 152 are required of all students who are candidates for an engineering degree and are recommended for all others who intend to specialize in applied mathematics or who desire mathematical preparation for scientific

work. Students who fail to pass the placement examination (see above) must complete Math. A before registering in Math. 151.

152 **Elementary Mathematical Analysis** (5 + 0) 5 credits S, Su
A continuation of Math. 151. Prerequisite: Math. 151.

210 **Mathematics of Finance** (3 + 0) 3 credits F
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: Math. 101 or 1½ units of high school algebra.

220 **Mathematical Statistics** (3 + 0) 3 credits S
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: Math. 110 or equivalent or Math. 210 and the instructor's permission. Sligo.

231–232 **Differential and Integral Calculus** (3 + 0) 3 credits each F – S
The elements of the calculus with applications. Designed for students in the College of Arts and Science. Prerequisite: Math. 110, 102, 140, or Math. 151-152.

251 **Engineering Calculus** (4 + 0) 4 credits F, Su
A unified course in differential and integral calculus with special emphasis upon applications. Required of all engineering students. Prerequisite: Math. 151-152 or equivalent. Beesley.

252 **Engineering Calculus** (4 + 0) 4 credits S, Su
A continuation of Math. 251. Required of all students in the College of Engineering. Prerequisite: Math. 251. Beesley.

254 **Engineering Calculus** (2 + 0) 2 credits S
A continuation of Math. 251. Required of all engineering students in the Mackay School of Mines. Those who plan to take mathematics courses beyond Math. 342 should substitute Math. 252 for Math. 254. Prerequisite: Math. 251.

305(G) **Fundamental Concepts in Mathematics** (2 + 0) 2 credits Su
Consideration of basic mathematical concepts; designed for teachers of high school mathematics. Demers.

325 **Intermediate Calculus** (2 + 0) 2 credits F
Infinite series, solid analytic geometry, partial differentiation, and other topics necessary to complete the student's preparation for Math. 425 and other advanced courses. Prerequisite: Math. 232.

341 **Analytic Mechanics for Engineers** (3 + 0) 3 credits F
Work in the resolution of forces, moments of inertia, laws of motion, friction, dynamics of machinery, work and energy, and impulse. Special emphasis is given to practical problems. Prerequisite: Math. 252 or 254; Phys. 203. Harris.

342 **Analytic Mechanics for Engineers** (2 + 0) 2 credits S
A continuation of Math. 341. Prerequisite: Math. 341. Harris.

351(G) **Differential Equations** (2 + 0) 2 credits F
A study of techniques for the solution of ordinary differential equations with emphasis on geometrical and physical applications. Prerequisite: Math. 232, 252, or 254. Demers.

352(G) Differential Equations (2 + 0) 2 credits S
A more detailed study of the theory of differential equations, including theorems on the existence of solutions of such equations, and the applications of the theory to topics in mathematics and physics. Prerequisite: Math. 351. This requirement may be waived by the instructor. Offered when requested by a sufficient number of students.

371(G) Introduction to Modern Algebra (3 + 0) 3 credits F
Elementary theory of numbers, including primes and congruences, groups, integral domains, fields, polynomials and their roots. Introduction to postulational methods, linear algebra, including vector spaces, linear transformations and matrices. Prerequisite: Math. 110 or equivalent. (Offered in alternate years beginning in 1955-1956.)

372(G) Introduction to Modern Algebra (3 + 0) 3 credits S
A continuation of Math. 371. Prerequisite: Math. 371. This requirement may be waived by the instructor. (Offered in alternate years beginning in 1955-1956.) Demers.

381(G) College Geometry (3 + 0) 3 credits F
A study of advanced geometrical topics such as the Nine Point Circle, Ceva's Theorem, etc., using the methods of proof of elementary geometry. Recommended for students preparing to teach mathematics in high school. (Offered in alternate years beginning in 1956-1957.) Beesley.

425 Advanced Calculus (3 + 0) 3 credits S
A more thorough study of the differential and integral calculus, with extensive applications to geometrical and physical problems. Prerequisite: Math. 325 or 252.

451 Advanced Mathematics for Engineers (3 + 0) 3 credits F, S
Vector analysis, partial differential equations, Fourier series, and other topics of importance in applied mathematics. Prerequisite: Math. 425. Offered when requested by a sufficient number of students. Demers.

501 Theory of Functions of a Complex Variable (3 + 0) 3 credits F
Complex numbers, analytic functions, integrations, infinite series, entire functions. Prerequisite: Math. 425. Offered when requested by a sufficient number of students. Beesley.

502 Theory of Functions of a Real Variable (3 + 0) 3 credits S
The real number system. Elementary set theory, continuity, differentiability, integration, and related topics. Prerequisite: Math. 425. Offered when requested by a sufficient number of students. Beesley.

550 Seminar 1 to 3 credits F, S
Library work and reports on topics of mathematical interest. May be repeated for credit as Math. 550a, b, and c. Except under special circumstances, total credits will be limited to 4.

591 Thesis 1 to 6 credits F, S

Mechanical Engineering (M.E.)

(Also see Mechanic Arts)

105 Engineering Drawing (0 + 6) 2 credits F
Mechanical drawing, freehand lettering, orthographic projection, pictorial methods, and working drawings. Prerequisite: Plane geometry (solid geometry very desirable). Math. 151 to be taken concurrently with M.E. 105.

106 **Descriptive Geometry** (0 + 6) 2 credits S

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 M.E. 105 and Math. 152 to be taken concurrently.

351 **Kinematics of Machinery** (2 + 3) 3 credits F

A study of the laws of motion of machinery preliminary to machine design. Includes analytical and graphical analysis of the motion of linkages, cams, gears, rolling bodies, trains of mechanisms, etc., and the forms of gear teeth and cams. Prerequisite: Math. 341 (completed or concurrently taken); Phys. 203-204.

353 **Fundamentals of Thermodynamics** (3 + 0) 3 credits F, S

Similar to M.E. 355 and 356, but abbreviated so that it can be covered in one semester. Prerequisite: Math. 251-252; Phys. 203-204.

355 **Thermodynamics** (3 + 0) 3 credits F

Principles of engineering thermodynamics; properties of gases; thermodynamic processes of gases; gas cycles; internal combustion engines; air compressors and elements of different types of power plants. Prerequisite: Math. 251-252; Phys. 203-204.

356 **Applied Thermodynamics** (3 + 0) 3 credits S

Additional work in thermodynamics; properties of vapors; thermodynamic processes of vapors; vapor cycles; steam engines; steam turbines. Prerequisite: M.E. 355.

457 **Machine Design** (2 + 3) 3 credits F

The application of the laws of kinematics, mechanics, and strength of materials to the design of various machine elements as bolts, belts, gears, flywheels, bearings, structural machine members, clutches, brakes, shafts, cylinders, cams, keys, couplings, etc. Prerequisite: Math. 341-342; C.E. 376; M.E. 351.

458 **Machine Design** (1 + 6) 3 credits S

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: M.E. 457.

461 **Heat Transfer** (3 + 0) 3 credits F

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: M.E. 356.

462 **Mechanical Engineering Laboratory** (0 + 6) 2 credits S

An abbreviation of M.E. 464 and 465 for students who have taken M.E. 353. Prerequisite: M.E. 353.

464 **Mechanical Engineering Laboratory** (0 + 6) 2 credits F

Use and calibration of instruments; study of oils; calorimetry; presentation of data and the writing of reports. Prerequisite: M.E. 355 and 356.

465 **Mechanical Engineering Laboratory** (0 + 6) 2 credits S

The study of experimental thermodynamics involving internal combustion engines, steam prime movers, refrigeration, and air compression; principles of heat transfer and air conditioning. Prerequisite: M.E. 464.

471 **Heat-Power Engineering** (2 + 0) 2 credits F

Power plants, fuels, combustion, steam generators, turbines, and steam generator accessories. Prerequisite: M.E. 356.

472 Air Conditioning and Refrigeration (3 + 0) 3 credits S
Air conditioning for human comfort and industrial purposes, including heating and refrigeration. Prerequisite: M.E. 356.

476 Mechanical Vibrations (2 + 3) 3 credits S
Theory of mechanical vibrations and practical engineering applications to problems involving critical speeds and torsional vibrations of rotating machinery; vibrations of beams and plates; vibration isolation and damping, vibration absorbers, dynamic balancing of machines, etc. Lectures, laboratory demonstrations, experiments and problems. Prerequisite: Math. 341-342, 351; Phys. 203-204; C.E. 376.

477 Internal Combustion Engines (3 + 0) 3 credits S
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: M.E. 356.

Mechanic Arts (Mech.A.)

203 Machine Shop (0 + 3 or 6) 1 or 2 credits F, S
A basic course in machine work following a definite plan throughout the semester, includes instruction in bench work, lathe, shaper, drill and milling machine.

205 Machine Shop (0 + 3 or 6) 1 or 2 credits F, S
An advanced course in gear cutting, face plate work, elementary die making and construction and use of special tools, jigs, and fixtures. Prerequisite: Mech.A. 203, or equivalent.

207 Machine Shop (0 + 3 or 6) 1 or 2 credits F, S
An advanced course in general machine work for students wishing to develop projects in connection with thesis or special problems. Prerequisite: Mech.A. 203.

220 Welding and Heat Treating (0 + 3) 1 credit F
Shop practice in oxyacetylene and electric arc welding, stress relieving, annealing, and heat treating.

226 Manufacturing Processes (0 + 3) 1 credit S
A study of processes, machines, and tools used in manufacturing. Demonstrations and visual aids are used.

Metallurgy (Met.)

204 Introduction to Metallurgy (3 + 0) 3 credits S
Fundamental principles relating to the properties, uses, and production of metals and alloys. Prerequisite: Chem. 124 and Phys. 151 or 203. Smyth.

206 Engineering Materials and Processes (2 + 0) 2 credits S
A general course stressing properties of metals, theory and use of alloys, heat treatment, corrosion, pyrometry, production of ferrous metals, and shaping metals. Prerequisite: Chem. 101, Phys. 203. Winston.

311(G) Fire Assaying (0 + 6) 2 credits F
Theory and practice of fire assaying, fuels, combustion, roasting, and smelting. Prerequisite: Geol. 212, Chem. 232. Smyth.

322(G) Mineral Dressing (2 + 6) 4 credits S
Principles and practices of mineral preparation and concentration. Prerequisite: Chem. 232, Geol. 212, and Met. 311. Hammond.

344(G) Ferrous Metallurgy (2 + 0) 2 credits S
Principles and practices of producing and shaping iron and steel products. Prerequisite: Met. 204. Winston.

431 Pyrometallurgy (3 + 0) 3 credits F
Theory and practice of extracting and refining the common nonferrous metals by fire methods. Prerequisite: Two years of college chemistry. Winston.

433 Hydrometallurgy (2 + 3) 3 credits F
Theory and practice of recovering metals by hydrometallurgical procedures. Prerequisite: Chem. 232 and Met. 311 and 322. Hammond.

436 Electrometallurgy (2 + 0) 2 credits S
Principles and practices of electrolytic recovery processes and the construction and uses of electric furnaces. Prerequisite: Met. 311. Winston.

450 Principles of Physical Metallurgy (2 + 3) 3 credits S
A study of the fundamental principles concerning structure and properties of metals and alloys, and practice in metallographic techniques. Prerequisite: Met. 204. Winston.

451 Physical Metallurgy (2 + 3) 3 credits F
Continuation of Met. 450 with special emphasis on transformations in the solid state. Prerequisite: Met. 450. Winston.

476 Metallurgical Problems (2 + 0) 2 credits S
Mathematical and economic study of metallurgical processes and plants. Prerequisite: Senior standing in metallurgy, mining, or chemistry. Smyth.

496 Metallurgy Project (0 + 6) 2 credits S
Individual research problems in extractive or physical metallurgy. Prerequisite: Metallurgy courses to the senior year.

501–502 Advanced Metallurgy 1 to 5 credits each F – S
(a) General metallurgy, (b) metallurgical analysis, (c) mineral dressing, (d) pyrometallurgy, (e) hydrometallurgy, (f) electrometallurgy, (g) nonferrous metallurgy, (h) ferrous metallurgy, (j) physical metallurgy, (k) metallography, (m) heat treatment, (n) mechanical metallurgy, (p) history of metallurgy. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

516 X-Ray Diffraction (1 + 6) 3 credits F, S
Theory of X-ray diffraction and methods used in obtaining and interpreting X-ray diffraction diagrams. Prerequisite: One year of college physics. Winston.

522 Advanced Mineral Dressing (1 + 6) 3 credits S
Continuation of Met. 322 with emphasis on the concentration and flotation of nonmetallic minerals and metallic oxides. Prerequisite: Met. 322. Hammond.

538 Rare and Minor Metals (2 + 0) 2 credits S
Production and uses of rare and minor metals. Prerequisite: Met. 432 and 433. Hammond.

591–592 Mineral Industry Seminar credit to be arranged F – S
(For description, see Mining 591-592.)

597 Thesis 1 to 6 credits F, S

Military (Mil.)

101–102 First Year Basic Branch General (2 + 1) 1 credit each F – S
Drill and conference. Required of all first-year men not specifically exempted. Mil. 101 is not a prerequisite for Mil. 102.

201–202 Second Year Basic Branch General (2 + 1) 1 credit each F – S
Drill and conference. Mil. 201 is not a prerequisite for Mil. 202.

301–302 First Year Advanced Branch General (4 + 1) 3 credits each F–S
Drill and conference. These are the first two numbers of an elective group consisting of Mil. 301, 302, 303, 401, and 402. Each application for enrollment in this group must be approved by the PMS&T, subject to the limitation of annual quotas fixed by the Department of the Army. Prerequisite: Mil. 101, 102, 201, and 202, or their equivalent.

303 Summer Camp 2 credits Su
All who take advanced training are required to attend a six-week summer camp immediately following Mil. 302. The place and date of attendance will be announced at a later date. Prerequisite: Mil. 301, 302.

401–402 Second Year Advanced Branch General (4 + 1) 3 credits each F – S
Drill and conference. Prerequisite: Mil. 301, 302, 303. (Cannot be taken for graduate credit.)

Mining (Min.)

A Practical Mining 0 credit Su
Practical work in mining, metallurgy, or geology during the freshman, sophomore, or junior summer vacation. Such work must extend over a period of at least two months, and a satisfactory report must be prepared upon it. Required for graduation.

101 Mineral Industry Lectures (1 + 0) 1 credit F
A brief survey and orientation course designed to introduce the student to the mineral industry.

312(G) Rock Breaking and Excavation (2 + 3) 3 credits F
The science of rock breaking; including drills, explosives, benching, tunneling, shaft sinking, and boring. Prerequisite: Phys. 203. Nelson.

426 Mine Plant and Design (2 + 6) 4 credits S
The theory of underground haulage, hoisting, air compression and pumping; and design of mine structures and equipment. Prerequisite: C.E. 372. Nelson.

432 Mining Methods (2 + 3) 3 credits S
The prospecting, development, and exploitation of mineral deposits with stress on underground metal mining methods. Prerequisite: Min. 312, or permission of instructor. Nelson.

435 **Placer Mining** (2 + 0) 2 credits F
Lectures on occurrence, sampling and exploitation of placer deposits; including dry, hydraulic, and dredging methods. Prerequisite: Min. 312, or permission of instructor. Smyth.

442 **Mine Surveying** 2 credits Su
A study of surveying and mapping methods for underground and surface mines. Two weeks during summer vacation. Prerequisite: C.E. 242. Fee $15. Nelson.

451 **Mine Safety and Ventilation** (2 + 3) 3 credits F
Accident prevention, insurance and compensation; the theory and practice of mine ventilation and atmospheric and dust control. Nelson.

462 **Mineral Industry Economics** (3 + 0) 3 credits S
Administrative and economic problems of mining companies; including organization, industrial and labor relations, and mining law. Prerequisite: Min. 312, or permission of instructor.

465 **Mine Sampling and Valuation** (2 + 0) 2 credits F
A study of the factors involved in sampling ore bodies, estimation of ore reserves, and valuation of mining properties. Smyth.

501–502 **Advanced Mining** 1 to 5 credits each F – S
(a) General mining, (b) excavation, (c) drilling, (d) blasting, (e) equipment, (f) transportation, (g) design, (h) surface mining, (j) underground mining, (k) safety, (m) ventilation, (n) mining economics, (p) mine administration, (r) mining law, (s) mineral economics, (t) history of mining. These courses consist of either lectures, periodic conferences, supervised reading, laboratory, or field work. May be elected more than once to pursue different studies.

570 **Nonmetallics** (3 + 0) 3 credits S
Mining, preparation, and sale of nonmetallic minerals; stressing those of importance in Nevada and the Pacific Coast states. Prerequisite: Geol. 212.

591–592 **Mineral Industry Seminar** credit to be arranged F – S
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.

597 **Thesis** 1 to 6 credits F, S

Music (Mus.)

101–102 **Music Fundamentals and Ear Training** (1 + 1) 1 credit each F – S
Notation, terminology, intervals, major and minor scales. Learning to read in unison and in four-part arrangements. Designed to furnish a foundation for musicianship and is recommended for all music students and teachers in the public schools. Hickman.

103 **Class Brass Instruction** (1 + 0) 1 credit F
Fundamental instruction in each of the brass instruments and in class teaching procedures. Simple selections, reading in principal keys. Hickman.

104 Class Woodwind Instruction (1 + 0) 1 credit S
Problems of organizing and teaching woodwind instruments, fundamental instruction, and discussion of teaching problems. Scales, systems of fingering. Hickman.

105–106 University Chamber Music Ensemble (1 + 0) 1 credit each[1] F–S
Performance and study of chamber music literature, selected according to the needs of the group. Students will appear in concert, and may participate in the performance of oratorio and orchestral works. Hickman.

107–108 Class Piano Instruction (1 + 0) 1 credit each F – S
Fundamentals of keyboard technique, improvisation of simple accompaniments, and playing of smaller pieces. Freeburne.

111–112 University Singers (0 + 3) 1 credit each[1] F – S
Study and performance of representative choral music of all periods. This group will assist in the annual presentation of Handel's "Messiah," and will appear in concerts locally and on tour. Macy.

113 Class Vocal Instruction (1 + 0) 1 credit F, S
Fundamentals of tone production, breath control, and practical technique in reading and interpretation. Macy.

114 Class Vocal Instruction (1 + 0) 1 credit S
A continuation of Mus. 113. Prerequisite: Mus. 113. Macy.

117–118 University Band (0 + 3) 1 credit each[1] F – S
A select group of instrumentalists with previous high school or college band experience. Concerts are given in Reno and other cities, and appearances are made at athletic events, rallies, and civic and University parades. Hickman.

119–120 Oratorio Chorus (0 + 1) ½ credit each[1] F – S
This group specializes in the study and presentation of large-scale choral works, and participates in the annual presentation of Handel's "Messiah." Macy.

121 Introduction to Music (2 + 0) 2 credits F, S
Historical and cultural background of music. A general course in music appreciation open to all students. Recordings of representative works will be heard and analyzed. Macy.

123 Class String Instruction (1 + 0) 1 credit F
Organization and teaching of string classes, elementary instruction in each of the stringed instruments.

124 Class Percussion Instruction (1 + 0) 1 credit S
Problems of teaching percussion instruments, fundamental instruction. Hickman.

125–126 Orchestra (0 + 2) 1 credit each[1] F – S
One or more concerts are given by the orchestra during the year, in addition to concerts featuring the orchestra and choral groups. Opportunity is also provided for students to present concertos. Macy.

151–152 Piano (½ or 1 + 0)[2] 1 or 2 credits each F – S
Bach, 2 and 3-part Inventions; compositions of the difficulty of easier Haydn Sonatas; Mendelssohn Songs Without Words; Chopin Preludes; Schumann

[1] A maximum total of 12 credits shall be allowed any student toward graduation requirements for participation in the three types of musical organizations (band, chorus, and orchestra), to be distributed as the student prefers, with not more than 8 credits in any one organization.

Op. 15. Major and minor scales, both parallel and contrary motion, triads, broken chord exercises, standard technical studies such as Czerny Op. 299. Freeburne.

153–154 **Voice** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

The student must display satisfactory growth in the production of tone that is flexible with respect to pitch range, dynamics, and rhythmic movement. Technical exercises and diverse songs are employed to guide the student in the solution of his unique problems and in the development of his vocal potential. Macy.

155–156 **Brass Instruments** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Fundamentals of good tone production, breath control, elementary knowledge of major and minor scales and arpeggi, and study of solo pieces of good musical quality. Hickman.

157–158 **Woodwind Instruments** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Major and minor scales and arpeggi, development of tone and breath control, easier pieces from the standard repertoire for the instrument. Hickman.

201–202 **Harmony** (3 + 0) 3 credits each F – S

Fundamental triads, dominant seventh chords, and inversions in both major and minor modes. Ear training, keyboard drill, analysis, harmonization of melodies, and modulation. Prerequisite: Mus. 101-102. Freeburne.

203 **Music to 1750** (2 + 1) 2 credits F

History and literature of music from primitive times through the Gothic, Renaissance, and Baroque periods. Analysis, illustration, and discussion of the forms of musical composition by recordings and performance. Prerequisite: Mus. 121. Macy.

204 **Music of the Classical Period** (2 + 1) 2 credits S

Music history and literature of the period 1750-1820. The Mannheim School, music of Mozart, Haydn, and Beethoven. Prerequisite: Mus. 121. Hickman.

251–252 **Piano** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Compositions equivalent in difficulty to Beethoven Op. 14 No. 1; Chopin Polonaise in C-sharp minor, Waltzes; modern works by Debussy, Shostakovitch, Milhaud. Freeburne.

253–254 **Voice** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

More advanced vocal techniques as required for the interpretation of representative musical compositions. Macy.

255–256 **Brass Instruments** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Further study of repertoire, acquisition of a thorough knowledge of all the major and minor scales and arpeggi. The student should demonstrate sufficient sight-reading ability to read pieces of moderate difficulty, and be able to hold second chair in the performance of works for orchestra and band. Hickman.

257–258 **Woodwind Instruments** ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits F – S

Increased repertoire of solo pieces, etudes, studies taken from orchestral literature, development of sight-reading ability, further work on scales and arpeggi. The student should be able to hold second chair in orchestra or band. Hickman.

301(G)–302(G) **Advanced Harmony** (3 + 0) 3 credits each F – S

A continuation of the method used in first-year harmony, with study

[2]Individual instruction.

of secondary sevenths, irregular resolutions, chromatic devices employed by nineteenth-century composers. Further ear training and original work. Prerequisite: Mus. 201-202. Freeburne.

303(G) Music of the Romantic Period (2 + 1) 2 credits F
A study of the cultural and historical background of the period 1820-1900, and of the music of Schubert, Weber, Schumann, Mendelssohn, Berlioz, Liszt, Chopin, and other important composers of the period. Prerequisite: Mus. 121. Freeburne.

304(G) Music of Today (2 + 1) 2 credits S
Recent tendencies in music and their relationship with the past. Analysis of special harmonic, melodic, and structural features of twentieth century music. Prerequisite: Mus. 121. Freeburne.

305–306 University Chamber Music Ensemble (1 + 0) 1 credit each[1] F–S
(For description, see Music 105-106.) Hickman.

310(G) Instrumentation (3 + 0) 3 credits S
Arranging for full band and orchestra, as well as for smaller ensembles. Transposition, voicing, transcriptions from piano score. Prerequisite: Mus. 301-302. Hickman.

311–312 University Singers (0 + 3) 1 credit each[1] F – S
(For description, see Music 111-112.) Macy.

317–318 University Band (0 + 3) 1 credit each[1] F – S
(For description, see Music 117-118.) Hickman.

319–320 Oratorio Chorus (0 + 1) ½ credit each[1] F – S
(For description, see Music 119-120.) Macy.

321 Choral Conducting (2 + 0) 2 credits F
Technique of the baton, practical work in score reading and rehearsal methods. Basic problems of organization of school and community choirs. Students will conduct rehearsals of the University Singers. Prerequisite: Mus. 101-102, 107, 113. Macy.

322 Instrumental Conducting (2 + 0) 2 credits S
Band and orchestral conducting, program and rehearsal planning, interpretation, problems of organization and training of the school orchestra and band, reading of open score. Each student will obtain practical experience in conducting during rehearsals of the band, orchestra, or ensembles. Prerequisite: Mus. 321. Hickman.

324 Teaching of Elementary Music (3 + 0) 3 credits F, S, Su
(Same as El.Ed. 324.) For the elementary teachers who teach their own music. Methods of presenting *rote* songs to primary grades and *note reading* to the intermediate grades will be practiced. A varied repertoire of songs and singing games, listening to music for rhythmic expression or creative effort, the use of rhythm instruments, some practice in the rudiments of conducting and sight-singing. Prerequisite: Mus. 101, 107, and 113, or equivalent. Open to juniors and seniors, and to sophomores with consent of the instructor and Dean of Education. Hickman.

325–326 Orchestra (0 + 2) 1 credit each[1] F – S
(For description, see Music 125-126.) Macy.

[1]See footnote 1, page 174. [2]Individual instruction.

349 Methods and Materials in Teaching Secondary Instrumental and Vocal Music (2 + 0) 2 credits S

(Same as Sec.Ed. 349.) Organization of public school bands and choruses, techniques and problems of teaching music in junior and senior high schools. Prerequisite: Mus. 101-102, 107, 113, active participation in University Band or University Singers, or permission of instructor. Hickman.

351–352 Piano ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Czerny Op. 740, Bach English Suites, Well-Tempered Clavier; Beethoven Sonatas of the difficulty of Op. 26; Brahms Rhapsodies; Schumann Fashingsschwank aus Wien; contemporary music. Freeburne.

353–354 Voice ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Enlargement of the vocal repertoire to include numerous art songs, oratorio and operatic arias, and modern songs. The student is sponsored in incidental solo appearances such as are required for participation in studio recitals and public programs. Macy.

355–356 Brass Instruments ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

Further development of technique and musicianship, study of sonatas for the particular instrument, broadening of the repertoire to include compositions of all periods. Hickman.

357–358 Woodwind Instruments ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits each F – S

More advanced etudes and orchestral studies, advanced repertoire of concert literature, appearance in recitals. Hickman.

403–404 Counterpoint (3 + 0) 3 credits each F – S

Two, three, and four part counterpoint in the five species, strict and free counterpoint, chorale elaboration, canon, and invention. Prerequisite: Mus. 301-302. Freeburne.

405 Symphonic Literature (2 + 1) 2 credits F

A detailed study and analysis of the development of the symphony from the Mannheim School to the present. Prerequisite: Mus. 121. Hickman.

406 Form and Analysis (3 + 0) 3 credits S

Analysis of song forms, variation, rondo, and sonata forms. Prerequisite: Mus. 301-302. Freeburne.

451–452 Piano ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits F – S

Bach, Partitas, transcriptions by Liszt and Busoni; Chopin Ballades, Scherzos, Etudes; Liszt Etudes; Brahms Sonatas; concerto study. Freeburne.

453–454 Voice ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits F – S

Advanced repertoire study in the field of the art song in German, Italian, French, and English. Further study and performance of operatic and oratorio selections. Presentation of senior recital. Macy.

455–456 Brass Instruments ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits F – S

The student should have two years each of band, orchestra, and ensemble experience. He should be competent to hold first chair position in orchestra or band, and be able to perform a recital on his instrument, or appear successfully as soloist in a concerto. Hickman.

457–458 Woodwind Instruments ($\frac{1}{2}$ or 1 + 0)[2] 1 or 2 credits F – S

Appearance in solo recital or concerto performance, ability to hold first chair in orchestra or band, two years of band, orchestra, and ensemble experience. Hickman.

[2]Individual instruction.

Philosophy (Phil.)

101 Introduction of Philosophy (3 + 0) 3 credits F, S

A brief study of the problems and methods of philosophy together with the solutions suggested by various philosophers. Designed both for the student who wishes a perspective for further work in philosophy and for the student who desires a general knowledge of the scope and methods of philosophy.

102 Social Ethics (2 + 0) 2 credits S

A critical examination of the standards of right and wrong to be found in religious, business, political, and social organizations in contemporary society. Designed for beginning students in philosophy. Monson.

107 Elementary Logic (3 + 0) 3 credits F

A study of the principles of correct reasoning; including such topics as formal and informal fallacies, the uses of language, and modern symbolic tools for clarifying thought. Emphasis is upon helping the student to analyze and evaluate arguments encountered in everyday life. Halberstadt.

200 Philosophical Classics (2 + 0) 2 credits S

A systematic consideration of ideas chosen from the writings of the great philosophers who have had a significant influence in the history of Western thought and culture. This course is designed to help the student think critically by analyzing selected philosophical works.

201 Philosophy of Democracy (3 + 0) 3 credits S

An analysis of the characteristics, values, and ideals of the democratic state, and a consideration of the historical development of those ideals. Special emphasis is placed upon the contemporary society and upon the achievements and problems of modern democratic government. Monson.

221 Ethical Theories (2 + 0) 2 credits S

A study of the most significant theories concerning standards of right and wrong. Among the theories discussed will be those of the hedonists, the naturalists, the Stoics, and the evolutionists. The topics to be discussed will include the meaning of goodness and obligation, and the application of ethics to contemporary economic, political, and social problems. Monson.

351(G) History of Ancient Philosophy (3 + 0) 3 credits F

A study of the principal philosophers of Greek and Roman civilizations including Socrates, Plato, Aristotle, and the early Christians. Prerequisite: Phil. 101 or consent of instructor. Monson.

352(G) History of Modern Philosophy (3 + 0) 3 credits S

A study of the development of philosophy since the Renaissance. Among the men to be considered are Hobbes, Descartes, Locke, Hume, and Kant. Prerequisite: Phil. 101 or consent of instructor. Halberstadt.

353(G) Nineteenth Century Philosophy (2 + 0) 2 credits F

A study of the philosophic ideas of the last century as found in the writings of such men as Nietzsche, Schopenhauer, J. S. Mill, Spencer, and Bradley. Prerequisite: Phil. 101 or consent of instructor. (Offered in alternate years.) Halberstadt.

354(G) Contemporary Philosophy (2 + 0) 2 credits F

A study of the vital issues of the 20th century philosophy as found in the writings of such men as Russell, Santayana, Bergson, and Dewey. Prerequisite: Phil. 101 or consent of instructor. (Offered in alternate years.) Halberstadt.

370(G) Philosophy of Science (3 + 0) 3 credits S

An analysis of the characteristics and assumptions of the scientific method. Attention will be given to the application of this analysis to the various sciences. (Offered in alternate years.) Halberstadt.

455 Aesthetics (2 + 0) 2 credits F

A critical examination of theories dealing with the nature of beauty. Special attention is given to the application of these theories to literature, music, painting, and other arts. (Offered in alternate years.) Halberstadt.

461 World Religions (3 + 0) 3 credits F

A study of the chief characteristics of primitive and civilized religions with special consideration of the main moral and religious doctrines of Taoism, Confucianism, Buddhism, Judaism, Christianity, and Islam. Monson.

462 Philosophy of Religion (3 + 0) 3 credits S

The meaning and validity of religious experience as exemplified in the writings of various philosophers in the Judaeo-Christian tradition. Among the topics discussed will be the conception of God, the purpose of life, the nature of evil, and the function of prayer. Monson.

481 Contemporary Ethical Theories (2 + 0) 2 credits S

A discussion of the most influential ethical theories of the 20th century. Special attention will be given to the effect of applying scientific methodology to value theory. Alternative solutions to the resultant controversies will be considered. Prerequisite: Phil. 102 or 221 or consent of instructor. (Offered in alternate years.) Monson.

482 Problems in Political Philosophy (2 + 0) 2 credits S

A critical study of various theories concerning the nature of the state and its functions. Special attention will be given to the similarities and differences in the philosophical principles recognized by contemporary governments. (Offered in alternate years.) Monson.

484 Metaphysics (2 + 0) 2 credits S

A study of the nature of reality as presented in such theories as naturalism, idealism, pragmatism, and relational philosophy. Among the concepts to be discussed are substance, time, process, existence, and determinism. The significance of metaphysics in contemporary culture is stressed. Prerequisite: Two courses in philosophy. (Offered in alternate years.) Halberstadt.

499 Special Problems in Philosophy 2 credits F, S

A course designed to give advanced students an opportunity for intensive study or research in particular areas of philosophy. Prerequisite: 15 credits in philosophy. May be repeated as Phil. 499a. Monson.

Physical Education (P.E.)

101–102 Freshman Activities (required) (0 + 2) 1 credit each F – S

Medical and physical examinations are required at the beginning of the semester. Adapted work will be arranged for those unable to take other classes. During the two years of prescribed physical education, each woman is required to select three different activities, at least one of which is a team sport and one a rhythmic activity. Men may select any of the following activities:

Team sports—basketball, football, hockey, soccer, softball, and volleyball.

Individual or dual activities—apparatus, archery, badminton, bowling, boxing, conditioning, golf, lifesaving, recreational games, swimming, trampoline, tennis, track and field, tumbling, and wrestling.

Rhythmic activities—rhythmic conditioning, synchronized swimming, skating, and folk, modern, social, square or tap dancing.

201–202 Sophomore Activities (required) (0 + 2) 1 credit each F – S

A choice of team, individual, dual, or rhythmic activities from those listed under P.E. 101-102.

NOTE—By consent of the department chairman, a student may elect any of the following sports as a substitute for the practical work in P.E. 101, 102, 201, or 202: Baseball, basketball, boxing, football, golf, gymnastics, skiing, tennis, track, or tumbling.

112 Principles of Healthful Living (2 + 0) 2 credits S

A study of health problems as they relate to college and adult life. Special emphasis on the knowledge and care of oneself. Open to all students. Wilson.

163 Physical Education Techniques (0 + 2) 1 credit F, S

Practical work in activities not taken for credit under P.E. 101-102.

164 Physical Education Techniques (0 + 2) 1 credit F, S

A continuation of P.E. 163.

170 Activities for Primary Grades (0 + 2) 1 credit F

Rhythms, stunts, and games suitable for kindergarten and grades 1-4. May be substituted for any semester of required work. Fitzgibbons.

171 Activities for Intermediate Grades (0 + 2) 1 credit S

Rhythmic activities, lead up games, and games of low organization for grades 4-8. May be substituted for any semester of required work. Fitzgibbons.

180 Introduction to Physical Education and Health (2 + 0) 2 credits S

An orientation course which considers the history, aim, and objectives of physical education and health. Special emphasis on current trends in physical education. Wilson.

205 Beginning Techniques for Professional Students (0 + 6) 3 credits S

A combined activity course in which the basic skills of coeducational activities (dance, individual, and dual sports) will be covered.

210 First Aid and Treatment of Athletic Injuries (2 + 2) 3 credits F

A discussion and practice of current methods for treatment and prevention of athletic injuries. Martie.

263 Advanced Techniques for Professional Students (0 + 2) 1 credit F, S

Additional and advanced work in activities listed under P.E. 101-102. Students taking this course will be expected to help as squad leaders in freshman courses. Prerequisite: Consent of instructor.

264 Advanced Techniques for Professional Students (0 + 2) 1 credit F, S
A continuation of P.E. 263.

270 Water Safety Instruction (1 + 1) 1 credit S
Methods of teaching swimming, diving, and lifesaving. Organization and administration of swimming pools and bathing facilities. Successful completion qualifies student as Red Cross Water Safety Instructor. Prerequisite: Current Senior Life-Saving Card; age requirement: 19 years or older.

281 Recreational Skills for Home, School, and Camp (1 + 4) 2 credits F, S
Includes practical work in arts and crafts, party planning, camp craft, and social mixers. Russell.

291 Standard First Aid (1 + 1) 1 credit F
The Standard Red Cross First Aid Course which deals with the immediate and temporary care to be given to a victim of an accident until the services of a physician can be obtained.

292 Advanced First Aid (1 + 1) 1 credit F
A continuation of Standard First Aid with an offering of the American Red Cross Advanced First Aid Course with special emphasis on the first aid care for skiing injuries. Prerequisite: Current Standard First Aid Card or P.E. 210.

295 Introduction to School and Community Health Education (2 + 0) 2 credits F
A presentation of the scope of health education in the schools and community including health services available. Smithwick.

301 Advanced Apparatus and Tumbling (0 + 3) 1 credit F
Advanced exercises for increasing skills on the mats, bars, horse, and springboard. Broten.

323 Basketball and Football in Theory and Practice (2 + 0 or 2) 2 or 3 credits F
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. Lawlor and McEachron.

324 Track and Field Activities and Baseball in Theory and Practice (men only) (2 + 2) 3 credits S
Lectures and demonstrations of each track and field event and baseball. Smithwick and Lawlor.

325 Officiating Major Sports (2 + 0) 2 credits F
A careful study of the rules of major sports with interpretations, methods of officiating, and characteristics of officials. Scranton.

327(G) Methods and Materials of Teaching Physical Education in the Elementary Schools (2 + 0) 2 credits S, Su
(Same as El.Ed. 327.) For the classroom teacher who handles the physical education classes. Curriculum planning, lesson plans, and teaching methods are discussed.

341 Administration and Organization of Athletics and Physical Education (men only) (2 + 0) 2 credits S
Covers high school competition in general; methods of organizing athletic associations and administration of same. Scranton.

353(G) Methods and Materials in Teaching Health and Physical Education for Men (2 + 0) 2 credits F

(Same as Sec.Ed. 353.) A study of the methods of teaching physical education with special emphasis on physical education activities, practice in conducting skill procedures using class and squad organization, and in planning of lessons for both health and physical activity classes. Scranton.

354(G) Organization and Administration of Physical Education for Women (2 + 0) 2 credits F

(Same as Sec.Ed. 354.) Objectives, methods, and general principles including, first, a discussion of the biological, physiological, psychological, and sociological principles underlying those objectives, and second, a study of acceptable methods of administering a physical education program to achieve these objectives. Prerequisite: P.E. 180. Russell.

361 Junior Activities (0 + 2) ½ credit F, S

Advanced work in activities offered for students who have completed or are registered for their required physical education. Fitzgibbons.

362 Junior Activities (0 + 2) ½ credit F, S

A continuation of P.E. 361. Wilson.

371 Teaching of Dance (1 + 2) 2 credits F

Methods of teaching folk, square, and social dance. Practical experience in teaching beginners to dance. Fitzgibbons.

372 Coaching and Officiating Team Sports (women only) (2 + 3) 3 credits F

Rules, strategy, and techniques of basketball, softball, field sports, and volleyball. Wilson.

373(G) Methods and Materials in Health Instruction for Elementary Teachers (2 + 0) 2 credits S

Methods and materials used in presenting acceptable health practices to elementary school students. Includes unit planning. Smithwick.

374(G) Methods and Materials in Health Instruction for Secondary Teachers (2 + 0) 2 credits F

Methods and materials used in presenting acceptable health practices to secondary school students. Includes unit planning. Prerequisite: P.E. 295. Wilson.

390(G) Kinesiology (3 + 0) 3 credits S

The mechanical and anatomical analysis of motion as a basis for the teaching and adaptation of physical education activities. Prerequisite: Zool. 223; Phys. 101. Russell.

411 Instructors' First Aid (1 + 1) 1 credit S

Regular Red Cross Course. Those completing the course may be designated First Aid Instructors. (Cannot be taken for graduate credit.) Russell.

430 Psychology of Coaching (2 + 0) 2 credits S

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. Martie.

431 Character Education Through Physical Education (2 + 0) 2 credits S

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. Martie.

440 Recreation Leadership and Playground Administration (3 + 0) 3 credits S

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. Broten.

451 Adapted Physical Education and the Orthopedic Examination (2 + 0) 2 credits F

Methods of administering physical examinations. The study of the causes of faulty posture and the detection and correction of these faults. Adaptations of activities for the handicapped. Russell.

452 Physiology of Exercise (3 + 0) 3 credits F

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. Martie.

461 Senior Activities (0 + 2) ½ credit F, S

Advanced work in activities offered for students who have completed their required work in physical education. (Cannot be taken for graduate credit.) Fitzgibbons.

462 Lifesaving (0 + 2) ½ credit S

The Red Cross Senior Lifesaving Course. Prerequisite: Ability to pass swimming test. (Cannot be taken for graduate credit.) Russell.

471 Theory and Practice of Directing Individual and Dual Activities (2 + 2) 3 credits S

A study of rules, techniques, and coaching methods of archery, badminton, bowling, golf, tennis, and recreational games. Prerequisite: P.E. 205 or demonstrated skill in the above. Russell.

480 History and Development of the Dance (1 + 3) 2 credits S

A study of the dance forms of the past and present in their relationship to the other arts. Practical work in teaching modern dance to beginners. Prerequisite: Skill in modern dance. Fitzgibbons.

490 Tests and Measurements (1 + 2) 2 credits S

A study of tests used in physical education; methods of administering the testing program and of using the data collected. Russell.

501–502 Physical Education and Health Seminar credit to be arranged F–S

530 Physiological Bases of Conditioning Programs (2 + 0) 2 credits S

A systematic analysis of conditioning programs dealing with reduction or gains in body weight. Increased muscular strength, endurance, and coordination. Broten.

574 Modern Problems for Health Instruction (2 + 0) 2 credits S

Methods of determining health instruction problems and unit planning.

590 Advanced Kinesiology (2 + 0) 2 credits F

A detailed study of the application of anatomical, mechanical, and physiological principles to human motion and sports skills. Prerequisite: P.E. 390.

591 Thesis 1 to 6 credits F, S

Physics (Phys.)

101–102 Introductory Physics (2 + 0) 2 credits each F – S

A nonmathematical course designed to give the student an understanding of some of the basic principles of physics. Leifson.

103–104 Introductory Physics Laboratory (0 + 2) 1 credit each F – S

Elementary laboratory exercises in mechanics, heat, sound, light, electricity and magnetism, designed to illustrate and supplement lectures in Phys. 101-102. Leifson.

107 Descriptive Astronomy (2 + 1) 3 credits F, S

A brief course in astronomy designed to acquaint the student with the more important facts relating to the heavenly bodies. Descriptive rather than mathematical in character. By special arrangement, interested members of the class may become familiar with the use of the sextant and with the underlying principles involved in the determination of the location of the observer upon the surface of the earth. Frazier.

115–116 Elementary Radio (3 + 0) 3 credits each F – S

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.

117–118 Meteorology (3 + 0) 3 credits each F – S

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.

119 Household Physics (2 + 4) 4 credits F

A course in general physics for students in home economics, with special emphasis on practical applications in the home. Frazier.

151–152 General Physics (3 + 0) 3 credits each F – S

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. Frazier.

153–154 General Physics Laboratory (0 + 3) 1 credit each F – S

A laboratory course to make the student an intelligent observer of natural phenomena. To accompany Phys. 151-152. Experimental work, largely quantitative in character and designed to illustrate fundamental physical principles and to develop skill and accuracy in the methods of physical measurement. Prerequisite: Plane geometry. A knowledge of trigonometry is desirable. Frazier.

203–204 General Physics for Engineers (4 + 0) 4 credits each F – S

Mechanics and heat, sound and light, and electricity and magnetism. Lectures and recitations are fully illustrated by experimental demonstrations at the lecture table and by problems. Prerequisite: Analytic geometry and trigonometry. Leifson, Skabelund, Worley.

205–206 Physical Measurements (0 + 3 or 6) 1 or 2 credits each F – S

Experimental work of distinctly quantitative character is done in mechanics and heat, sound and light, and electricity and magnetism. The methods selected involve fundamental physical principles, and illustrate their most important applications. Prerequisite: Analytic geometry and trigonometry. Worley.

357–358 Electrical Measurements (1 + 3) 2 credits each F – S

Precise measurements of current, electromotive force and power, with both alternating and direct current. Calibration of instruments, determination of resistance, capacity, mutual inductance, and self-inductance. Hysteresis. Photometry. Prerequisite: General physics, differential and integral calculus.

359(G)–360(G) Heat, Thermodynamics, and Kinetic Theory (2 + 0) 2 credits each F – S

Lectures and recitations. Many of the more difficult subjects merely touched upon in general physics will be fully treated. Prerequisite: General physics, differential and integral calculus. Frazier.

361(G)–362(G) Light and Physical Optics (2 + 0) 2 credits each F – S

Lectures and demonstrations. Survey of geometrical optics and of optical instruments. Selected topics in physical optics including interference, diffraction, and polarization, with applications. The nature of light. Prerequisite: General physics and calculus. Worley.

365(G)–366(G) History of Physics (2 + 0) 2 credits each F – S

Lectures and recitations. Preparation of reports and discussion of assigned topics by members of the class. Prerequisite: General physics. Leifson.

368(G) Physical Optics and Spectroscopy (1 + 3) 2 credits

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. Prerequisite: General physics, general chemistry, and calculus. Phys. 361-362 is desirable. Worley.

375–376 Glassblowing (0 + 3) 1 credit each F – S

A laboratory course of instruction in methods of making simple glass apparatus. Leifson.

377(G)–378(G) Thermionic Vacuum Tubes (1 + 3) 2 credits each F – S

A laboratory course of selected problems involving the determination of constants of vacuum tubes and vacuum tube circuits. One hour each week will be devoted to discussion and reports. Prerequisite: General physics, differential and integral calculus.

391(G) Fundamental Concepts of Modern Physics (2 + 0) 2 credits Su

Designed for teachers of physical science. A study of the development of physical concepts. No special mathematical skills required.

401 Photography (1 + 3) 2 credits F

The materials and processes of photography. Photographic technology and dark room procedure. (Cannot be taken for graduate credit.) Worley.

451–452 Acoustics (2 + 0) 2 credits each F – S

Introduction to the theory of vibrations, sound sources, and the propagation of waves in elastic media and in gases. Selected topics in acoustics including refraction, reflection, absorption, and hearing of sound waves. Prerequisite: General physics and calculus. Frazier.

471–472 Introduction to Modern Physics (2 + 0) 2 credits each F – S

Lectures and experimental illustrations. Discussion of important topics in the fields of radiation and the structure of atoms and molecules. Introduction to quantum mechanics. Prerequisite: General physics and calculus. Leifson.

473–474 Electricity and Magnetism (2 + 0) 2 credits each F – S

Introduction to the mathematical theory of electricity and magnetism. Solution of problems by exact reasoning from fundamental principles. Prerequisite: General physics, differential and integral calculus. Skabelund.

483–484 Modern Physics Laboratory (0 + 3) 1 credit each F – S
Laboratory exercises in connection with Phys. 471-472. Prerequisite: General physics and calculus. Leifson.

493–494 Special Problems credit to be arranged F – S
Laboratory or research work not in courses listed above.

501–502 Theoretical Physics (2 + 0) 2 credits each F – S
An introduction to the more advanced mathematical analysis as applied to general physical problems. Prerequisite: General physics, differential and integral calculus, and differential equations. (Undergraduates may be admitted with the consent of the instructor.) Skabelund.

591 Thesis 1 to 6 credits F, S

Political Science (Pol.Sci.)

(Also see History)

101–102 American Government (3 + 0) 3 credits each F – S
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. Pol.Sci. 101, Federal government; Pol.Sci. 102, State and local. May be used to satisfy requirements for United States and Nevada Constitutions. Smith, Elliott.

105–106 Comparative Government (2 + 0) 2 credits each F – S
A study of the frameworks, functions, and motivating ideals of various representative democratic and totalitarian governments. Smith, Hutcheson.

201 Constitution of the United States (1 + 0) 1 credit F, S
Origins, history, and essentials—with emphasis on devotion to American institutions and ideals. Not open to freshmen.

202 Constitution of Nevada (1 + 0) 1 credit F, S
Origins, history, and essentials. Not open to freshmen.

357(G) Elements of Political Science (3 + 0) 3 credits F
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. Smith.

369(G) History of Political Thought (2 + 0) 2 credits F
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. Smith.

404 International Law and Organization (2 + 0) 2 credits S
The elements of international law, and a study of organizational forms as they relate to international law and procedure. Smith.

416 Political Parties (3 + 0) 3 credits S
The party system in the United States; the history, composition, and functions of parties—their organization and methods. Smith.

418 Public Personnel Administration (2 + 0) 2 credits S
A study of methods of recruiting, examining, training, and of other techniques utilized in the management of employees in government service. Smith.

427 **American Diplomacy** (2 + 0) 2 credits F

Governmental machinery for the conduct of American foreign relations; traditional policies; current problems and practices; impending changes. Smith.

431–432 **Principles of Public Administration** (2 + 0) 2 credits each F–S

Principles and problems of public administration; the budget, forms of administrative action; types of control; administrative law. Smith.

497–498 **Independent Study** credit to be arranged F – S

501–502 **Graduate Seminar** credit to be arranged F – S

591 **Thesis** 1 to 6 credits F, S

Psychology (Psych.)

121 **Personal Psychology** (2 + 0) 2 credits F, S

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. Hiler, McQueen, Secord.

201 **General Psychology** (3 + 0) 3 credits F, S

An introductory course dealing with forms and laws of human behavior and consciousness. Open to any sophomore and to freshmen who rank in the upper one-half with their mental test scores. *Prerequisite* to all other courses in the department except Psych. 121. Hiler, McQueen, Secord.

231 **Psychology of Adolescence** (2 + 0) 2 credits F, S, Su

(Same as Sec.Ed. 231.) An intensive study of the characteristics prominent in the adolescent, with special emphasis upon applications to the work of the high school teacher. Prerequisite: Psych, 201. McQueen.

233 **Child Psychology** (2 + 0) 2 credits F, S, Su

(Same as El.Ed. 233.) The development of behavior patterns in the normal child from conception to twelve years of age. Some consideration is given to the elimination of undesirable personality traits. Prerequisite: Psych. 201. McQueen.

241 **Mental Hygiene** (3 + 0) 3 credits S

A consideration of the principles of psychology in their relationship to mental health and efficiency. Prerequisite: Psych. 201. Hiler.

301(G) **Experimental Psychology** (1 + 6) 3 credits S

A lecture and laboratory course in the application of scientific methods to the study of behavior and mental processes. Prerequisite: Psych. 201. Hiler.

303(G) **Perception and Cognition** (2 + 0) 2 credits F

A consideration of the basic principles by which man perceives and knows the world around him. Topics include the perception of form, color, space, depth, and time, as well as the more complex processes involving judgment of persons and their characteristics. Prerequisite: Psych. 201. Secord.

310(G) **Statistical Methods in Psychology and Education** (3 + 0) 3 credits F

Study and practice with statistical methods especially useful in the presentation and interpretation of psychological and educational data. Prerequisite: Psych. 201 or special permission of instructor based on training in education. Secord.

321(G) Educational Psychology (3 + 0) 3 credits F, S, Su
(Same as Ed. 321.) Applications of psychology to such educational problems as learning in general, discipline, development of desirable social, emotional, intellectual, aesthetic, moral and other traits, principles and practices of certain educational and psychological tests and measurements. Prerequisite: Psych. 201. McQueen.

361(G) Social Psychology (3 + 0) 3 credits S
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: Psych. 201. Secord.

363(G) The Psychology of Communication and Persuasion (2 + 0) 2 credits F
A study of the psychological principles underlying persuasion and influence in such fields as political propaganda, advertising, selling, and leadership. Emphasis will be placed upon an evaluation of investigations reported in the psychological journals. Prerequisite: Psych. 201. Secord.

364(G) Group Dynamics (3 + 0) 3 credits S
(Same as Soc. 364.) An interdisciplinary study of the processes of influence, communication, and leadership in small groups. Prerequisite: Psych. 201 or Soc. 201. Backman, Secord.

371(G) Criminal and Legal Psychology (2 + 0) 2 credits F
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: Psych. 201. Irwin.

375(G) Marriage, Homemaking, and Divorce (2 + 0) 2 credits S
A presentation of the psychological principles involved in these three types of social adjustment. Prerequisite: Psych. 201. Irwin.

391(G) Industrial and Personnel Psychology (2 + 0) 2 credits S
The application of psychological principles to the personnel problems of government, business, and industry. Various topics include selection, management and supervision, morale, industrial conflict, and productivity. Prerequisite: Psych. 201. Secord.

404 Theories of Learning (2 + 0) 2 credits S
An examination of research on learning and of theories which attempt to explain the processes of learning and memory. Prerequisite: Psych. 201 and follow-up study in psychology.

405 Psychology of Personality (2 or 3 + 0) 2 or 3 credits F
A consideration of the nature, development, and evaluation of personality. Prerequisite: Psych. 201. Hiler.

408 Systematic Psychology (2 + 0) 2 credits S
A study of the historical background of psychology and of the various schools of psychological thought. Prerequisite: Psych. 201. Hiler.

411 Psychological Tests (3 + 0) 3 credits F
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: Psych. 201. McQueen.

412 Individual Testing (3 + 0) 3 credits S

A professional course in the administration of the Stanford-Binet and Wechsler Bellevue intelligence tests. Students will be required to administer, score, and interpret a considerable number of individual tests during the semester. The critical evaluation of test results will be stressed. Prerequisite: Psych. 201, 411, and permission of the instructor. (Offered in alternate years.) McQueen.

421 The Psychology of Learning (2 + 0) 2 credits F, Su

(Same as Ed. 421.) A consideration of the factors and conditions which enhance or retard the course of human learning. Research dealing with the motor and verbal learnings of humans will be examined. The emphasis throughout will be upon educational implications. Prerequisite: Psych. 201. McQueen.

433 Problems in Child Psychology (2 + 0) 2 credits F, S

A course principally for professional workers in the fields of teaching and nursing. The content is devoted to identifying and understanding children with emotional problems and to the therapeutic approach to children's emotional difficulties. Lectures, occasional films, and group discussions are used to present theoretical and practical aspects. Prerequisite: Psych. 201 and consent of instructor.

441 Abnormal Psychology (3 + 0) 3 credits F

A study of the abnormal mind, aetiology of mental disorders, neuroses and psychoses, with some attention to therapeutic procedures. Prerequisite: Psych. 201. Irwin.

450 Introduction to Clinical Psychology (3 + 0) 3 credits S

A professional course in the fundamental concepts of clinical testing, diagnosis, therapy, and research as performed by the psychologist either individually or as a member of the psychiatric team. For students in the fields of psychology, medicine, social work, nursing, and related fields. Prerequisite: Psych. 201, a course in testing and/or permission of the instructor. A course in mental hygiene or abnormal psychology would be desirable. Hiler.

499 Special Problems in Psychology (2 + 0) 2 credits F, S

Research is chosen from any field of psychology in which the student has had at least one advanced course. Opportunities provided for practical work with school psychologist or Nevada State Hospital. The course may be repeated with research on a new problem as Psych. 499a. For graduate students and seniors.

591 Thesis 1 to 6 credits F, S

Range Management (R.Mgt.)

317(G) Range Agrostology (1 + 6) 3 credits F

The study of grasses, and practice in identification. Particular emphasis is given to range grasses. Prerequisite: Bot. 222.

359(G) Principles of Range and Pasture Management (2 + 3) 3 credits F

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. Six to eight field trips. Prerequisite: Bot. 222.

360(G) Range Improvements 1 credit S

Artificial revegetation, fencing, water development; controlling brush mechanically, chemically, and by fire. One lecture or field trip per week. Prerequisite: R.Mgt. 359.

362(G) Poisonous Range Plants 1 credit S
Recognition of the more troublesome poisonous and mechanically injurious range and pasture plants; ways of handling problems caused by these plants. One or two field trips. Prerequisite: R.Mgt. 359.

364(G) Range and Pasture Field Trip 1 or 2 credits Su
A one-week trip to study range and pasture problems and practices in Nevada. Observations on progressive ranches and government ranges and experiment stations. Transportation furnished. One week immediately following sophomore or junior year. Register at end of second semester. Prerequisite: Bot. 222.

366(G) Range Study Techniques (1 + 3) 2 credits S
Methods of making detailed studies of range plant cover; measuring utilization and range condition. Laboratory or field trip. Prerequisite: R.Mgt. 359.

461 Grazing Influences (1 + 0) 1 credit F
Grazing in relation to the conservation of soil, water, and forests. One or two field trips. Prerequisite: R.Mgt. 359.

464 Range Ecology (2 + 3) 3 credits S
Application of ecologic principles to the interrelationships between range animals and vegetation. Prerequisite: Bot. 355, 380; R.Mgt. 359. (Offered in odd-numbered years.)

466 Range Administration (1 + 0) 1 credit S
Policies and organization of range administration agencies. Range management planning. One or two field trips. Prerequisite: R.Mgt. 359.

469 Range and Pasture Literature 1 or 2 credits F
Two or five hours reading of selected original papers, classic and current. One hour weekly for discussion and reports. Prerequisite: Must be taken concurrently with or following Agron. 205 and R.Mgt. 359. (Offered in odd-numbered years.)

491–492 Special Problems 1 or 2 credits each F – S
An intensive study of a special problem in the field of range management. Prerequisite: Senior standing with a grade point average of 3.0.

591 Thesis 1 to 6 credits F, S

School Administration and Supervision (Sch.Adm.)

(Also see Education, Elementary Education, Higher and Adult Education, and Secondary Education)

570 Basic Principles of Educational Administration (3 + 0) 3 credits F, Su
A foundational course for graduate students interested in school administration and supervision, treating problems related to public education as a function of government, school district organization, school board control, administrator and teacher relationships, provision for organizational and facilitating services, and school-public relations, problems of budget, equipment and staff will be discussed with practical solutions. Tucker.

571 Organization and Administration of the Elementary Schools (2 + 0) 2 credits F, Su
A consideration of general organization, curriculum organization, qualifications of teachers and principals, records, supplies, plant, and curricula materials. Mead.

572 **Organization and Administration of the Secondary Schools** (2 + 0) 2 credits S, Su

Study and discussion of the organization and administration of the secondary schools, including staff management, student control and welfare, scheduling, public relations, curriculum, instruction, guidance, plant, and library. Tucker.

573 **School Finance** (2 + 0) 2 credits S, Su

An advanced service for graduate majors and minors in school administration: business and supply management, school bonds, financial budgeting and accounting, inequalities in the financial ability and effort of school districts, control of income and defensible expenditures. Brown.

575 **The Educational Plant** (2 + 0) 2 credits S, Su

Problems, readings, and field studies related to the adequacy of school buildings and grounds; planning, construction, and maintenance of the school plant; equipment; choice of architects; current plant surveys; and community surveys to determine plant needs. Tucker.

577 **Principles and Practices in School Law** (2 + 0) 2 credits Su

Presents the legal factors and principles for the basis of public education: the legal character of the public school corporation; the legal authority delegated to school boards, administrators, and teachers; and the legal aspects of child-school relationships. Application is made specifically to school legislation in Nevada. Brown.

579 **Public Relations for Schools** (2 + 0) 2 credits S, Su

Systematic public relations principles and practices designed to help school personnel to work effectively with citizens in developing improved educational programs. Holstine.

580 **Organization and Administration of the Junior and Community College** (2 + 0) 2 credits Su

Presents the principles, policies, and procedures for organizing and administering the junior and community college.

581 **Supervision in the Elementary Schools** (2 + 0) 2 credits S, Su

Considers the various problems of supervision of elementary instruction including human relations, methods and techniques, materials, objectives, and child development. The roles of the teacher, principal, and supervisor are thoroughly analyzed. Willey.

582 **Supervision in the Secondary Schools** (2 + 0) 2 credits S, Su

Stresses principles and procedures used by supervisors to improve the instructional program of the secondary school. Consideration given to means of improving the effectiveness of secondary schools through democratic leadership. Newbry.

583 **Administration of Pupil Personnel Programs** (2 + 0) 2 credits

Presents factors pertaining to the responsibility for approved policies and practices dealing with pupil personnel, legal and regulatory procedures, school-home relations, making and utilizing pupil records in school systems, etc. Prerequisite: Sch.Adm. 584. Carlson.

584 **Organization and Administration of Guidance Services** (2 or 3 + 0) 2 or 3 credits S, Su

For school administrators, guidance and counseling directors and teachers who are concerned with developing counseling and guidance programs in the public schools. Particular attention will be given to the problems of organization and administration of guidance services on the elementary, junior high, and secondary school levels. Carlson and Tucker.

586 **Problem Areas in School Administration** (2 or 3 + 0) 2 or 3 credits S, Su

Enables administrators, supervisors, and teachers to select local school problems which are in need of attention. Several such problems will be examined, factual materials related to the problem will be gathered, and indicated approaches to the solutions of the problems will be developed and evaluated. Lay citizens are invited to participate as auditors. May be used as a workshop course. Tucker.

587 **School Surveys** (2 or 3 + 0) 2 or 3 credits Su

Principally for school administrators to acquaint them with the details of conducting a school survey. Treatment will be given to the various factors normally covered in a school survey and the types of information that are usually requested from school administrators and other personnel. Tucker.

588 **Individual Research in School Administration** 1 to 4 credits F, S, Su

Selected basic problem or problems related to the field of school administration.

589 **Seminar in School Administration** 1 to 4 credits Su

Basic problems in the field of school administration on an advanced level.

597 **Thesis** 1 to 6 credits F, S, Su

Secondary Education (Sec.Ed.)

(Also see Education, Elementary Education, Higher and Adult Education, and School Administration and Supervision)

231 **Psychology of Adolescence** (2 + 0) 2 credits F, S, Su

(For description, see Psychology 231.)

250 **Principles of Secondary Education** (3 + 0) 3 credits Su

A study of the place secondary education has in our society. The function of the teacher in the secondary school in such matters as public relations, curriculum study, extracurricular activities, pupil personnel and evaluation. Prerequisite: Foundations for Secondary Teaching I. Newbry.

340(G) **An Introduction to Guidance and Counseling** (3 + 0) 3 credits F, S, Su

An introduction to the principles, procedures, and techniques of guidance and counseling. A study of source information, cumulative records, educational and vocational guidance, interest and aptitudes. Prerequisite: Foundations for Secondary Teaching I and II and Ed. 321. Carlson.

341(G) **General Principles, Materials, and Methods of Secondary Education** (3 + 0) 3 credits F, S, Su

Basic orientation and preparation for supervised teaching. Required for admission to supervised teaching. Prerequisite: Foundations for Secondary Teaching I, II, and III, or equivalent. Newbry.

Arrangements for taking Sec.Ed. 342-360, courses dealing with special methods, materials, techniques, and directed observations in the teaching field selected must be made through the Chairman of the Department of Secondary Education. Methods courses should be taken concurrently with supervised teaching or in the semester immediately preceding supervised teaching.

Prerequisites for these courses are Foundations for Secondary Teaching I, II, III, and IV, or equivalent, and the completion of at least one-half of the major teaching field requirements.

342(G) **Methods and Materials in Teaching Social Studies** (2 or 3 +0) 2 or 3 credits F, Su Brown.

343(G) **Methods and Materials in Teaching English** (2 or 3 + 0) 2 or 3 credits F, Su Newbry.

344(G) **Methods and Materials in Teaching Science** (2 or 3 + 0) 2 or 3 credits F, Su Mead.

345(G) **Methods and Materials in Teaching Mathematics** (2 or 3 + 0) 2 or 3 credits F, S

346 **Methods and Materials in Teaching Art in the Secondary School** (1 + 3) 2 credits S, Su
(For description, see Art 346.)

349 **Methods and Materials in Teaching Secondary Instrumental and Vocal Music** (2 + 0) 2 credits S
(For description, see Music 349.)

352 **Methods and Materials in Teaching Business Education** (2 + 0) 2 credits S, Su
The curriculum, methods of teaching, objectives, standards, and grading, in the teaching of bookkeeping, general clerical practice, and consumer education, typewriting, shorthand, office practice.

353(G) **Methods and Materials in Teaching Health and Physical Education for Men** (2 + 0) 2 credits F
(For description, see Physical Education 353.)

354(G) **Organization and Administration of Physical Education for Women** (2 + 0) 2 credits F
(For description, see Physical Education 354.)

357 **Methods and Materials in Teaching Foreign Languages** (2 + 0) 2 credits S

358 **Driver Education and Training** (2 + 0) 2 credits Su
Discussions and demonstrations will constitute the major part of the course. The course is being offered to train the high school teacher to offer, in his own school, the high school driver training course. Each student in the course will be supplied with adequate teaching materials and with a detailed plan to offer the course on the high school level. Prerequisite: Permission of the instructor. Wallace.

444 **Methods and Materials of Teaching Farm Mechanics** (2 + 0) 2 credits S
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. Christensen.

446 **Problems in Agricultural Education** (2 + 0) 2 credits S
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. Christensen.

447 **Methods in Teaching Vocational Agriculture** (3 + 0) 3 credits S
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 teacher's responsibility in supervision. Christensen.

448 Methods and Materials in Teaching Homemaking (3 + 0) 3 credits S

A general overview of the homemaking curricula as it relates to learning experiences, methods, and materials. In addition to the regular scheduled time for class, a three hour block five times during the semester must be provided to observe homemaking classes in session on the junior high, senior high, and adult levels. This course must precede Sec.Ed. 457 (Supervised Teaching). Tripple.

449 Organization and Administration of Homemaking (2 + 0) 2 credits S

Organization of homemaking departments with special attention given to cooperative program planning based on student, home, and community needs; evaluation as a technique for guiding learning and appraising progress; how to locate, appraise and use education materials, films, recordings, and community resources in homemaking education. This course must follow Sec. Ed. 457 (Supervised Teaching.) Tripple.

455 Workshop in Vocational Education (1 or 2 + 0) 1 or 2 credits Su

Concerns the curriculum and other problems of vocational business education, distributive education, guidance and counseling, and trades and industrial education as organized under the direction of the State Department of Vocational Education; for in-service teachers of these subjects. Prerequisite: Permission of the instructor. May be repeated for a total of 6 credits.

456 Noninstructional Responsibilities of the High School Teacher (2 + 0) 2 credits S, Su

A study of those responsibilities which lie outside the teacher's instructional field. Emphasis will be placed on growth and advancement in the profession, ethical responsibilities, satisfactory administration and professional relations, and extra-class activity responsibilities. Newbry.

457 Supervised Teaching in the Secondary School (Major and/or Minor Teaching Field) (0 + 2½ per credit) 1 to 8 credits F, S

Provides opportunities, in the senior year, for actual teaching in a specific class situation in either junior or senior high school. The course includes directed observation, planning of teaching units, classroom management, supervised teaching, participation and direction of school activities, individual and group conferences, and other factors related to effective teaching. Prerequisite: Foundations for Secondary Teaching I, II, III completed, and IV completed or in progress or equivalent. Arrangements are made by the Supervisor of Student Teaching.

Application for supervised teaching should be made through the Office of the Dean of the College of Education at least *three months prior* to the semester in which supervised teaching is to be done.

541 Combined Studies for the Secondary School (2 + 0) 2 credits Su

Describes and discusses elements of the combined studies and core approach to the organization and administration of the secondary school curriculum.

542 Occupational and Vocational Information (2 + 0) 2 credits Su

Acquaints the school counselor and guidance supervisor with basic occupational and vocational information and procedures for organizing and presenting such information in the schools. Prerequisite: Sch.Adm. 584, or equivalent. Carlson.

546 **Secondary Education Curriculum** (2 + 0) 2 credits S, Su
Study and discussion of the development and improvement of curriculum practices, with special stress upon working out procedures that seem to be suited to this area. Newbry.

548 **Problems in the Teaching of Secondary School Subjects** (2 + 0) 2 credits F, S, Su
Primarily for students who have had undergraduate methods courses in particular subjects. Although class discussion will be centered around general problems in the various fields, research projects will be carried on in each student's particular field of interest. May be repeated by permission of the instructor.

550 **Workshop in Agricultural Education** (1 or 2 + 0) 1 or 2 credits Su
A summer short course in agricultural education, including farm mechanics, will be given on various subjects in alternate years. It will be organized under the direction of the Teacher Trainer of Agricultural Education in cooperation with specialists from different departments of the School of Agriculture or from outside sources. (See Summer Sessions Bulletin for complete description of course offerings.) May be repeated for a total of 6 credits.

558 **Individual Research in Secondary Education** 1 to 4 credits F, S, Su
Selected basic problem or problems related to the field of secondary education.

559 **Seminar in Secondary Education** 1 to 4 credits Su
Includes problems of organization, administration, curriculum, methodology, evaluation, public relations, and other basic areas of secondary education. A review of research procedures is followed by the selection of a problem to be studied in considerable detail. Prerequisite: *Basic courses in secondary education.*

597 **Thesis** 1 to 6 credits F, S, Su

Secretarial Studies (Sec.St.)

(Also see Business Administration and Economics)

101–102 **Beginning and Intermediate Typewriting** (3 + 0) 2 credits each F – S
Touch typing. Rhythm drills; dictation exercises; arrangement of business letters. Students with one year of high school typing may not take Sec.St. 101 for credit. Students may enter Sec.St. 102 who have had one semester of typing, or a thorough knowledge of keyboard. Credit allowed only upon attainment of prescribed production requirements.

111–112 **Stenography** (3 + 0) 3 credits each F – S
Shorthand. Students must also take Sec.St. 101-102, unless they have had equivalent training. Students with no experience in shorthand enroll for Sec.St. 111; students with one semester of shorthand enroll for Sec.St. 112.

129 **Office Machines** (3 + 0) 2 credits
Operation and use of adding and calculating machines as applied to business and statistical uses. Also use and application of dictaphone and mimeograph equipment.

211–212 Advanced Stenography (3 + 0) 2 credits each F – S
Speed and accuracy development in shorthand. Study of stenographic duties and techniques essential for business employment. Prerequisite: Sec.St. 111-112.

229 Office Management (2 + 0) 2 credits
Layout, furniture and equipment, personnel problems, training, costs, methods, procedures and work flow, and standardization.

231–232 Secretarial Functions and Responsibilities (3 + 0) 3 credits each F – S
A study of the theory and the actual performance of functions and assumptions of responsibilities: handling personnel and callers; purchases and sales; preparing minutes of meetings; legal documents and reports; duplicating processes; computing processes; uses of sources of information. The personality of the secretary; relationships of the secretary to superior officers; to co-workers; and those under the supervision of the secretary. Prerequisite: Job standard proficiency in shorthand and typewriting and consent of instructor.

Sociology (Soc.)

102 Social Problems (3 + 0) 3 credits F, S
An examination of selected social problems, their causation, and proposed solutions. Backman.

201 Principles of Sociology (3 + 0) 3 credits F, S
Sociological principles underlying the development, structure, and function of culture, society, human groups, personality formation, and social change. Prerequisite: Sophomore standing. Backman, Reed.

352(G) Juvenile Delinquency (2 + 0) 2 credits S
Causes, conditions, and prevention of juvenile crime. Reed.

357(G) Cultural Anthropology (2 + 0) 2 credits F
Primitive cultures as a basis for modern social organization. Backman.

361(G) Criminology (3 + 0) 3 credits F
Theories, causes, classification, apprehension, treatment, and prevention of crime.

364(G) Group Dynamics (3 + 0) 3 credits S
(Same as Psych. 364.) An interdisciplinary study of the processes of influence, communication, and leadership in small groups. Prerequisite: Soc. 201 or Psych. 201. Backman, Secord.

370(G) Social Control (2 + 0) 2 credits S
The social processes providing control of behavior. Backman, Reed.

371(G) Social Organization (3 + 0) 3 credits F
The structure, forms, functions, and development of major social groups and institutions. Backman.

379(G) Ethnic and Race Relations (3 + 0) 3 credits S
The social, economic, and political aspects of minority problems in the United States and the world at large. Reed.

380(G) The Family (2 + 0) 2 credits S
Forms and functions of the family as a social institution. Emphasis on present trends. Backman, Reed.

381(G) Public Welfare (2 + 0) 2 credits F
Emphasis on welfare of children.

385(G) Population and Human Ecology (3 + 0) 3 credits S
Theories of population increase; problems of composition, distribution and migration, with special emphasis on the sociological processes underlying urban and rural life. Prerequisite: Soc. 201 or consent of the instructor.

386(G) Methods of Social Work (2 + 0) 2 credits S
Principles and methods in applied sociology. Prerequisite: Soc. 102 and 201.

392(G) Research in Human Relations (3 + 0) 3 credits F
Introduction to the methodology of scientific research in human relations and survey of research techniques. Emphasis will be on social survey procedures applicable to both theoretical and practical needs. Prerequisite: 3 credits in sociology or consent of the instructor. Backman.

491 History of Social Thought (3 + 0) 3 credits F
(Same as Econ. 491.) Development of social and economic thought from prehistoric times to the period of the English and French Enlightenment. Prerequisite: Soc. 201.

492 Contemporary Social Theory (3 + 0) 3 credits S
Development of social theory from the Enlightenment to the present day. Emphasis on recent developments in theory. Prerequisite: Soc. 201.

498 Seminar in Social Organization (2 + 0) 2 credits S
(Same as Econ. 498.) An analysis of inter-related topics in economic and social behavior. Choice of semester topic to be determined by student interest and need. Prerequisite: Senior standing in sociology or economics, or consent of the instructor.

499 Special Problems in Sociology 1 or 2 credits F, S
May be repeated as Soc. 499a, b, and c for a total of 4 credits.

Soils

101 Soil Management (3 + 0) 3 credits F, Ev
Soil characteristics related to land use. Soil management and conservation with emphasis given to correction or improvement of physical and chemical conditions, to maintenance of soil fertility, to water control and conservation, and to soil erosion control. Demonstrations.

201 Soils (3 + 3) 4 credits F
Nature and properties of soils; soil and plant relations; soil types; soil fertility and management. Prerequisite: Chem. 102 and Agron. 106.

323(G) Soil Physics (2 + 3) 3 credits F
Physical characterstics of soils and their colloids; soil moisture; soil, air, and temperature; soil salts and alkali. The effects of fertilizers, amendments, and various cultural practices upon the physical and chemical properties of soils. Prerequisite: Soils 201. (Offered in even-numbered years.)

325(G) Soil Genesis and Classification (2 + 3) 3 credits F
Origin and development of soils; soil classification and survey. The distribution, chemical and physical properties, and capabilities of the major soil groups. Soils of Nevada. Field trips. Prerequisite: Chem. 102, and either Geol. 101 or Soils 201. (Offered in odd-numbered years.)

418 Soil Fertility (2 + 0) 2 credits S
Principles of soil fertility and soil characteristics related to fertility. Soil microbiology; organic matter; plant nutrients and other elements; fertilizer materials and fertilizer application. Demonstration. Prerequisite: Soils 201; Chem. 242; Biol. 351 or Bot. 355. (Offered in odd-numbered years.)

420 Soil Fertility Laboratory (0 + 6) 2 credits S
Laboratory methods and studies related to soil fertility and the measurement of organic matter, microbial activity, and plant nutrients in soils. Prerequisite: Chem. 233. (Offered in even-numbered years.)

422 Soil Conservation (1 + 3) 2 credits S
The soil as a natural resource. Management of soils for crop production and soil protection with emphasis given to conditions and problems that exist in Nevada. Soil characteristics and productivity. Field trips. Prerequisite: Soils 201; Agron. 106; R.Mgt. 359 or Ag.Mech. 356 or Ag.Econ. 476.

591 Thesis 1 to 6 credits F, S

Spanish (Span.)

101–102 Beginning Spanish (5 + 0) 5 credits each F – S
Essentials of grammar, reading, conversation, and composition.

103–104 Second Year Spanish (3 + 0) 3 credits each F – S
Readings from modern Spanish writers. A review of grammar. Conversation and composition. Prerequisite: Span. 101-102 or two years of high school Spanish.

331 Spanish Literature in Translation (2 + 0) 2 credits F
A survey of Spanish literature during the Medieval Period, Renaissance, and Golden Age. Lectures in English and collateral readings in English translation. Kline.

332 Spanish Literature in Translation (2 + 0) 2 credits S
A survey of Spanish literature from the eighteenth century to the present. Lectures in English and readings of representative works in English translation. Kline.

351(G)–352(G) The Modern Spanish Novel (2 + 0) 2 credits each F – S
Rapid reading of masterpieces of Spanish fiction: Galdós, Valdés, Ibáñez, etc. Prerequisite: Span. 103-104. Kline.

355–356 Intermediate Spanish Composition and Language (3 + 0) 3 credits each F – S
This course should be taken with the first year of junior-senior reading courses in Spanish. Prerequisite: Span. 103-104. Dandini.

357(G)–358(G) General Survey of Spanish Literature (3 + 0) 3 credits each F – S
The history of Spanish literature with detailed study of special periods. Assigned outside readings and reports on works read. Prerequisite: Span. 103-104. Gottardi.

367(G)–368(G) Early Spanish Novel (2 + 0) 2 credits each F – S
Reading of Spanish prose of the sixteenth, seventeenth and eighteenth centuries. A study of novelistic movements. Montalvo, Montemayor, Cervantes, Quevedo. Collateral reading. Prerequisite: 4 credits of junior-senior work. Kline.

369(G)–370(G) Spanish Classic Drama (2 + 0) 2 credits each F – S
Literature of the sixteenth and seventeenth centuries—Lope de Vega, Tirso de Molina, etc. Prerequisite: 4 credits of junior-senior work. Gottardi.

371(G)–372(G) Modern Spanish Drama (2 + 0) 2 credits each F – S
A study of Spanish dramatic literature from the Golden Age to the twentieth century. Prerequisite: Span. 103-104.

373(G)–374(G) Spanish-American Literature (2 + 0) 2 credits each F–S
Prose and poetry. Prerequisite: Span. 103-104. Melz.

379–380 Advanced Spanish Prose Composition and Conversation (2 + 0) 2 credits each F–S
This course should be taken simultaneously with the second year of junior-senior reading courses in Spanish. Prerequisite: Span. 103-104. Dandini.

495–496 Independent Study 2 credits each F – S
Open to qualified students specializing in Spanish with the permission of the Chairman of the Department. At least one conference per week with the instructor concerned.

591 Thesis 1 to 6 credits F, S

Speech

109 Speech Improvement (1 + 0) 1 credit
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. May be repeated without credit. (Offered in alternate years.)

111 Public Speaking (2 + 0) 2 credits F, S
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.

112 Public Speaking (2 + 0) 2 credits F, S
A continuation of Speech 111. Prerequisite: Speech 111.

119 Introduction to the Theatre (2 + 0) 2 credits F
A study of the theatre as a social and cultural institution. Wilson.

120 Acting (1 + 3) 2 credits S
Theory and technique of acting. Participation in public performances expected. Wilson.

217–218 Argumentation and Debate (2 + 0) 2 credits each F – S
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. Griffin.

219–220 Play Production (1 + 3) 2 credits each F – S
Lectures and laboratory work in the production of plays. Laboratory work is centered around major campus productions. Wilson.

221 Interpretation (2 + 0) 2 credits F, S
The oral interpretation of the forms of literature with special attention directed to diction. Miller.

222 Interpretation (2 + 0) 2 credits S
A continuation of Speech 221. Prerequisite: Speech 221. Miller.

311 Advanced Speech Composition (3 + 0) 3 credits F
Study for effective speech composition, based upon application of rhetorical and psychological principles. Open to a limited number of students. Griffin.

315 Principles and Techniques of Public Discussion (3 + 0) 3 credits F
Study of the principles and techniques involved in the various forms of group discussion: symposium, panel, lecture forum, forensic progression, etc. Duties and problems of the discussion leader. Classroom practice in solving public problems. The course stresses scholarly inquiry on a cooperative basis. Prerequisite: Speech 111-112 or 217-218. Griffin.

317–318 Advanced Argumentation and Persuasion (2 + 0) 2 credits each F – S
Study of the intellectual and emotional behavior of the audience. Analysis of complex public problems and the briefing of cases for the advocate. Prerequisite: Speech 217-218. Griffin.

321–322 Advanced Interpretation (2 + 0) 2 credits each F – S
A study of advanced techniques of oral expression to develop imagination, reading skill, and platform deportment in all its phases. Practice will include radio presentations of dramatic materials. Prerequisite: Speech 221-222, or consent of instructor. (Offered in alternate years beginning in 1956-1957.) Miller.

323–324 The Oral Interpretation of Shakespeare (2 + 0) 2 credits each F – S
The oral interpretation of Shakespeare's plays. During the second semester the class will present a full-length production. (Offered in alternate years beginning in 1955-1956.) Miller.

347 Radio and Television Techniques (3 + 0) 3 credits
The techniques employed in the operation of radio and television stations in the smaller cities, including: production, staging, filming, programming, sales, and script writing.

348 Television: Commercial Writing and Selling (2 + 0) 2 credits
The writing and selling of, and participation in, television commercials.

411 The Bases of Speech (2 + 0) 2 credits F
The social, physiological, phonetic, and neurological bases of speech. Provides a background for advanced study in speech, especially as preparation for the study of speech correction. Griffin.

412 Correction of Speech Defects (2 or 3 + 0) 2 or 3 credits S
For teachers and others with a special interest in effective oral communication. The nature and causes of the various speech defects, with the therapeutical procedures used to correct them. Not designed to train clinicians, but to create an insight into subnormal speech problems. Prerequisite: Speech 411. Griffin.

413 Parliamentary Law and Practice (2 + 0) 2 credits
Study and practice of the parliamentary rules and procedures governing deliberative assemblies. (Cannot be taken for graduate credit.) Griffin.

415–416 History of Public Address (2 + 0) 2 credits each F – S
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. Griffin.

417–418 **Debate Practice and Problems** (2 + 0) 2 credits each F – S
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. Griffin.

419–420 **Prelegal Argumentation** (2 + 0) 2 credits each F – S
Study and practice, especially for prelegal students, of the forensic aspects of law. The course will include participation in mock trials and the auditing of exemplary cases and suits in local courtrooms. (Cannot be taken for graduate credit.) Griffin.

425–426 **Directing** (1 + 3) 2 credits each F – S
Fundamentals of directing. Emphasis on stage management first semester. Direction of selected plays second semester. Participation in public performance during both semesters. Wilson.

427–428 **Development of Dramatic Art** (3 + 0) 3 credits each F – S
A survey of the drama from early times to the present. First semester covers period from the Greeks to 1642; the second, 1642 to the present. Wilson.

429 **Playwriting for Directors** (3 + 0) 3 credits
An analytic approach to the play form specifically designed to aid the director in analysis of plays for presentation. The student will be required to write a one-act play as part of the course. Wilson.

431–432 **Children's Theatre** (1 + 3) 2 credits each F – S
A laboratory and conference course offering practical experience in operating a children's theatre. Designed for the prospective elementary school teacher. Prerequisite: Speech 219 or 220, or consent of instructor. Miller.

495–496, 497–498 **Independent Study** 1 credit each F – S
Open to juniors and seniors specializing in speech and drama with permission of the instructor.

Zoology (Zool.)

(Also see Biology and Botany)

103 **General Zoology** (2 + 0) 2 credits F, S
An introductory course dealing with the general principles of animal biology. La Rivers.

104 **General Zoology Laboratory** (0 + 2 or 4) 1 or 2 credits F, S
An optional course to accompany Zool. 103. Two credits of laboratory must be taken by all major- and minor-interest students and should be the rule with those whose curriculum includes beginning zoology as a required course. The one-credit laboratory is designed solely for those students who will usually take only one course in zoology and wish some laboratory familiarity with the subject. La Rivers, de Roth, Jones, Richardson.

210 **Agricultural Entomology** (2 + 3) 3 credits F
A beginning course designed for the agricultural curricula. The emphasis is upon the economic importance and control of insects as these affect human welfare from the agricultural standpoint. Prerequisite: Zool. 103, 104. (Offered in alternate years.) La Rivers.

220 Archaeology (2 + 0) 2 credits F
A survey course dealing with the broader aspects of prehistoric and historic human cultures as developed by archaeological methods. Prerequisite: Sophomore standing. La Rivers.

223 Human Anatomy and Physiology (2 + 6) 4 credits F
Part I. The structure and function of the skeletal, articular, muscular, nervous, and sensory systems. Prerequisite: A semester of college zoology, including laboratory, or consent of the instructor. Some college chemistry is recommended. Jones.

224 Human Anatomy and Physiology (2 + 3) 3 credits S
Part II. The structure and function of the digestive, respiratory, circulatory, excretory, genital, and endocrine systems. Prerequisite: The same as for Zool. 223. Zool. 224 can be taken before Zool. 223. Jones.

226 Supplementary Physiology Laboratory (0 + 3) 1 credit S
Work on blood, urine, etc. For students preparing for medical technology or nursing. Prerequisite: Must be taken concurrently with or following Zool. 224. Jones.

309(G) Comparative Anatomy of Vertebrates (3 + 6) 5 credits F
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: Zool. 103, 104. de Roth.

322(G) Parasitology (2 + 3) 3 credits F
An introductory study of disease producing animals of medical, veterinary, and wildlife importance. de Roth, Richardson.

333(G) Fishes, Amphibians, and Reptiles (2 + 0) 2 credits S
A course especially designed for naturalists, field workers, and teachers. Prerequisite: Zool. 103. (Alternates with Biol. 420.) La Rivers.

334(G) Fishes, Amphibians, and Reptiles Laboratory (0 + 3) 1 credit S
An optional course to accompany Zool. 333. La Rivers.

335(G) Ornithology (2 + 4) 3 credits S
A course especially designed for field workers, teachers, and naturalists. Prerequisite: Zool. 103, 104. (Alternates with Zool. 337.) de Roth.

337(G) Mammalogy (2 + 3) 3 credits S
A study especially of Nevada mammals, including big game, fur bearing, and predatory species. Prerequisite: Zool. 103, 104. (Alternates with Zool. 335.) de Roth.

340(G) Survey of Invertebrates (2 + 0) 2 credits F
A study of the invertebrate groups from Protozoa to Echinodermata, exclusive of the insects. Prerequisite: Zool. 103. La Rivers.

341(G) Survey of Invertebrates Laboratory (0 + 3) 1 credit F
An optional course to accompany Zool. 340. La Rivers.

359(G) Entomolgy (2 + 0) 2 credits F
An introduction to the principles of insect biology. Prerequisite: Zool. 103. La Rivers.

360(G) Entomology Laboratory (0 + 6) 2 credits F
An optional course to accompany Zool. 359. La Rivers.

364(G) **Embryology** (2 + 6) 4 credits S
The development of vertebrates, with laboratory work on the frog, chick, pig, and human embryos. Prerequisite: Zool. 103, 104. Zool. 309 is recommended. Richardson.

368(G) **Histology** (1 + 3) 2 credits F
A brief survey of the microscopic structure of animal tissues and organs, most of the material being from man and other mammals. Prerequisite: Zool. 103, 104; 223 or 309. Jones.

370(G) **Microtechnique** (0 + 6) 2 credits S
A study of the preparatory techniques involved in the microscopic study of animal tissues. Prerequisite: Zool. 103, 104. (Alternates with Bot. 370.) La Rivers.

381(G) **Animal Ecology** (2 + 0) 2 credits F
Part I. A study of the mutual influences of environment and animals upon each other. Prerequisite: Zool. 103. de Roth.

382(G) **Animal Ecology** (2 + 0) 2 credits S
Part II. A study of animal communities. Prerequisite: Zool. 381 or consent of the instructor. de Roth.

384(G) **Animal Ecology Laboratory** (0 + 4) 1 credit S
An optional laboratory and field course to accompany Zool. 381 and/or 382. de Roth.

446 **General and Comparative Physiology** (2 + 3) 3 credits S
The emphasis in this course is on the functioning of protoplasm, cells, and animal tissues, with some topics in comparative animal physiology. Designed primarily for students majoring in biology or taking premedical and predental curricula. Prerequisite: At least two years of chemistry and two years of biology are recommended. Jones.

463 **Game Management** (2 + 3) 3 credits F
Conservation or regulated use as applied to game birds and mammals. Field trips and laboratory studies on observation and identification of western game species, and on application of management principles. Prerequisite: Zool. 335, 337; and Bot. 222. (Alternates with Biol. 355.) de Roth.

470 **Fish Hatchery Management** (0 + 6) 3 credits S
Familiarizes the wildlife management student with the plan and operation of the Verdi State Fish Hatchery of the Nevada Fish and Game Commission. La Rivers.

485–486 **Museum Technology** 1 to 3 credits each F – S
A laboratory course to acquaint the advanced biology student with the techniques and problems of museum work. La Rivers.

491–492–493–494 **Advanced Zoology** 1 to 3 credits each F – S
Special zoological problems for investigation and report. The student is limited to a total of 8 credits.

496 **Zoology Seminar** 1 or 2 credits S
The presentation by students of reviews and discussion of assigned reports of research in zoological literature. Prerequisite: 9 credits of zoology. La Rivers.

591 **Thesis** 1 to 6 credits F, S

Summer Sessions

*FIRST SESSION

June 11 through June 22, 1956

*LONG SESSION

June 11 through August 17, 1956

*MAIN SESSION

June 25 through August 3, 1956

*POST SESSION

August 6 through August 17, 1956

Opportunity and Purpose

The Summer Sessions are an integral part of the University of Nevada organization. The same high standards prevail as in the regular session; equivalent work carries equivalent credit and the same high quality of teaching personnel is maintained.

One of the primary purposes of the Summer Sessions is to meet the needs of teachers who wish to spend a part of the summer vacation in serious study or investigation. The Summer Sessions afford unusual opportunity to increase teaching skill, to develop teaching personality, to obtain help with individual classroom problems, to acquire new cultural and recreational interests, and to become better informed concerning current and social problems, and to build depth in academic fields.

Of almost equal importance is the opportunity given by the Summer Sessions to students desiring to accelerate their programs. Moreover, some students find it advantageous to attend summer school to gain a desired classification or to study a particular subject not offered in the regular sessions.

Specific courses are designed for high school teachers, elementary teachers, and teachers of departmental work. Courses offered in any of the Summer Sessions may be applied for advancement toward a special school diploma, a bachelor's or master's degree, and toward certification by the Nevada State Board of Education. A bulletin

*Registration is on preceding Saturday.

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

High School graduates or adults with ability to do scholastic work on the University level may register in the Summer Sessions. However, credit toward any University degree or diploma will be granted only after the student has met all requirements for admission and has matriculated at the University.

Usually the student may enroll for a maximum of 6 or 7 credits of work in the main Summer Session. The number of credits allowed for each course is determined on the basis that fifteen University lecture periods of fifty minutes each, together with two hours of out-of-class preparation for each class, earn 1 credit. A total of 10 to 12 credits may be earned during the Summer Sessions.

Certain 3 credit courses listed under *Courses of Instruction* in this catalogue may be offered for 2 credits in Summer Sessions or off-campus by arrangement.

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 placement 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 placement office, will, however, be instrumental in bringing competent teachers and school officers into contact.

The fee for enrollment in the placement service is $5. For this fee, five sets of credentials are prepared, to be sent to school authorities. No commission is charged on the appointee's salary.

Off-Campus Centers

Special summer school courses are offered through the State at established off-campus centers, depending on available staff and demand. These centers include Las Vegas, Elko, and Ely. There programs are

primarily designed for teachers and administrators who are working toward either undergraduate or graduate degrees. Information pertaining to these programs is available from the Dean of State-wide Development.

Summer Sessions Fees

The Summer Sessions fees are listed in the section of this catalogue entitled *Financial Information.*

Information Concerning Summer Sessions

Inquiries concerning any aspect of the Summer Sessions should be directed to the Director of Summer Sessions. Specific requests concerning housing should be sent to the Dean of Student Affairs. Transcripts of credit earned at other institutions should be sent to the Director of Summer Sessions for advisement purposes. New students desiring to work for a degree at the University of Nevada should write to the Director of Admissions requesting permission to be admitted to do work for credit.

Public Services

Agricultural Experiment Station

The support of the Station comes from state and federal funds. The federal grant funds are made available from the following Acts of Congress: The Hatch Act of March 2, 1887; the Adams Act of March 16, 1906; the Purnell Act of February 24, 1925; the Bankhead-Jones Act (Section 5) of June 29, 1935; and the Bankhead-Jones Act (Section 9) of August 14, 1946. None of these funds can be applied to teaching or to the work of Agricultural Extension because the object of all of these funds is the investigation, by scientific methods, of problems in the agricultural industry.

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

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

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

Agricultural Extension Service

Cooperating Parties

The President and the Board of Regents of the University of Nevada.

The Extension Service of the United States Department of Agriculture.

Boards of County Commissioners.

Cooperative extension work in agriculture and home economics is conducted in Nevada under the provisions of the following Acts of Congress: The Smith-Lever Act, approved May 8, 1914; the Capper-Ketchum Act, approved May 22, 1928; the Bankhead-Jones Act, approved June 29, 1935; the Bankhead-Flannagan Act, June 1945.

The Agricultural Extension Service as established under the Memorandum of Understanding with the United States Department of Agriculture is a "definite and distinct administrative division" of the Max C. Fleischmann College of Agriculture of the University of Nevada. All the extension activities of the Max C. Fleischmann College of Agriculture and the United States Department of Agriculture in Nevada are conducted through this division.

The nature of the work is defined in general terms by law as "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications and otherwise." Instructions and demonstrations are given to rural people in both adult and junior organized groups through the County Community Centers, and Boys' and Girls' 4-H Clubs.

County Community Centers serve as a forum where farm men and farm women together find a solution for many of their problems by cooperating with Agricultural Extension Service.

Extension work is outlined in written projects and budgets entered into by the cooperating parties. Major projects are range livestock, dairying, poultry, crops, home improvement, human nutrition, and rural organization.

The organization for extension work in Nevada comprises an administrative and specialist staff, resident at the University, and county and district agents. All 17 Nevada counties have county extension work now extended to them. Fifteen counties have cooperative agreements between the Agricultural Extension Service and the respective Boards of County Commissioners pursuant to Nevada Statutes, Chapter 94, Sections 1-9, approved March 20, 1947.

Nevada Bureau of Mines

The Bureau of Mines of the State of Nevada was established by the Legislature of 1929. The Act places the supervision of the Bureau with the Board of Regents of the University of Nevada.

The purposes of the Bureau are to conduct a mineralogical survey of the State, to catalogue both metallic and nonmetallic deposits, to serve as a bureau of information and exchange in Nevada mining, to collect and publish statistics relative to Nevada mining, to prepare a bibliography of literature pertaining to Nevada mining and geology, and other various activities.

Nevada Mining Analytical Laboratory

The Mining Analytical Laboratory was organized at the University of Nevada in 1895 under the provisions of an Act approved on March 16 of that year. Its object is to assist the mineral industry of Nevada

by making free identifications and assays of minerals, ores, and rocks taken from within the boundaries of the State by its citizens, and by reporting to the senders the results of such identifications or assays together with the uses and market values of the substances submitted.

Samples and specimens are listed in the order in which they are received at the laboratory, and are examined essentially in this order, but reports do not go out in the same order, for some assays take longer than others.

The records of the laboratory are open to inspection, but visitors are not permitted to see copies of reports until sufficient time has elapsed for the original reports to reach the hands of the senders.

Departments of Food and Drugs, Weights and Measures, and Petroleum Products Inspection

(Sierra and Fifth Streets, Reno)

Staff

EDWARD L. RANDALL, M.S., Commissioner.
STANLEY D. JOHNS, B.S., Chemist.
LYLE WARREN, M.S., Chemist.
PETER A. FERRETTO, Inspector.
CARLTON W. STROUD, Inspector.
ARTHUR B. ANDERSON, Inspector.
A. J. RAFAEL, Resident Inspector, Las Vegas.
RAY G. NEELY, Inspector, Las Vegas.
HELEN MOSSMAN, Clerk.
LEAH FOSTER, Clerk, Las Vegas.

These three departments were created by separate specific Acts of the State Legislature. Since the enforcement of each of these laws has been delegated to the Commissioner of Food and Drugs, they have been consolidated under one department. The consolidation has proved to be of considerable benefit, because the laboratory control necessary in carrying out the provisions of these laws can be used to a great extent by the three departments, and because much of the work and many of the duties overlap.

An entirely new Food, Drugs and Cosmetic Law was enacted in 1939. As this law is patterned very closely after the Federal Law of the same title, there is little conflict in the provisions of the two laws. Essentially this law prohibits the manufacture or sale of misbranded or adulterated food, drugs, and cosmetics. This includes commodities which constitute a danger to health, as well as an economic fraud. The laboratory of the department is completely equipped to examine practically all types of food, drugs, and cosmetics.

Under the provisions of the State Weights and Measures Act the department is required to keep a complete set of reference standards of weight, volume, and linear measure. The standards are calibrated

for accuracy at intervals of not less than ten years by the Bureau of Standards in Washington. Field-testing equipment is calibrated against the office standards and is used in checking all weighing or measuring devices, regardless of type, throughout the State. Citizens of the State are privileged to submit measuring devices of any description for calibration with the office standards. Commodities sold by weight, measure, or numerical count are periodically checked by the Department for compliance with their declared weights.

To the Petroleum Products Inspection Department is delegated the duty of enforcing the State specifications and standards for gasoline and lubricating oils. Specifications for gasoline are incorporated in the law. Such standards insure that a product sold as gasoline is entirely suitable for internal combustion engines and is not a petroleum product of less volatile nature, such as kerosene, stove oil, or distillate. Lubricating oil must be of the same grade as advertised on the dispensing container.

In addition to the above-described duties, this department is pleased at any time to investigate cases in which the products involved constitute a public health menace or an economic fraud.

The State Veterinary Control Service

Staff

EDWARD RECORDS, V.M.D., Director.
AGNES HILDEN, B.S., Technician.
SHIRLEY M. AVANSINO, Secretary.

The State Veterinary Control Service was organized under the provisions of an Act of the Legislature approved March 11, 1915. The primary object of this department is to provide facilities for the routine laboratory diagnosis of contagious, infectious, and parasitic diseases of domesticated animals, poultry, game animals and birds. Minor research into the nature, cause, and means of control of such conditions is also carried on. It is the official laboratory for the Nevada State Department of Agriculture and is approved by the United States Department of Agriculture and the California State Department of Agriculture for the conduct of brucellosis tests.

This work is conducted in close cooperation with the State Department of Agriculture, the State Board of Sheep Commissioners, the United States Department of Agriculture, and the State Fish and Game Commission.

The services of the laboratory are available to the veterinarians, livestock owners and poultry raisers of the State in connection with any problem coming within the scope of its work.

When any condition encountered appears to warrant more prolonged and elaborate research work, projects covering same are set up as part of the work of the Agricultural Experiment Station.

United States Department of the Interior
Bureau of Mines

Rare and Precious Metals Experiment Station

Staff

T. R. GRAHAM, Chief, Division of Mineral Technology; Supt., Rare and Precious Metals Experiment Station.
CARLYLE G. ADAMS, Guard.
CLYDE E. ARRINGTON, Chemist.
WALTER BANK, Geologist.
DONALD J. BAUER, Chemical Engineer.
WILLMAR T. BENSON, Mining Engineer.
JAMES I. BOTSFORD, Physical Science Aide.
JOHN M. BOYLAN, Chemist.
KENNETH G. BROADHEAD, Chemical Engineer.
THERESA V. CAPRIO, Clerk-Stenographer.
DOUGLAS A. DOUGLASS, Chemist.
ABRAHAM L. ENGEL, Metallurgist.
FRED E. FINK, Guard.
FRED J. FULTON, Physical Metallurgist.
PEDRO GARCIA, Clerk-Typist.
GLENN G. GENTRY, Mining Engineer.
EDWARD J. HAJDUK, Guard.
HAROLD J. HEINEN, Metallurgist.
HENRY A. HELLER, Chemist.
GEORGE H. HOLMES, JR., Mining Engineer.
GEORGIA E. HOOPER, Clerk-Typist.
DOROTHY C. HUGHES, Physical Science Aide.
RAYMOND H. JEBENS, Chemical Engineer.
HENRY W. JONES, Mining Engineer.
A. C. JOHNSON, Mining Engineer.
GEORGE H. JOHNSON, Mining Engineer.
HOWARD W. KEATING, Guard.
GERALD W. KENNEDY, Guard.
ROALD LINDSTROM, Chemical Engineer.
WILLIAM H. LENZ, Physical Metallurgist.
ALBERT E. LONG, Mining Research Engineer.
FARREL W. LYTLE, Physical Science Aide.
I. BERNICE MACKEY, Draftsman.
JACK D. MARCHANT, Metallurgist.
VERA MCCLINTIC, Clerk-Typist.
HARRY J. MCCREARY, Safety Representative.
ANN M. MEIERS, Secretary.
EDWARD MORRICE, Metallurgist.
JOHN N. NOLAND, Superintendent (Maintenance).
ANDREW C. RICE, Chemist.
SPANGLER RICKER, Executive Officer, DMEA.
LEONARD O. ROSSITER, Physical Science Aide.
EDWARD T. SCHENK, Geologist.
VAN E. SHAW, Chemist.
BENJAMIN SHEAHAN, Mining Engineer.
EDWARD S. SHEDD, Metallurgist.
DOROTHY C. TEASS, Clerk-Stenographer.
ELISABETH R. THOMAN, Clerk-Typist.

LENORA S. THOMPSON, Clerk-Typist.
RUSSELL R. TRENGOVE, Mining Engineer.
JOHN D. WARNE, Mining Engineer.
L. ALLAN WHITE, Physicist.
THOMAS C. WHITNEY, Procurement Officer.
FRANK J. WIEBELT, Mining Engineer.
JOYCE M. WILLIAMS, Clerk-Typist.
PETER F. YOUNG, Physical Metallurgist.
JOHN B. ZADRA, Metallurgist.

The Federal Bureau of Mines maintains the Rare and Precious Metals Experiment Station on the campus of the University of Nevada. This facility is headquarters for the division of Mineral Technology, Region II, which comprises the geographical area of Nevada and California, and serves as office for technical direction of activities at the Electrometallurgical Experiment Station, Boulder City, Nevada, and Mineral Thermodynamics Experiment Station, Berkeley, California. The Division of Mineral Technology is responsible for basic and applied scientific research and technologic activities in metals and minerals, other than fuels, including mining and metallurgical investigations, engineering evaluation of area resources, and related studies in the earth sciences. Area headquarters for Defense Minerals Exploration Administration, Nevada and California, are located in the Experiment Station. Under this activity, the Federal Government, by participation in the cost, encourages exploration and development of mineral resources.

The Bureau of Mines is primarily concerned with the Nation's mineral supply and is responsible for making technologic and economic studies of the problems of mineral industries that affect the availability of domestic and foreign minerals. The Bureau fosters the development and conservation of the Nation's mineral resources, particularly strategic resources and those vital to regional economies; promotes health and safety in the mineral industries; conducts technical research in the mining, preparation, and utilization of minerals; and assists the mineral industries through consultation, dissemination of technical data and statistics, and development of new techniques for utilizing available resources and substitutes for materials not produced domestically in adequate supply.

Record for 1955–1956

Scholarships

Scholarships for 1955 – 1956 for the following students were announced by the Scholarships and Prizes Committee on Commencement Day, June 6, 1955:

JEWETT W. ADAMS SCHOLARSHIPS of $100

James Bright
Joseph Crook
Jo Ann Elston
Angeline Farros
Clarence Gilbert
Richard Gillette
Charlotte Gleason
Suzanne Kuypers
Evalyn Lagasse
Charlotte Lemaire
Carole Matthiessen
Sandra Mitts
Robert Pearson
Clarence Richardson
Salvador Ruiz
William Schroeder

ARMANKO OFFICE SUPPLY SCHOLARSHIPS of $100

In Chemistry.....Ernest Brown
In Physics.....Dennis Burge

ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP of $50

Marilyn Brooks

JOSEPHINE BEAM SCHOLARSHIPS of $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks.

Charles Baker
John Bullis
Wuanita Combs
Yvonne Erb
Harry Garner, Jr.
Ruthe Ann Marty
Bernard Mergen
Nedra Norton
Kenyon Oakberg

FRANK O. BROILI SCHOLARSHIP IN ELECTRICAL ENGINEERING of $100

Don Odell

MARYE WILLIAMS BUTLER SCHOLARSHIP IN MATHEMATICS of $50

Jacob Faragher

AZRO C. CHENEY SCHOLARSHIP IN ENGLISH of $100

Sandra Newell

CHARLES ELMER CLOUGH SCHOLARSHIPS of $150

Ralph Powell
Walter Wiseman

COPPERMINES' FOUNDATION, INC., SCHOLARSHIPS of $500

Thomas Keegan
Nicholas Reyes

DELTA DELTA DELTA SCHOLARSHIP of $150

Charlotte Gleason

THOMAS E. DIXON SCHOLARSHIP of $150

Bonnie Stewart

EMPORIUM OF MUSIC SCHOLARSHIP IN MUSIC of $100
Thomas Murie

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $250

Lois Baskerville
Robert W. Brown, Jr.
William Eaton
Jacob Faragher
Raymond Ferrari
Tommy Jayo
John Locke
Mark Nicklanovich
Karen Phillips
Vernon Pursel
Robert Reeder
Robert Stratton
Carol Tollefson

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of $500

George Evans
Raymond Gore
Robert J. Jones
Dixie Sturges

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS for entering freshmen: $250 to Reno or Sparks students; $500 to students not residing in Reno or Sparks.

Carol Gardenswartz
Gwenlyn Guinn
Maxine Mansor
Edith Rittenhouse
Letitia Sawle
Patricia Turner

FRENCH LANGUAGE SCHOLARSHIP of $100
Inez S. Davis

GRAND ARMY OF THE REPUBLIC SCHOLARSHIP of $100
Fred J. Hertlein, III

ROYAL D. HARTUNG INDUSTRIAL EDUCATION SCHOLARSHIPS of $500

James N. Brune
Marvin Mayo

MRS. CARL OTTO HERZ SCHOLARSHIP IN ELECTRICAL ENGINEERING of $100
Franklin Phelps

INDEPENDENT ORDER OF ODDFELLOWS SCHOLARSHIP of $150
Frederick Bartlett

KENNECOTT COPPER CORPORATION SCHOLARSHIP of $1,000
Charles Taylor

KLUTE SCHOLARSHIPS IN FOREIGN LANGUAGES of $100

Denise Dwyer
Jerry Fenwick
Yvonne Thornton

LAS VEGAS PRESS CLUB SCHOLARSHIPS of $200

Robert Faiss
Karen Knudsen
Sandra Mitts
Henry Rilling

CARRIE BROOKS LAYMAN MEMORIAL SCHOLARSHIP of $200
Shirley Allen

WILLIAM S. LUNSFORD SCHOLARSHIP IN JOURNALISM of $100
Walter Ryals

HONORABLE WILLIAM O'HARA MARTIN AND LOUISE STADTMULLER MARTIN SCHOLARSHIP IN HISTORY AND POLITICAL SCIENCE of $100
Patricia Samon

NEVADA HIGHWAY EMPLOYEES SCHOLARSHIP of $100
John Shevlin

NEVADA REBEKAH ASSEMBLY SCHOLARSHIP of $100
Dorothy Kine

NEVADA STATE PRESS ASSOCIATION SCHOLARSHIP of $250
Divided between:
Bruce Bledsoe Kenneth Robbins

PREMEDICAL–PRENURSING SCHOLARSHIP of $100
Richard Morrill

RALSTON PURINA SCHOLARSHIP of $500
Doyle Spurlock

RENO BUSINESS AND PROFESSIONAL WOMEN'S CLUB SCHOLARSHIP of $50
Joan Sawle

RENO NEWSPAPERS, INC., SCHOLARSHIP IN BUSINESS of $100
Robert Cooper

ROTARY CLUB OF RENO SCHOLARSHIP of $300
Evangeline Smith

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of $250
William Kyle

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of $200
Carol Hardy

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIPS of $125
William Canepa Richard Short
Thomas Dorf Harland Wilson
Edgar Piper David Wood

SEMENZA SCHOLARSHIP IN ECONOMICS, BUSINESS, AND SOCIOLOGY of $100
Phyllis Crowder

MARY ELIZABETH TALBOT MEMORIAL SCHOLARSHIP IN MATHEMATICS of $300
Doreen Spiller

REUBEN C. THOMPSON SCHOLARSHIP IN PHILOSOPHY of $100
Dwight Powell

WESTERN ELECTROCHEMICAL COMPANY SCHOLARSHIP of $500
John Staley

RITA HOPE WINER MEMORIAL SCHOLARSHIP IN EDUCATION of $50
Lois Baskerville

KENNETH W. YEATES SCHOLARSHIP IN PSYCHOLOGY of $100
Francine Luwe

Prizes and Honors

Prizes and Honors for the following students were announced on Commencement Day, June 6, 1955:

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN'S honorary memberships

Dixie Kilburn
Martha Riley
Joy Thompson

HENRY ALBERT SENIOR PUBLIC SERVICE PRIZES of $37.50

Clair Earl
Elizabeth Munley

THE FRENCH MEDAL

Lorraine Meunier

THE GINSBURG JEWELRY COMPANY AWARDS of two fine watches

Sheilla Kiley
Clarence Richardson

ALEX RANSON MEMORIAL AWARD of $25

Terrance Katzer

C. F. AND FRANK WITTENBERG MEMORIAL PRIZE of $100

John M. Staunton

HONOR ROLL OF THE SENIOR CLASS (Listed according to rank)

Olaf S. Leifson
Patricia Sue Casey
Barbara Maclean
John L. Hall
Robert Christner
Glenn Dory
George Samstad, Jr.
Janet Van Valey
Martha Riley
Richard Breitwieser

HONOR ROLL FOR THE FOUR-YEAR COURSE (Listed according to rank)

Olaf S. Leifson
Patricia Sue Casey
Barbara Maclean
Janice Green
Alice Darrah
Genevieve Jones
John L. Hall

ELECTED TO PHI KAPPA PHI

Helen N. Carlson
James Carlson
Jake Carpenter
Patricia Sue Casey
Richard Coffill
Alice Darrah
Priscilla Dorazio
Janice Green
John L. Hall
Genevieve Jones
Alice Koontz
Olaf S. Leifson
Barbara Maclean
Hans Mohr
Ray Pastorino

THE GOLD MEDAL

Olaf S. Leifson

Awards for Military Excellence

GOVERNOR'S MEDAL

Cadet Captain Olaf S. Leifson

COMBAT FORCES MEDAL

Cadet Lieutenant Colonel Stephen C. Stewart

PRESIDENT'S TROPHY

Cadet Terrance L. Katzer

AMERICAN SOCIETY OF MILITARY ENGINEERS AWARD
Cadet Master Sergeant Charles M. Taylor

VETERANS FOREIGN WARS TROPHY
Cadet Master Sergeant James T. Wright

MCCLURE REVOLVING TROPHY
Company "E," Cadet Captain Clair Earl, Commanding

NATIONAL RIFLE ASSOCIATION TEAM MEDAL
Cadet Master Sergeant Maxwell K. Botz

SCABBARD AND BLADE AWARDS
Gold Medal, Cadet Donald B. Bissett
Silver Medal, Cadet George W. Ball
Bronze Medal, Cadet Lee A. Holland

KERAK TEMPLE AWARDS
Gold Medal, Cadet Vernon G. Sargent
Silver Medal, Cadet James P. Fast
Bronze Medal, Cadet Billy L. Adams

Graduates

Diplomas and degrees were awarded on Commencement Day, June 6, 1955, as follows:

Master of Arts

Rose M. Bullis — Education
University of Nevada, 1953

John Louis Carline — Education
New York State College for Teachers, Oneonta, 1952

Helen Swisher Carlson (1-28-55) — English
University of Nevada, 1953

Buster Lee King (8-20-54) — History
East Central State College, Ada, Oklahoma, 1939

Mark E. Lewis — Political Science
University of Redlands, Redlands, California, 1950

Master of Science

Charles Kenneth Bradshaw — Mathematics
Iowa State College, 1945

Duncan William Frew, Jr. — Chemistry
University of California, 1952

David Hand — Geology
University of Nevada, 1953

George Arya Louis — Chemistry
University of Nevada, 1951

Lyle Henry Warren (1-28-55) — Zoology
University of California, 1951

Engineer of Mines (E.M.)

Dudley L. Davis — University of Nevada, 1940
William Jordan Newman — University of Nevada, 1941
Edward B. Olds — University of Nevada, 1938

Electrical Engineer (E.E.)

Raemon Charles Samuels — University of Nevada, 1926
Eugene H. Tucker — University of Nevada, 1931

Max C. Fleischmann College of Agriculture

Bachelor of Science in Agriculture

Thomas Warren Ballow
Charles Rexton Cleary (8-20-54)
Marion Escobar (1-28-55)
Robert Anthony Madsen (1-28-55)
Emory Laughlin Marshall
Harold P. Olsen
Donnel Ray Raker
John Marshall Staunton
Frank S. Stewart, Jr.
Philip Ronald Ternan

Bachelor of Science in Home Economics

Dolores Black
Alice LaVerne Cooper
Barbara Anne Darrah
Adamae Margaret Gray
Sharon Lee Jarrett
Nadine Coleman Leal
Elinor Long
Evelyn Christine Nelson

College of Arts and Science

Bachelor of Arts

William Duncan Atkinson, Jr.
Olive Berry (8-20-54)
Richard Breitwieser
Douglas Vernon Brooks
George Joseph Brown
Barbara Joan Butler
Douglas Milton Byington
Patricia Sue Casey
Robert Charles Christner
Lucille Baker Church (8-20-54)
Florence Rose Becker Collings (8-20-54)
John Lawrence Curley, Sr.
Carol Cutter (8-20-54)
Alice Darrah (1-28-55)
Robert E. Debold (8-20-54)
Reginald Hugh Depaoli (1-28-55)
Frederick A. Dickinson (8-20-54)
Carol Lee Dickerson
Priscilla Amadee Dorazio
Kenneth Charles Duck (1-28-55)
Marilyn J. Trembath Durbin (8-20-54)
Ronald Herbert Einstoss
Kathryn Mayvonne Eldridge
Faye Fotos
Janice Lee Green
Jane Chappuis Hail
John Lynden Hall
Ward W. Hinckley (8-20-54)
Wendellyn Ruth Ingram (8-20-54)
Gail Caralyn Johnson
Alice Mae Koontz
Joseph Richard Lash
John Peter Lee
Mary Virginia Katherine Lesbo (8-20-54)
Catherine Helen Lojas (8-20-54)
Barbara Irwin Maclean
Jacklyn L. McGowan
Sally McKissick
Rulon Hollist Manning, Jr.
Lorraine Fernande Meunier
Jack Laverne Millinger (8-20-54)
Elizabeth Claire Munley
Virginia S. Palmer
John Eli Patterson
Jean Ann Paulson (8-20-54)
Richard B. Piccinini (8-20-54)
Leo P. Quilici (8-20-54)
Doris Louise Redelius
Alex Henry Reise (8-20-54)
Ellen Mae Reise (8-20-54)
Sallie Mae Rogers
Silvio Joseph Santina
Russell Thomas Schooley (8-20-54)
William Charles Sheperth
Mary Rose Stathes
Edward C. Stephens
Stephen Charles Stewart
Chester Coe Swobe (8-20-54)
Joy Dawn Thompson

BACHELOR OF ARTS—*Continued*

Janet Van Valey
Austin Robert Wardle, Jr.
Donald Lee Wilkerson
Joan Claire Williams
William A. Zecher (8-20-54)
Leslie Olds Zurfluh

Bachelor of Arts in Journalism

Mary Judith MacNeil Dempsey
Eleanor Louise Jessen (1-28-55)
Nancy Marie Johnson
Rollan D. Melton
Romaine Emma Roth
David Theodore Traitel

Bachelor of Science

Ilene Mae Boffinger
James Irwin Botsford
George Richard Coffill
Clair Earl
Norma M. Frey (8-20-54)
Olaf Sand Leifson
Alick J. Mackie (1-28-55)
Robert Wallace Mackie (1-28-55)
Baxter Franklin Martin
Keith Miller
Edward A. C. Yates

Bachelor of Science in Business Administration

Richard Burns Almour
Ernest Eugene Bradley
William Lewis Clark (1-28-55)
Frederick A. Davis
Glenn Norman Dory
Nedine Fagg
Gordon Leigh Foote (1-28-55)
Howren Charles Hall, Jr. (1-28-55)
Wilton F. Herz (1-28-55)
John B. Knezevich (1-28-55)
Henry Warren Metteer
Wayne LeRoy Mortimer (8-20-54)
R. Loring Persigehl
Martha Riley
Otto Robert Schulz
Duane Bruce Urban
Robert Carl Wilson
Richard Merel Wiseman

College of Education

Bachelor of Arts in Education

Marilyn Dale Friedrich (1-28-55)
Edward Francis Gomes
Margaret Josephine Jackson
Genevieve Jenkins Jones
Ruth Lash (1-28-55)
Shirley McKelvy
Angela Marie Mendiguren
Ann Louise Serpentino
Margery L. Titus
Marylee Mitchell Tyler

Bachelor of Science in Education

Dixi Moss Kilburn
Michael Pintar
Margaret Lynn Scott
Charles Joseph Spina (1-28-55)
Robert D. Wilcox

College of Engineering

Bachelor of Science in Civil Engineering

Gilbert Augustus Anderson
Jake Allan Carpenter
Grant Allan Engstrom
Eugene A. Grows
Vivian F. Kong (1-28-55)
Ronald David Lemmon
Perry Richard Lowden, Jr. (8-20-54)
Henry Stephen Martin
Ronald Robert Munk
Allan Augustus Ramsey
Floyd Ernest Vice

Bachelor of Science in Electrical Engineering

Wayne Brewster Adams, Jr.
William Henry Hooper (8-20-54)
Arthur Isamu Imagire
Robert Anthony Martin
Hans Jacob Mohr
Robert Gene Park (1-28-55)
Kermit William Reister, Jr.
George Ingram Samstad, Jr.

Bachelor of Sceince in Mechanical Engineering

William Crawford Bulkeley
James Joseph Carlson
Edgar E. Evarts
Charles Edward Hanna

Mackay School of Mines

Bachelor of Science in Geology

Dale R. Crest

Bachelor of Science in Geological Engineering

Joseph Paul Alcorn (8-20-54)
Owen D. Mort, Jr.
Michael A. Price
James Wesley Straight, Jr. (8-20-54)
Peter Vardy (1-28-55)

Bachelor of Science in Metallurgical Engineering

Edmund Francis Baroch

Bachelor of Science in Mining Engineering

Mike Evasovic
Harry Charles Green, Jr.
Kenneth Ralph Server

Students Commissioned in the Armed Forces

Second Lieutenant commissions were awarded on Commencement Day, June 6, 1955, as follows:

Edmund F. Baroch
James I. Botsford
James J. Carlson
Jake A. Carpenter
William L. Clark (Air Force) (2-25-55)
George R. Coffill
Reginald Depaoli (2-25-55)
Kenneth C. Duck (2-25-55)
Gordon L. Foote (3-10-55)
Charles E. Hanna
Arthur I. Imagire
Olaf S. Leifson
Alick J. Mackie (2-25-55)
Robert W. Mackie (2-25-55)
Rulon H. Manning
Rollan D. Melton
Otto R. Schulz
John M. Staunton
Edward C. Stephens
Frank S. Stewart, Jr.
Stephen C. Stewart
Floyd E. Vice
Donald L. Wilkerson
Robert C. Wilson
Richard M. Wiseman

Enrollment Summary by Registration Periods*
1955-1956

	Summer 1955	Fall 1955	Spring 1956
RENO CAMPUS—			
College of Agriculture—			
School of Agriculture	——	57	55
School of Home Economics	——	45	37
College of Arts and Science	——	694	653
College of Education	——	248	249
College of Engineering—			
Civil	——	98	99
Electrical	——	117	107
Mechanical	——	74	62
Mackay School of Mines—			
Geology	——	39	37
Metallurgy	——	13	14
Mining	——	40	38
Nonmatriculated Students	——	57	43
Auditors	——	28	14
LAS VEGAS CAMPUS—			
College of Agriculture	——	3	2
College of Arts and Science	——	93	80
College of Education	——	40	43
College of Engineering	——	18	15
Mackay School of Mines	——	4	1
Nonmatriculated Students	——	166	178
Auditors	——	7	11
EVENING AND SATURDAY STUDY—			
Credit (Includes Regular and †Nonmatriculated Students)	——	310	251
Audit	——	117	45
GRADUATE STUDY	——	80	93
SUMMER SESSION—			
Reno Campus	1,106		
Other Centers	429		
CORRESPONDENCE STUDY	——	126	126
SPECIAL NONCREDIT COURSES AND CONFERENCES	200	135	64
ENROLLMENT TOTALS	1,735	2,609	2,317

*Data indicate gross enrollments in each registration period. Enrollments subsequent to February 17, 1956 not included.

†Includes Evening and Saturday Division students not included elsewhere.

GENERAL INDEX

GENERAL INDEX*

*Figures at end of lines refer to pages.