



University of Nevada

CATALOGUE

1957

1958

University of Nevada



catalogue

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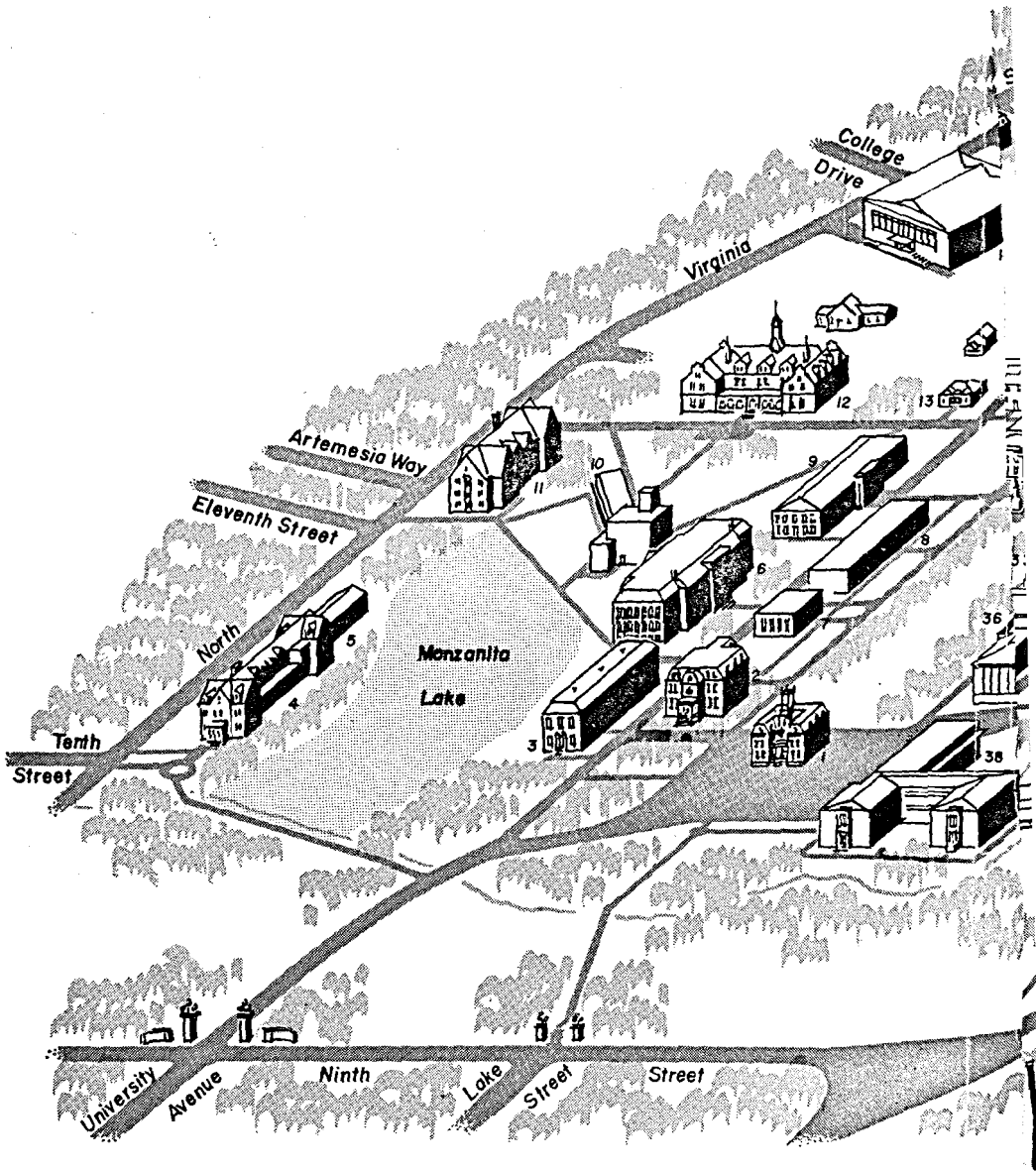
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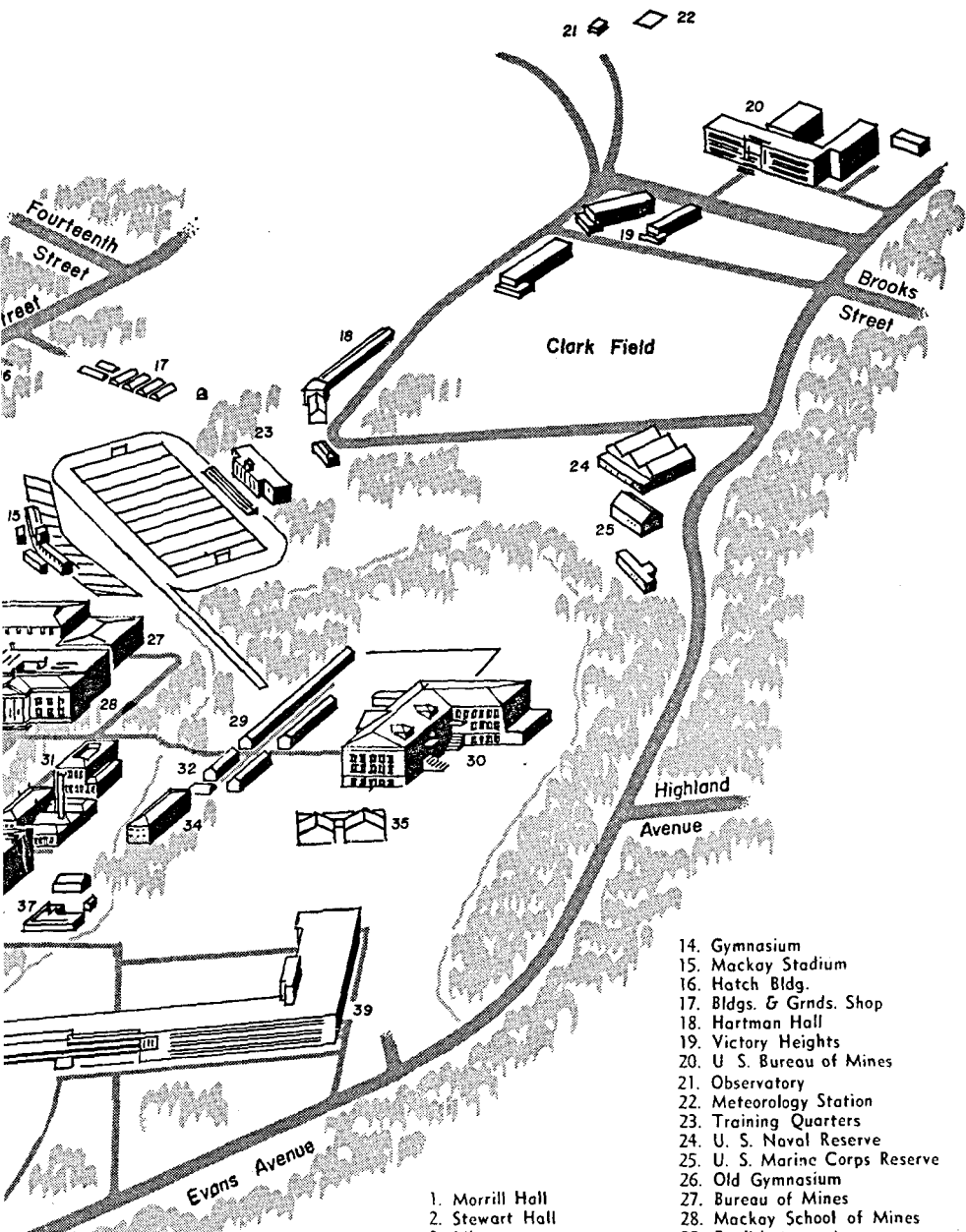
Effective Date, June 1957

No. 5

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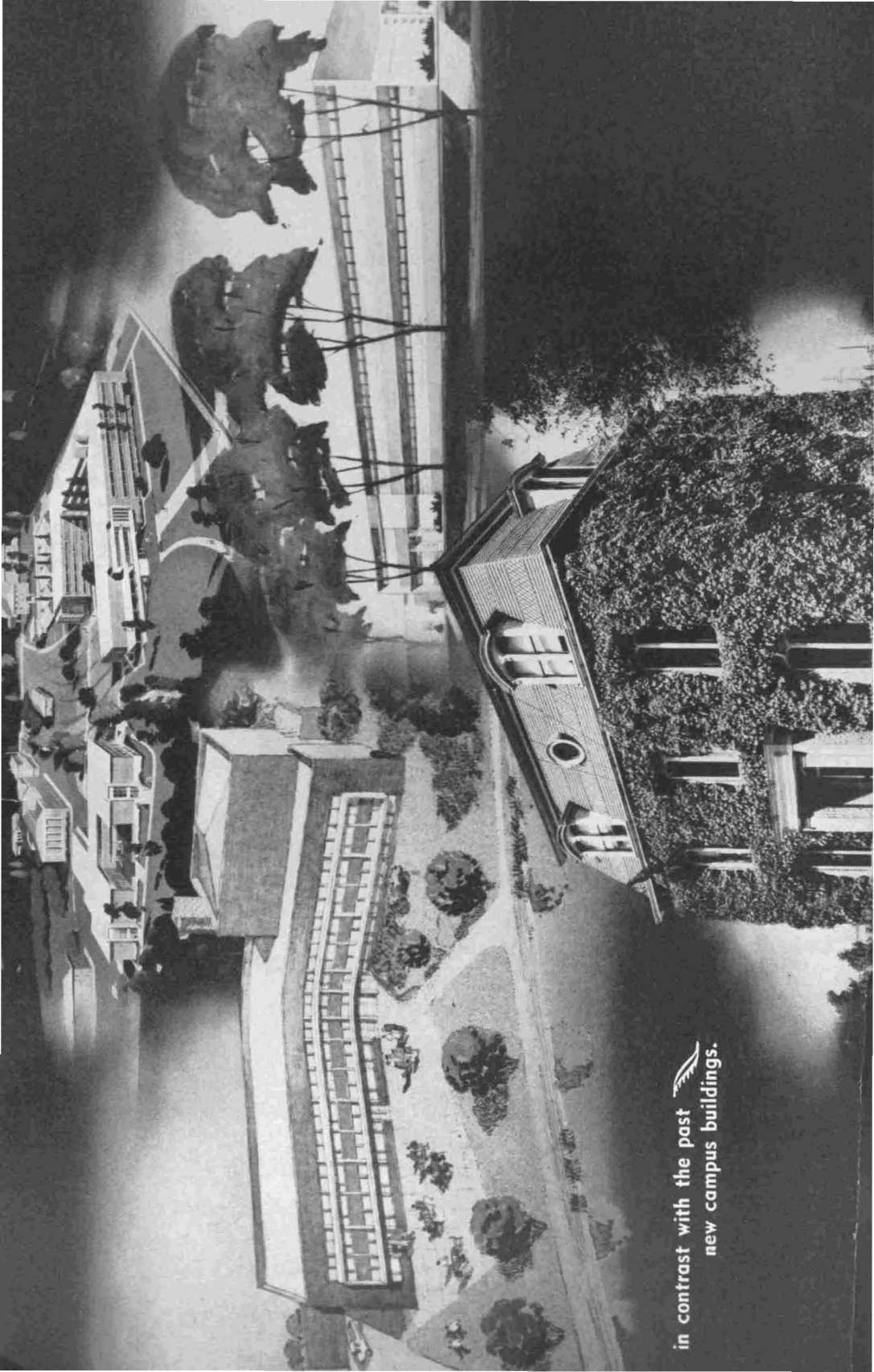
UNIVERSITY OF NEVADA





1. Morrill Hall
2. Stewart Hall
3. Library
4. Manzanita Hall
5. Dining Hall
6. Agriculture Bldg.
7. Journalism
8. Ross Hall
9. Education
10. Travis Student Union
11. Artemisia Hall
12. Lincoln Hall
13. Infirmary

14. Gymnasium
15. Mackay Stadium
16. Hatch Bldg.
17. Bldgs. & Grnds. Shop
18. Hartman Hall
19. Victory Heights
20. U. S. Bureau of Mines
21. Observatory
22. Meteorology Station
23. Training Quarters
24. U. S. Naval Reserve
25. U. S. Marine Corps Reserve
26. Old Gymnasium
27. Bureau of Mines
28. Mackay School of Mines
29. English (temp.)
30. Engineering Bldg.
31. Electrical Engineering Bldg.
32. Art (temp.)
33. Mechanical Bldg.
34. Veterinary Science
35. Greenhouses
36. Mackay Science Bldg.
37. Greenhouses
38. Fleischmann Home Economics
39. Fleischmann Agriculture



in contrast with the past
new campus buildings.

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OFFICE OF THE
BOARD OF REGENTS, UNIVERSITY OF NEVADA
RENO, NEVADA, June 1, 1957

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 1956-1957, 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:

A. C. GRANT,
Chairman.

ALICE TERRY, *Secretary.*

1957

JANUARY							FEBRUARY							MARCH						
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1958

JANUARY							FEBRUARY							MARCH						
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APRIL							MAY							JUNE						
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27	28	29	30				25	26	27	28	29	30	31	22	23	24	25	26	27	28
														29	30					

JULY							AUGUST							SEPTEMBER						
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6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13
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20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
27	28	29	30	31			24	25	26	27	28	29	30	28	29	30				
							31													

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

UNIVERSITY CALENDAR

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 closes.
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 closes.
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 close.
August 23	Friday, 5:00 p. m.	1957 Summer Sessions close.

1957-1958

FIRST SEMESTER

September 3-8	Tuesday-Sunday	Examination and orientation of new students.
September 9	Monday	Registration.
September 10	Tuesday	Instruction begins.
October 26	Saturday	Homecoming.
October 31	Thursday	Admission Day recess.
November 6	Wednesday	Midsemester.
November 8	Friday	Grade reports due.
November 11	Monday	Veterans' Day recess.
Nov. 27-Dec. 2	Wednesday, 5:00 p. m.- Monday, 8:00 a. m.	Thanksgiving recess.
December 14-January 2	Saturday, 12:00 noon- Thursday, 8:00 a. m.	Christmas recess.
January 17-23	Friday-Thursday	Semester examinations.
January 24	Friday, 5:00 p. m.	Final grades on file with Registrar.
January 25	Saturday, 12:00 noon	Semester closes.

SECOND SEMESTER

January 27-28	Monday-Tuesday	Examination and orientation of new students.
January 29	Wednesday	Registration.
January 30	Thursday	Instruction begins.
March 28	Friday	Midsemester.
March 31	Monday	Grade reports due.
April 2-8	Wednesday, 5:00 p. m.- Tuesday, 8:00 a. m.	Easter recess.
May 3	Saturday	Mackay Day.
May 21-27	Wednesday-Tuesday	Semester examinations.
May 28	Wednesday, 5:00 p. m.	Senior grades on file with Registrar.
May 30	Friday	Memorial Day recess.
May 31	Saturday, 9:00 a. m.	Final grades on file with Registrar.
May 31	Saturday, 12:00 noon	Semester closes.
May 31	Saturday	Phi Kappa Phi, Scholastic Honor Society banquet.
June 1	Sunday	Baccalaureate.
June 2	Monday	Commencement.

1958

SUMMER SESSIONS

June 9-June 20		First session.*
June 9-August 15		Long session.*
June 23-August 1		Main session.*
August 4-August 15		Post session.*

*Registration is on preceding Saturday.

OFFICERS OF THE UNIVERSITY

THE BOARD OF REGENTS

HON. ROY A. HARDY (1959)	Reno
HON. LOUIS E. LOMBARDI, M.D. (1959)	Reno
HON. BRUCE R. THOMPSON (1959)	Reno
HON. FRED M. ANDERSON, M.D. (1961)	Reno
HON. A. C. GRANT (1961)	Las Vegas
HON. C. O. BASTIAN (1959)	Caliente
HON. N. E. BROADBENT (1959)	Ely
HON. WILLIAM ELWELL (1959)	Las Vegas
HON. GRANT F. SAWYER (1959)	Elko

ORGANIZATION OF THE BOARD

HON. A. C. GRANT	Chairman
HON. LOUIS E. LOMBARDI, M.D.	Vice Chairman
HON. LOUIS E. LOMBARDI, HON. FRED M. ANDERSON, HON. ROY A. HARDY, 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.
JAMES E. ADAMS, Ph.D., Dean of Max C. Fleischmann College of Agriculture.
CLARENCE E. BYRD, M.A., Registrar and Director of Admissions.
MISS MARY LEE BUNDY, M.A., Librarian, Southern Regional Division.
WILLIAM D. CARLSON, Ph.D., Dean of Student Affairs.
JAMES R. DICKINSON, Ph.D., Resident Director, Southern Regional Director.
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 and Director of the Summer School.
RALPH A. IRWIN, Ph.D., Dean of the College of Arts and Science.
J. PATRICK KELLY, Assistant Director, Evening Division, Off-campus Program.
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.
MISS MURIEL PARKS, M.A., Registrar, Southern Regional Division.
ROBERT C. POOLMAN, B.S., University Engineer.
MRS. JEWEL REYNOLDS, B.A., Admissions Director, Southern Regional Division.
VERNON E. SCHEID, Ph.D., Dean of the Mackay School of Mines.
ROBERT C. WEEMS, JR., Ph.D., Dean of the College of Business Administration.
MISS DORIS B. YINGLING, Ed.D., Dean of the School of Nursing.

PUBLIC SERVICES

JAMES E. ADAMS, 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.
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

Alumni Association—LEE DE LAUER, President.
Associated Students—JAMES McNABNEY, Graduate Manager.
Buildings and Grounds—CARL M. HORN, Superintendent.
Dining Hall—MRS. NELLIE NELSON, Director.

THE UNIVERSITY STAFF¹

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)

¹The 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)
- 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)
- EDITH E. RUEBSAM, M.A., Associate Professor of Education, Emeritus.
B.A., Columbia University, 1921; M.A., University of California, 1934. (1925-1953)

*Died March 18, 1957.

- 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)
- CLAUDE CARSON SMITH,² Ph.D., Professor of History and Political Science, Emeritus.
A.B., Carson-Newman College, 1921; M.A., University of Oklahoma, 1924; Ph.D., Stanford University, 1947. (1929-1956)
- 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. WITWER, 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

- JAMES E. ADAMS, Ph.D., Professor and Dean of the Max C. Fleischmann College of Agriculture; Director of Agricultural Experiment Station, Extension Division, and Resident Instruction.
B.A., William Jewel College, 1920; M.S., Purdue University, 1922; Ph.D., Iowa State College, 1936. (1956)
- NANCY A. ADAMS, B.S., Home Agent, Churchill County.
B.S., Utah State Agricultural College, 1956. (1956)
- CARL WARD BACKMAN, Ph.D., Assistant Professor of Psychology and Sociology.
A.B., Oberlin College, 1948; A.M., Indiana University, 1950; Ph.D., 1954. (1955)

²Died December 12, 1956.

- 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)
- LAURENCE H. BEAL, A.B., Assistant Mining Geologist, Nevada Bureau of Mines.
A.B., University of California, 1950. (1956)
- E. MAURICE BEESLEY, Ph.D., Professor of Mathematics.
A.B., Lafayette College, 1936; Sc.M., Brown University, 1938; Ph.D., 1943. (1940-1955)
- WILLIAM C. BEHRENS, M.S., Assistant Agricultural Agent, Elko County.
B.S., Colorado Agricultural and Mechanical College, 1947; M.S., 1955. (1956)
- 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)
- WILLIAM C. BIANCHI, B.S., Assistant Professor of Soils and Plant Nutrition; Assistant Soils Research Physicist.
B.S., University of California (Davis), 1952. (1956)
- ALVIN T. BLEAK, B.S., Research Range Conservationist; U.S.D.A. Col-
laborator.
B.S., University of Utah, 1941. (1952)
- CLIFTON R. BLINCOE, Ph.D., Assistant Research Agricultural Chemist,
Agricultural Experiment Station.
B.S., University of Missouri, 1947; M.A., 1948; Ph.D., 1955. (1956)
- 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., Associate Professor of Animal Hus-
bandry; Associate Animal Nutritionist, Agricultural Experi-
ment Station.
B.S., Utah State Agricultural College, 1949; M.A., 1951; Ph.D., Cornell
University, 1952. (1952-1956)
- JOHN A. BONELL, C.E., Associate Professor of Civil Engineering.
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B.S., University of California, 1939. (1952)
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B.S., University of Wisconsin, 1949; M.S., 1950; Ph.D., 1952. (1952)
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B.S., University of California. 1943; Ph.D., 1950. (1951)
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B.S., University of Wisconsin, 1949; M.S., 1950; Ph.D., 1952. (1953)

ROBERT T. ROELOFS, Ph.D., Associate Professor of Philosophy.

B.A., Calvin College, 1938; M.A., University of Michigan, 1941; Ph.D., 1953. (1956)

⁵Department removed from University, effective June 30, 1957.

- JAMES DUDLEY ROGERS, B.S., Mechanical Engineer, University Engineer's Office.
B.S., Texas Agricultural and Mechanical College, 1940. (1956)
- 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)
- RALPH HOWARD RYGG, M.S., Instructor in Chemistry.
B.A., Concordia College, 1948; M.S., State University of Iowa, 1951. (1956)
- FRED RYSER, JR., Ph.D., Assistant Professor of Biology (Las Vegas).
B.S., University of Wisconsin, 1947; M.S., 1948; Ph.D., 1952. (1953)
- IRVING JESSE SANDORF, M.S., Professor of Electrical Engineering.
B.S., University of Michigan, 1923; M.S., University of Nevada, 1931. (1928-1944)
- VERNON E. SCHEID, Ph.D., Professor and Dean of Mackay School of Mines; Director of Nevada Bureau of Mines and Nevada Mining Analytical Laboratory.
A.B., Johns Hopkins University, 1928; M.S., University of Idaho, 1940; Ph.D., Johns Hopkins University, 1946. (1951)
- OTTO R. SCHULZ, B.S., Agronomist, Agricultural Extension Service.
B.S., University of Nevada, 1928. (1928)
- 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)
- MARY H. SELLERS, B.A., Instructor in Psychology and Sociology.
B.A., Mills College, 1945. (1956)
- 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, 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, Ph.D., Assistant Professor of Physics.
B.S., Utah State Agricultural College, 1951; Ph.D., University of Utah, 1957. (1955-1956)
- DAVID B. SLEMMONS, Ph.D., Assistant Professor of Geology.
B.S., University of California, 1947; Ph.D., 1953. (1951)
- LAMAR R. SMITH, M.Lib.Sc., Loan Librarian.
B.A., University of Nevada, 1950; M.Lib.Sci., 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)
- W. A. S. SMITH, Ph.D., Assistant Professor of Psychology and Sociology.
B.A., University of Redlands, 1952; M.A., University of Pennsylvania, 1954; Ph.D., 1956. (1956)
- HUGH SMITHWICK, M.S., Assistant Professor of Health, Physical Education, and Athletics (Las Vegas).
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)
- 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)
- JOSEPH F. STEIN, Ph.D., Assistant Animal Husbandman, Agricultural Experiment Station; Extension Animal Husbandman, Agricultural Extension Division.
B.S., Ohio State University, 1942; M.S., Pennsylvania State University, 1954; Ph.D., 1956. (1957)

- HERMAN R. STORM, M.S. in L.S., Associate Catalog Librarian.
B.A., Carroll College, 1950; M.S. in L.S., University of Wisconsin, 1952.
(1956)
- 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)
- GLENN V. THOMAS, M.S., Assistant Agricultural Agent, White Pine County.
B.S., Oklahoma Agricultural and Mechanical College, 1955; M.S., 1956.
(1956)
- LOUIS TITUS, M.S., Professor of Agricultural Mechanics; Extension Engineer.
B.S., University of Nevada, 1924; M.S., Cornell University, 1931. (1933-1955)
- ROBERT NORMAN TOMPSON, Ph.D., Assistant Professor of Mathematics.
B.S., Adrian College, 1941; M.S., University of Nevada, 1949; Ph.D., Brown University, 1953. (1956)
- 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)
- MARJORIE LARMOUR TREGEA, B.A., Information Specialist, 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)
- EDWARD MICHAEL VIETTI, Ph.D., Assistant Professor of Business Administration.
B.S., University of Utah, 1927; M.S., University of Southern California, 1937; Ph.D., University of Utah, 1952. (1956)
- HAROLD A. VINCENT, B.S., Junior Chemist, Nevada Mining Analytical Laboratory.
B.S., State University of Iowa, 1953. (1956)

- ALEKSIS VON VOLBORTH, Ph.D., Assistant Mineralogist, Nevada Mining Analytical Laboratory.
M.A., University of Helsinki, 1950; Ph.D., 1954. (1956)
- MARVIN ALMA WADE, B.S., Senior Laboratory Technician, Animal Husbandry, Agricultural Experiment Station.
B.S., Idaho State College, 1950. (1954)
- LEGRAND WALKER, M.S., Assistant Animal Husbandman; Superintendent of University Dairy Farm.
B.S., Utah State Agricultural College, 1928; M.S. University of Nevada, 1956. (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)
- ROBERT C. WEEMS, JR., Ph.D., Professor and Dean of the College of Business Administration; Director of the Bureau of Business and Economic Research.
B.S., Mississippi State College, 1931; M.B.A., Northwestern University, 1934; Ph.D., Columbia University, 1951. (1956)
- 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)
- KEITH C. WILSON, M.A., Instructor in English.
B.S., U.S. Naval Academy, 1950; M.A., University of New Mexico, 1956. (1956)

- 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, Ph.D., Instructor in English.
B.S., University of Illinois, 1942; A.M., 1945; Ph.D., 1957. (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)
- BENJAMIN M. WOFFORD, Ph.D., Associate Professor of Business Administration and Economics; Associate Director of the Bureau of Business and Economic Research.
B.A., University of Texas, 1936; M.A., 1939; Ph.D., 1948. (1956)
- 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)
- HERNANDO J. WOODS, JR., Ph.D., Assistant Professor of English.
B.A., University of South Carolina, 1947; M.A., 1948; Ph.D., University of Florida, 1952. (1957)
- R. EDWIN WORLEY, Ph.D., Associate Professor of Physics.
B.A., Pomona College, 1931; Ph.D., University of California, 1940. (1948-1952)
- JOHN S. WRIGHT, Ph.D., Associate Professor of History and Political Science (Las Vegas).
B.A., University of Illinois, 1931; M.A., 1938; Ph.D., University of Chicago, 1946. (1956)
- EDWARD W. YATES, M.F.A., Assistant Professor of Art.
B.F.A., University of Oklahoma, 1950; M.F.A., 1955. (1952)
- DORIS B. YINGLING, R.N., Ed.D., Professor and Dean of the School of Nursing.
R.N., Union Memorial Hospital, 1943; B.S., University of Oregon, 1944; M.A., University of Maryland, 1951; Ed.D., 1956. (1956)
- 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 48,000 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 S. Frank 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.

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 Education is recognized and accredited by the National Commission on Accrediting for Teacher Education, and is an active member of the American Association of Colleges for Teacher Education.

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, American Society for Engineering Education, Association of Land-Grant Colleges and Universities, Department of Higher Education of the National Education Association, National Association of State Universities, National Commission on Accrediting, National University Extension Association, and Northwest Association of Secondary and Higher Schools.

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 seven 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, the Mackay School of Mines, and the School of Nursing. 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

The University in recent years has recognized the importance of educational television as a media of great importance in learning. In cooperation with local television stations and with national organizations the University is producing and sponsoring many educational television programs. Not only do these have value to students and educators in the State, but are of service to the general public.

Arrangements now under development will include courses in which students will receive actual training with television equipment in a modern commercial studio. In such a laboratory it is possible to provide excellent instruction in the use of television for teaching and for the wide dissemination of knowledge. It has now been demonstrated that through appropriate use of educational television, classroom instruction can be made more effective and the services of the University extended to a greater number of the people of the State.

Evening Division and Off-campus Programs

The Evening Division program at the University was developed to provide continuing educational opportunities to the adults in Reno and Las Vegas. Since 1954 the program has been expanded in response to requests from the people of the State. More than 500 persons are served each semester in over 50 courses on the main campus at Reno and at the Southern Regional Division in Las Vegas.

In addition, the Evening Division program has been extended to other communities throughout the State including Boulder City, Carson City, Elko, Ely, Fallon, Fallon Naval Air Station, Hawthorne, Henderson, Lovelock, Sparks, Stead Air Base, Stewart, Winnemucca, and Yerington. The Off-campus program serves more than 1,000 persons during the regular academic year and summer sessions.

Further expansion is planned to fill the requests received from other communities desiring the services of their University. For information concerning the Evening Division and Off-campus classes write to the Dean of State-wide Development.

Materials of Instruction Service

In the interest of economy and improved service, a Materials of Instruction Service was established in 1955 to centralize and coordinate the audio-visual materials available on the campus. Over 100 motion picture films are now on the distribution list as well as many hundred filmstrips and other specialized instructional materials such as slides, recordings, and other nontextbook materials. To the limited extent possible with present audio-visual facilities, it is planned to extend the Materials of Instruction Service to other educational activities in the State.

Under consideration is the possibility of developing a classroom, as a campus center, equipped with appropriate audio-visual equipment and materials. This facility would be used for radio and television instruction as well as for preview and recording purposes. It would make possible, for students and teachers, the demonstration of teaching methods involving the use of new teaching aids and devices as they are developed.

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 of the University of Nevada had its beginning in Las Vegas in 1951, when a few extension classes were provided as a first step toward meeting continuing and higher education

needs in southern Nevada. In June, 1954, a highly successful series of summer sessions was inaugurated in response to requests from the teachers of the Clark County public schools. By September of that year the instructional program had been expanded to include a full curriculum for freshmen. Authorized by the Board of Regents as the Southern Regional Division of the University of Nevada, the institution was soon referred to by students as "Nevada Southern". Beginning with the fall semester of 1955, course offerings were further expanded to include as wide a selection of both freshman and sophomore studies as possible, plus a limited number of upper division and graduate level courses for teachers and other qualified residents of the region.

With an increasingly varied and extensive program of both day and evening classes, "Nevada Southern" is constantly serving more and more southern Nevadans who wish to continue their education.

Students who would otherwise be unable to begin work toward a degree are now assured of obtaining their freshman year—and in most cases their sophomore year as well—while they continue to live at home. Many "Nevada Southern" students are employed part time. Through work-and-study arrangements these promising young people are often enabled to save enough money to finance their remaining college work at the main campus of the University of Nevada in Reno, or at some other university.

It is not only young people of typical college age, 18 to 22, however, who find the opportunities provided by "Nevada Southern" attractive. Mature persons of all ages are enrolling in both day and evening classes for a wide variety of personal reasons, economic, social, and cultural. For adults, southern Nevada is no longer isolated intellectually.

From its beginning, the Southern Regional Division has used classroom and office space generously provided by the Las Vegas public schools. Splendid support from the citizens of the region, including notable gifts from individuals, business firms, and organizations, has made possible the acquisition of an 80-acre campus site on Maryland Parkway in Paradise Valley just south of Las Vegas. The first campus building authorized by the State Legislature is now under construction and will be available for use by the beginning of the fall semester, 1957. Meanwhile, "Nevada Southern" continues to augment its fine instructional staff and its course offerings to meet the ever-increasing needs and demands of southern Nevada residents for college-level training of the highest quality.

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 winter of 1956 saw the opening of the University's "Sunday at Four" program. Held each Sunday at 4 p.m. in the Education Building Auditorium, the program provided an hour of cultural activities for the faculty, students, and members of the community. With only 15 programs, over 3,200 people attended the first series.

In 1956-1957, the program has been expanded to include a total of 24 programs in the fields of art, drama, music, literature, science, and education. Some of these programs will be broadcast over a local radio station so that people can enjoy them in their own homes.

Many members of the faculty contribute to the success of these programs as well as special guests from other institutions and organizations. The "Sunday at Four" program has become a regular part of the University of Nevada campus activities.

News and Publications Service

The University maintains a news and publications service administered by a full-time director. This office disseminates administrative, academic, athletic, and student news on a regular basis to newspapers, radio, and television stations in Nevada and adjoining areas, and special releases to educational publications throughout the United States.

The office also supervises printing of a number of regular University publications and prepares others of a special nature, such as the calendar, progress reports, endowment brochures, and departmental flyers.

Answering of various information requests is also handled by the news and publications office.

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 news and publications office. Regular bulletin reports of various divisions are prepared under the direction of the dean or director concerned.

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

Official Publications

University of Nevada Catalogue. Issued annually by the University as its major official publication.

The Biennial Report. Report to the Governor by the Board of Regents. Contains individual reports by the President, deans of colleges, major departments, and certain special services. Issued every two years.

Summer Sessions Bulletin. Issued annually with offerings in courses for main Reno campus, Las Vegas, and state-wide summer schools.

Scholarships and Prizes. Issued periodically, listing scholarship offerings for the entire University.

Orientation Booklet. Issued annually for the benefit of incoming freshmen and other new students.

Correspondence Study Bulletin. Issued periodically, listing class offerings for new study program in correspondence.

Highlights of Progress. Issued periodically, describing various phases of the University's administrative and academic program.

Bulletins. Issued by the Agricultural Experiment Station, the Agricultural Extension Service, the Bureau of Business and Economic Research, the Nevada Bureau of Mines, the Departments of Food and Drugs, Weights and Measures, and Petroleum Products Inspection. The *University 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 125,000 bound volumes and more than 150,000 unbound serials and pamphlets. The collections have been supplemented by private gifts.

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

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

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 7,000 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, mathematics, and physics are in Mackay Science Hall; for education in the Education 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. Departmental libraries are also maintained for art, journalism, and military.

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 Las Vegas Public Library 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 Business Administration has laboratories in statistics, accounting, office machines, and business and economic research. The Bureau of Business and Economic Research has a special staff qualified in the field of the economic background and development of Nevada and its economic regions. The Bureau contains an economic data service which reflects constantly economic changes in the State.

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 is housed in the north wing of the basement of the Agriculture Building. At present it contains approximately 25,000 sheets of mounted and classified plant specimens and is probably the most complete reference collection of Nevada plants in existence. In addition, the Herbarium contains plants of world-wide distribution and maintains exchanges with many other herbaria. It is particularly valuable as a research collection in studying the distribution of native and introduced plants, as well as a means of identifying plants for Nevada citizens. The Nevada Agricultural Experiment Station herbarium now contains approximately 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 currently enrolled in other collegiate institutions may submit incomplete transcripts, and end-of-course-grade-reports, but an official and final transcript of all work in progress must be on file in the Office of Admissions before the admission status will be finally 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 an official, detailed transcript of courses, units, grades, and graduation date from an accredited high school or other preparatory school and fulfilling the requirements listed below.

2. Transferring with an acceptable record from any university or college of accredited 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 of subjects to include 3 units of English and 2 units of algebra, geometry or natural science (including general science).

English:

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

Foreign Languages:

1st year.

Advanced (one or more years).

Social Sciences:

All Histories (one year each).

Civics.

Economics, Sociology, Psychology.

Mathematics:

Algebra, Plane Geometry.

General Mathematics (elements of algebra, geometry, etc.).

Advanced Algebra, Solid Geometry, Trigonometry.

Sciences:

General Science, Physics, Chemistry.

Botany, Biology, Physiology, Physical Geography, Mineralogy, Geology.

Miscellaneous:

Commercial Law, Commercial Geography, Shorthand, Bookkeeping,

Vocational Agriculture, Home Economics.

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.

College 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.

The *College of Engineering* and the *Mackay School of Mines* (Except the Geography Curriculum):

English, 3 units.

Algebra, $1\frac{1}{2}$ units.

Plane Geometry, 1 unit.

Trigonometry, $\frac{1}{2}$ unit.

Chemistry or Physics, 1 unit.

The student entering the College of Engineering or the Mackay School of Mines (except the Geography Curriculum) must present all the subjects here listed, especially the $1\frac{1}{2}$ 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 $\frac{1}{2}$ unit of solid geometry. It is advised that elective units include 2 units of foreign language, preferably modern language. The student entering the Geography Curriculum of the Mackay School of Mines must present: English, 3 units; algebra, $1\frac{1}{2}$ units; natural science, 1 unit; and social science, 1 unit.

The *School of Nursing*:

English, 3 units.

Biological or Chemical Science, 1 unit.

Mathematics, 1 unit.

Social Science, 1 unit. (Additional subjects in this group are strongly recommended.)

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 and courses 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, Business Administration, 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 accredited institution of learning.

Upper division credit cannot be granted for lower division courses.

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 an accredited 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 meets three times a week and requires two hours of preparation for each class. On the other hand, a laboratory class 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.

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. Auditors changing to a credit basis are subject to this regulation and additional course fees may be assessed.

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, including anyone changing from course credit to auditor basis, may withdraw from a course at any time up to and including midsemester date. He should secure a change of registration card from the Registrar's Office and secure the approval of the Dean of Student Affairs, his instructor, his 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, providing the form is filed no later than the midsemester date. 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 a withdrawal card 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.

Transcript of Record

Upon the request of a student, and the payment of the proper fee, the Registrar will issue an official transcript of the student's permanent record, stating thereon whether or not this University recommends the student. A fee of \$1 must be paid in advance for one transcript of record, including summer sessions 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, with the exception that School of Nursing students take English 102 in the first semester of the sophomore 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. (It should be construed that students with 44 or more acceptable transfer collegiate credits will be exempt from taking the basic ROTC course if they so desire. An exception may occur when the transfer student has completed one or more quarters or semesters of ROTC training at his former institution.)

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 table) 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 $\frac{1}{2}$ 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 are 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.

Second Baccalaureate Degree

A student who has earned one bachelor's degree may earn a second bachelor's degree provided that all specified requirements for both degrees are fully met and provided that the curriculum offered for the second degree includes at least 30 credits, earned in residence, not required for the first degree.

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 and is due 8 weeks before graduation.

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:

	<i>Credits Required</i>
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.).....	136
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 Geography (B.S. in Geog.).....	136
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, and is treated as an F in the record.

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

Students Eligible. (1) A permit to remove a condition will be issued to a student upon his request during his first semester in residence after the condition is incurred. In exceptional circumstances, a student not in residence may receive a permit after receiving the written approval of the dean of the college concerned. (2) No disqualified student may be issued a permit to remove a condition.

Time for Removing. If a condition is not removed by the end of the first semester of residence after the condition is incurred, the Registrar shall record a grade of F.

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

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.

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.

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 non-resident 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.

Preferences in Residence Halls

The Board of Regents has adopted the following rule:

Whenever the requests for University of Nevada residence 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.

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 \$60 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.

6. Whenever the requests for University dining hall privileges exceed the number that can be accommodated, preference shall be given in the same order as is stated for the University residence halls in the preceding section.

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,

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

library, and course fees except for expenses for specialized instruction which are described in the next section.

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. Courses requiring equipment, facilities, or materials not available on the University campus, for example, bowling, golf, swimming or field trips.
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.

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

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

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.

Students in the School of Nursing will be required to furnish student nurse uniforms.

Tuition Charges, Fees, and Deposits

	<i>Amount</i>
*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 (including summer session 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

	<i>Amount</i>
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

<i>Nonresidents—</i>	
First 3 credits (per session)	12.00 per credit
Each additional credit	7.00 per credit
<i>Residents—</i>	
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
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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:

<i>Withdrawal during</i>	<i>Refund</i>
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 *Joe 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—Orientation	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	16

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

General Agriculture

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

	<i>Credits</i>
Military—Basic Course.....	4
Physical Education—Freshman, Sophomore Activities.....	4
Agriculture.....	41
Agricultural Economics Courses.....	6
Agricultural Mechanics Courses.....	6
Ag. 103, 350—Orientation, Genetics.....	4
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.....	35
	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

	<i>Credits</i>
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agricultural Economics Courses	23
Ag. 357 or Econ. 361 or Math. 220—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	22
Agricultural Mechanics Courses	4
Ag. 103, 401—Orientation, Seminar	2
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	12
Chem. 101—General Chemistry	4
*Math. 101—Intermediate Algebra	2
†Other Mathematics Courses	6
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 in high school may substitute other courses for Math. 101.

†If Math. 220 is used to fulfill the statistics requirement, it cannot be used to fulfill the mathematics requirement.

Students interested in business and commerce are advised to take Business Administration 153 and Economics 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.

	Mini- mum	Recom- mended
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	61
Agricultural Economics Courses	9
Ag. 103, 350—Orientation, Genetics	4
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	32
Econ. 201 or 203—Principles or Survey of Economics	3
Ed. 201—School Law	3
Ed. 417—Problems in Supervised Teaching	1
Sec. Ed. 244—Intro. to Agricultural Education	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.



... student activities are richly varied

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

	<i>Credits</i>
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	40
Ag. 103, 350—Orientation, Genetics	4
Ag. 357, 401—Biometry, 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	31
	135

Course Requirements in Range Management

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	49
Ag. 103—Orientation	1
Ag. 357, 401 or 402—Biometry, 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. 360, 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	22
Bot. 103, 222—General, Systematic Botany	7
Bot. 355, 380—Plant Physiology, Plant Ecology	8
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	Geology 101
Agriculture 350	Range Management 464
Agronomy 346	Humanities
Civil Engineering 241	Social Sciences
Geography 222	

Graduate Study

Graduate study leading to the Master of Science degree is offered in the Department of Agronomy and Range Management. Two years are 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 pre-veterinary medicine course is offered.

Course Requirements in Animal Husbandry

	Credits
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities.....	4
Agriculture Outside Major Field	21
Ag. 103, 350—Orientation, Genetics	4
Ag. 357, 401 or 402—Biometry, Seminar.....	4
Ag.Econ. 212—General Agricultural Economics.....	3
Agron. 106—Principles of Agronomy.....	3
R.Mgt. 359—Principles of Range Management.....	4
Soils 201—General Soils.....	4
Animal Husbandry Courses.....	26
A.H. 101, 201—Elements, Livestock Judging.....	5
A.H. 207—Animal Diseases and Parasites.....	3
A.H. 303, 306—Animal Nutrition.....	6
A.H. 307—Physiology of Domestic Animals.....	5
A.H. 405—Animal Breeding.....	3
Animal Husbandry Electives.....	4
Biological Sciences.....	20
Biol. 351—Bacteriology	4
Bot. 103, 222—General, Systematic Botany.....	7
Zool. 103, 104, 309—General, Comparative Anatomy.....	9
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

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.

	<i>Credits</i>
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

†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

	<i>Credits</i>
Military—Basic Course	4
Physical Education—Freshman, Sophomore Activities	4
Agriculture	40
Ag. 103, 401—Orientation, Seminar	2
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, 324, 326—General, Soil Physical Properties	9
Soils 325, 418, 420—Soil Genesis and Classification, Soil Fertility	7
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	19
	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

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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	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

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
H.Ec. 253—Comm., Sch. Health.....	3	H.Ec. 255—Art of Meal Service....	3
H.Ec. 363—Tailoring	3	H.Ec. 476—Marriage, Family Rel. 3	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

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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—

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

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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
	<hr/>		<hr/>
	15		17

Sophomore Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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.....	2
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		
	<hr/>		<hr/>
	17		16

Junior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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—Marriage, Family Rel.....	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
	<hr/>		<hr/>
	17		17

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Biol. 351—Bacteriology.....	4	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
	<hr/>		<hr/>
	18		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 362—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—Marriage, Family Rel.	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	
		16	Phil. 482—Political Problems	2	
					16

Desirable Electives—

Art 101, 115, 251, 257, 363; Business Administration 101, 102; Economics 201, 202; English 131, 141, 145, 171, 231, 232, 247, 337, 355, 441; History 314; Home Economics 375, 499; Journalism 370; Music 105, 106, 111, 112, 117, 118, 203, 204, 304; Psychology 361, 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; 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 Science¹, 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 requires 132 credits and the degree of Bachelor of Science in Chemical Technology requires 136 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 101-102² shall be required of all students.
3. A minimum of 16 credits³ 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.

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

²Subject to provisions stated under *English*, in *Courses of Instruction*.

³The fulfillment of these group requirements by substitution of high school units will, however, not reduce the number of regular college credits 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, biology, botany, chemistry, geography (courses 103, 212, 222, 336, and 431), geology, mathematics (except course 105), meteorology, physics, zoology (except courses 210 and 220).

GROUP 2. *Social Sciences:* Economics (except courses 361 and 362), geography (except courses 103, 212, 222, 336, and 431), history, journalism (courses 101 and 102), political science (except courses 201 and 202), psychology, sociology, 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.

<i>Freshman year</i>	<i>Credits per semester</i>	<i>Sophomore year</i>	<i>Credits per semester</i>
Military _____	0 to 1	Military _____	0 to 1
Physical Education _____	1	Physical Education _____	1
English 101 and 102 Language _____	3	Language _____	
Natural Science } _____	5 to 8 ¹	Natural Science } _____	5 to 8 ¹
Social Science } _____		Social Science } _____	
Humanities } _____		Humanities } _____	
Electives _____	3 to 7	Electives _____	6 to 10

¹These 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—

- Biology 103, 104.
- Botany 103, 104, 105.
- Chemistry 101, 102, 122, 124.
- Geography 103.
- 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 164.
- Geography 101, 106, 109.
- 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, 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—

- Biology courses numbered above 300.
- Botany courses numbered above 200.
- Chemistry courses numbered above 200.
- Geography 212, 222, 336, 431.
- 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 212, 222, 336, 431.
- History courses numbered above 300.
- Political Science courses numbered above 300.
- Psychology courses numbered above 200.
- Sociology courses numbered above 200.
- Zoology 220.

GROUP 3—Humanities—

- Art 359-360, 362, 462, 466.
- English (literature) courses numbered above 300 except 305-306, 385, 405-406.
- French courses numbered above 300 except 355-356, 379-380, 389-390.

GROUP 3 (Humanities)—Continued

German courses numbered above 300 except 355-356, 359-360, 379-380.

Italian courses numbered above 300 except 355-356.

Latin courses numbered above 300.

Music 303, 304, 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.

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 36¹ credits in the major interest subject, the remainder being chosen from related subjects as outlined below, and approved by the chairman of the major interest department.

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

It is advisable that students should plan their work for their junior and senior years as early as the sophomore year, in order that the studies then elected may fit in with their work later. At the beginning of the junior year, each student must give the Dean a written notice

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

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.

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 subjects: 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), 374 (3 credits), 416 (3 credits), 427 (2 credits), 431-432 (4 credits); 9 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 310, 369, 404, 408, 415, 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, 358, 492. c. Sociology 102, 201, 352, 357, 359, 375, 379, 380, 385. d. Geography 103, 106, 343, 471. e. Psychology 201, 241, 301, 310, 361, 363, 441. *Group B:* Philosophy 201, 354, 482; Journalism 101-102, 253; Art 462, 466; 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 (5 credits); Speech 416 (2 credits); 7 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, 465, 475-476, 481-482, 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, 310, 374, 408, 415, 416, 427, 431-432; History 341-342. b. Economics 164, 201-202, 351, 354, 358, 492. c. Sociology 102, 201, 352, 357, 359, 375, 379, 380, 385. d. Geography 103, 106, 343, 471. e. Psychology 201, 241, 301, 310, 361, 363, 441. *Group B:* Philosophy 201, 354, 482; Journalism 101-102, 253; Art 462, 466; Music 304.

Anthropology, See Sociology

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 (3 credits), and 3 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 6 additional credits in botany or biology. Biology 340 (3 credits), 355 (2 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 (3 credits), 364 (4 credits), 446 and 447 (3 credits), 496 (1 credit), and at least 3 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.

<i>First semester</i>		<i>Freshman Year</i>	<i>Second semester</i>	<i>Credits</i>
		<i>Credits</i>		
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
				<hr/>
		16		16

<i>First semester</i>		<i>Sophomore Year</i>	<i>Second semester</i>	<i>Credits</i>
		<i>Credits</i>		
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			<hr/>
		16		16

<i>First semester</i>		<i>Junior Year</i>	<i>Second semester</i>	<i>Credits</i>
		<i>Credits</i>		
Bot. 450—Food Plants.....	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.....	3		Zool. 337—Mammalogy.....	3
Electives.....	1		Electives.....	3
		16		<hr/>
		16		16

		Senior Year			
First semester		Credits	Second semester		Credits
Biol. 340—Genetics.....		3	Bot. 380—Plant Ecology.....		4
R.Mgt. 317—Range Agrostology (for game management)			Biol. 420—Limnology.....		3
or			Zool. 335—Ornithology.....		3
C.E. 364—Hydrology (for fisheries management).....		3	Zool. 382—Animal Ecology.....		2
Zool. 381—Animal Ecology.....		2	Zool. 383—Ecology Laboratory.....		1
Zool. 463—Game Management.....		3	Zool. 470—Fishery Management.....		3
Electives.....		5			
		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 which a total of 132 and 136 credits, respectively, are 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 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 16 credits of 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 take 16 credits in the social sciences and humanities in consultation with their advisers, providing they do not elect advanced military. Those students taking advanced military courses may use them as part of the 136 credits. However, they must take 11 credits in social science and humanities. Students taking advanced military may substitute social science and humanities courses for Art 107 (1 credit) and Business Administration 351 (3 credits).

Freshman Year

First semester	Credits		Second semester	Credits	
	Chem. ¹	Chem. Tech. ²		Chem. ¹	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		1	Chem. 102—Gen. Inorganic	2	2
Drawing		1	Chem. 122—Qualitative	3	3
Chem. 101—Gen. Inorganic	4	4	Engl. 102—Comp., Rhetoric	3	3
Engl. 101—Comp., Rhetoric	3	3	Math. ³ 140—Analytic	3	3
Math. ³ 102, 110—Trig., Algebra	5	5	Geom.		
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		Second semester	Credits	
	Chem. ¹	Chem. Tech. ²		Chem. ¹	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		Second semester	Credits	
	Chem. ¹	Chem. Tech. ²		Chem. ¹	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
Ger. 101—Beginning	5	5	Chem. 388—Seminar	1	
M.E. 341—Mechanics		3	Ger. 102—Beginning	5	5
Electives	4	3	Electives	4	3
	16	17		16	17

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

Senior Year

First semester	Credits		Second semester	Credits	
	Chem. ¹	Chem. Tech. ²		Chem. ¹	Chem. Tech. ²
Chem. 387—Seminar.....	—	1	Chem. 388—Seminar.....	—	1
Chem. 455, 457—Physical	4	4	Chem. 462—Industrial.....	—	2
Chem. 461—Unit	—	—	Chem. 498—Senior	2	—
Operations.....	—	3	Problems.....	—	—
Chem. 497—Senior	—	—	C.E. 372—Strength	—	3
Problems.....	2	—	of Materials.....	—	2
Ger. 103—Inter-	—	—	E.E. 323—Elements.....	—	—
mediate.....	3	3	Ger. 104—Inter-	3	3
M.E. 353—Thermo-	—	3	mediate.....	—	2
dynamics.....	7	3	M.E. 462—Laboratory.....	—	4
Electives.....	—	3	Electives.....	11	—
	16	17		16	17

Drama, See Speech and Drama

English

In consultation with his adviser, the student will elect a program in accordance with one of the following options:

Liberal Arts

Major-interest subject (32 credits)—17 credits in English 281, 291, 441, 451, 465, and 493; 15 credits selected from 442, 452, 461-462, 464, 466, 471-472, 475-476, 481-482, 485-486. *Related subjects* (18 credits)—The student has a choice of one of the four groups listed below; with the consent of his adviser, he should select 18 credits from any one of the following: a. *Fine arts*: History 393-394 (6 credits); Philosophy 455 (2 credits); and 10 additional 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, 303, 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); and at least 2 additional credits in a foreign language numbered above 300. c. *Social studies*: History 305-306, or 341-342 (6 credits), 393-394 (6 credits); and 6 additional credits selected from Economics 201, 363; History 375-376, 427-428, 429-430; Philosophy 455; Psychology 361; Sociology 371, 380; Speech 315, 317-318, 321-322, 414. d. *Special interest*: For students who have special interests not well reflected in one of the preceding groups, 18 credits to be chosen in consultation with the adviser.

American History and American Literature, See American Civilization

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 331-332; 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, 475, 481, 485 (6 credits). Remaining courses are to be distributed roughly

¹Refers to requirements for the degree of Bachelor of Science in Chemistry.

²Refers to requirements for the degree of Bachelor of Science in Chemical Technology.

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 (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

French, German, Italian, Spanish

Major-interest subject (28-30 credits) in one of the following languages: French, German, Italian, Spanish. With no admission units in the respective language, courses 101-102 (10 credits), 103-104 (6 credits), 6 credits in composition and conversation courses numbered above 300, and 8 credits in literature courses numbered above 300 making a total of 30 credits; with 2 admission units in the respective language, courses 103-104 (6 credits), and 22 credits in courses numbered above 300, with a minimum of 6 credits in composition courses, making a total of 28 credits. *Related subjects* (20-22 credits)—Courses in the Departments of History, English, and Foreign Languages and electives to be selected in consultation with the adviser making a total of 20-22 credits.

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: 6 credits of composition in one language; 14 credits in literature, with a minimum of 4 credits in one language. *Related subjects* (20 credits)—Courses in the Departments of History, English, and Foreign Languages and electives to be selected in consultation with the adviser making a total of 20 credits.

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, 332, 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*—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 (32 credits)—Physical Education 101-102, 201-202 (4 credits), 112 (2 credits), 170 or 171 (1 credit), 180 (2 credits), 205 (3 credits), 210 (2 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* (18 credits)—Physics 101 or 102 (2 credits); Zoology 103 and 104 (4 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.

Students with a major interest in political science may arrange their programs with a view toward attaining one or more of several objectives, such as: (1) a broad knowledge of political institutions and issues as the central element of a general education, (2) a basic knowledge of the techniques of government for the student desiring a career in public administration or the foreign service, (3) preprofessional education for students planning to enter a law school, and (4) a fundamental knowledge of political science as preparation for later specialization at the graduate level.

A field of concentration in public administration is offered within political science. The general requirements are the same as those for general political science, but the number of basic courses is larger. This concentration is designed to prepare students for the Federal Service Entrance Examination and similar tests given in state and local jurisdictions or to form a foundation for graduate professional training in public administration for positions in personnel, financial administration, and general administration, as in city management.

The prelegal course work offered in political science does not attempt to "pretrain" the prospective law student in law, but to give him some understanding of the various fields of law, training in the case approach, and an understanding of the broader context in which our legal system operates.

A candidate for the foreign service must have a well-rounded liberal education and be particularly well-versed in political science, history, and economics. A student with a major interest in political science can select courses both with respect to major and related subjects which are strongly recommended for prospective foreign service candidates.

Information on the details of the public administration, prelegal, or foreign service curricula may be obtained from the chairman of the department or from any member of the teaching staff in political science.

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 121, 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, 337, 441, 442, 465, 466, 472, 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, 310, 369, 408, 415, 416, 427; *Economics* 164, 201, 202, 301, 318, 351, 354, 356, 365, 366; *Business Administration* 153, 351, 368, 371, 373, 465; *Sociology* 201, 352, 357, 370, 375, 379, 380, 492; *Philosophy* 101, 102, 201, 351, 352, 380, 461; *Psychology* 201, 231, 361, 363, 364; *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.

Newspaper Work

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

Students interested chiefly in *community newspaper work* will wish to elect, in addition to the required courses in journalism, *Journalism* 354, 356, 357, 365, 366, 368, 373, 374, 375; *Business Administration* 101, 102, 153, 346, 351, 368, 371.

Radio Journalism

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.

Advertising

Students preparing for a *career in advertising* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 302, 356, 357, 360, 365, 366, 368, 373, 374, 375, 386; *Business Administration* 153, 346, 351, 368, 371, 373, 443; *Psychology* 361, 363; *Art* 105, 115, 355, 356, 381; *Speech* 219, 220.

Public Relations

Students interested chiefly in *public relations and publicity* will wish to elect, in addition to the required courses in journalism, *Journalism* 301, 302, 356, 357, 360, 373, 374, 375, 386; *Speech* 111, 112, 219, 220; *Psychology* 361, 363, 364; *Art* 105, 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

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, 351, 425, and one of the following: 352, 451, 501, or 502; Mechanical Engineering 341-342. 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 Symphonic Choir, the University Chamber Music Ensemble, and the University of Nevada Community Symphony 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 Symphonic Choir specializes in the study and performance of large-scale choral works such as Handel's "Messiah," Mendelssohn's "Elijah," and the Brahms "Requiem," with orchestral accompaniment.

The University of Nevada Community Symphony presents concerts of orchestral works, present special youth programs, and participates in the performance of choral works.

The University Chamber Music Ensemble studies and performs works written for smaller ensembles and assists in the performance of the larger works with the University of Nevada Community Symphony.

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 equivalent¹ (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, Strings, Percussion, 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);

piano¹ 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 351. *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, 363, 491, 492; English 131, 132, 231, 232, 281, 291, 337; History 303, 304, 305, 306, 309, 341, 342; Mathematics 371; 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; 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), 351, 372 (6 credits); and 9 additional credits in physics courses numbered above 300. *Related subjects* (29 credits)—Chemistry 101, 102, 122 (9 credits); Mathematics 151-152 (10 credits), 251-252 (8 credits), 351 (2 credits). It is also recommended that German be used to fulfill the requirements in foreign languages.

¹A 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.

General Training

Major-interest subject (26 credits)—Physics 151-152, 153-154 (8 credits), 357 (2 credits), 372 (3 credits), and 13 additional credits in physics, of which 9 must be in 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			Option 2		
Credits			Credits		
	1st Sem.	2d Sem.		1st Sem.	2d Sem.
Military 101-102	1	1	Military 101-102	1	1
Physical Educ. 101-102	1	1	Physical Educ. 101-102	1	1
English 101-102	3	3	English 101-102	3	3
Mathematics 151-152	5	5	Mathematics 102	2	—
Chemistry 101, 102, 122	4	5	Mathematics 110	3	—
Social Science	2	1	Mathematics 140	—	3
			Chem. 101, 102, 122	4	5
			Social Science	2	3
	<hr/>	<hr/>		<hr/>	<hr/>
	16	16		16	16

Political Science, See History and Political Science

Pre dental Curriculum, See Pre medical and Pre dental

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.

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, 370, 373, 374, 413-414; Economics 164, 301, 351, 353, 354, 361, 362, 365, 366, 373, 491, 492; English 201-202, 235-236, 281, 337, 339, 385, 441-442, 464, 465, 471, 475-476, 481-482, 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, 408, 427-428, 429, 441-442, 451-452; Journalism 101-102, 231-232, 253, 272, 367, 379; Philosophy 102, 201, 221, 307, 351, 352, 353, 354, 380, 461, 462, 482; Political Science 105-106, 310, 369, 374, 404, 408, 415, 416, 418, 419, 427, 431-432; Psychology 231, 233, 241, 301, 361, 363, 364, 441, 450, 451; Sociology 102, 352, 357, 361, 364, 365, 371, 375, 379, 380, 385, 391, 392, 491, 492; Speech 119, 120, 221-222, 311, 315, 317-318, 321-322, 323-324, 411, 413, 414, 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, vertebrate anatomy, embryology, general inorganic chemistry, qualitative analysis, organic chemistry, general physics, and a reading knowledge of French or German. Quantitative analysis is also required by many and advised by others. Plane trigonometry and college algebra are required by a few schools and strongly advised to insure an adequate foundation for biophysical and biochemical studies in the medical school.

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 course of study should be followed:

Freshman Year		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.

Sophomore Year

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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	Chem. 234—Quantitative.....	4
German or French 101.....	5	German or French 102.....	5
Zool. 309—Comparative Anatomy.....	5	Electives.....	5
	<hr/>		<hr/>
	16		16

Junior Year

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
Biol. 340—Genetics.....	3	Chem. 342—Organic Chemistry.....	4
Chem. 341—Organic Chemistry.....	4	German or French 104.....	3
German or French 103.....	3	Phys. 152, 154—General Physics.....	4
Phys. 151, 153—General Physics.....	4	Pol.Sci. 202—Nevada Constitution.....	1
Pol.Sci. 201—U. S. Constitution.....	1	Zool. 364—Embryology.....	4
Electives.....	1		
	<hr/>		<hr/>
	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.

Pre dental 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.

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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
	<hr/>		<hr/>
	16		16

<i>Sophomore Year</i>		<i>Credits</i>	
<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	
P.E. 201—Sophomore Activities.....	1	P.E. 202—Sophomore Activities.....	1
Chem. 231—Quantitative Analysis.....	3	Chem. 242—Introductory Organic.....	4
Psych. 201—General Psychology.....	3	Soc. 102—Social Problems.....	3
Zool. 223—Human Anatomy.....	4	Zool. 224, 226—Physiology.....	4
Electives	5	Electives	4
	<hr/> 16		<hr/> 16

<i>Junior Year</i>		<i>Credits</i>	
<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	
Biol. 340—Genetics.....	3	Phys. 152, 154—General Physics.....	4
Biol. 351—Bacteriology	4	Pol.Sci. 202—Nevada Constitution.....	1
Phys. 151, 153—General Physics.....	4	Zool. 370—Animal Microtechnique.....	2
Pol. Sci. 201—U. S. Constitution.....	1	Electives (Courses 300 or above).....	9
Zoology ¹ 368—Histology	2		
Electives (Courses 300 or above).....	2		
	<hr/> 16		<hr/> 16

¹Recommended, 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 pre-medical 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

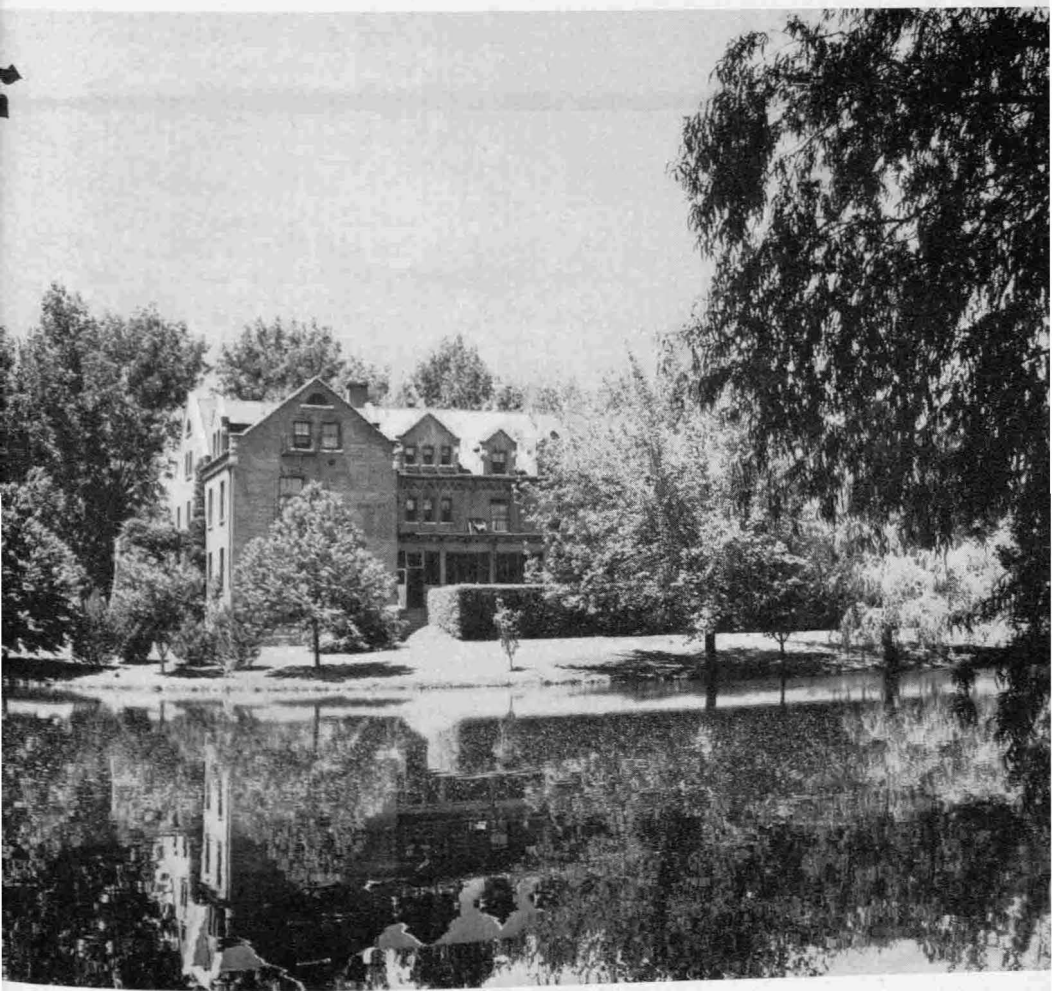
Prepharmacy, See Biology

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. (Also see Social Psychology.)

Professional

Major-interest subject (32-33 credits)—Psychology 201 (3 credits), 301 (4 credits), 303 (3 credits), 310 (3 credits), 403 (3 credits), 408 (2 credits), 490



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(3 credits), 491 (3 credits); also one course from each of the following pairs: 361 or 364 (3 credits), 404 (2 credits) or 421 (3 credits), and 411 or 441 (3 credits). *Related subjects* (17-18 credits)—Sociology 201 (3 credits); plus 14-15 credits from one of the following: philosophy, sociology, or zoology.

General

Major-interest subject (30 credits)—Psychology 201 (3 credits), 301 (4 credits), 310 (3 credits), 361 (3 credits); plus 17 credits in psychology to be chosen in consultation with the adviser. *Related subjects* (20 credits)—Sociology 201 or 211 (3 credits); Philosophy 101 (3 credits); plus 14 additional credits to be chosen from one other related field, in consultation with the adviser.

Romance Languages, See Foreign Languages

Social Psychology

It is possible for the student to divide his major interest between the fields of psychology and sociology with emphasis on social psychology, as follows:

Major-interest subjects (31-32 credits)—Psychology 201 (3 credits), 310 (3 credits), 361 (3 credits), 363 (2 credits), 364 (3 credits), 493 (3 credits); Sociology 201 (3 credits), 211 (3 credits), 365 (3 credits), 392 (3 credits); and either Sociology 370 (2 credits) or Psychology 405 (3 credits). *Related subjects* (18-19 credits)—18-19 credits to be chosen in consultation with the adviser.

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.

Sociology

Anthropology

The student with a major interest in anthropology may take a combined major in anthropology and sociology, with emphasis on anthropology. The following requirements should be met for this major:

Major-interest subject (30 credits)—Sociology 201 (3 credits), 211 (3 credits), 357 (3 credits), 359 (3 credits), 365 (3 credits), 371 (3 credits), 379 (3 credits), 385 (3 credits), 392 (3 credits), 492 (3 credits). *Related subjects* (20 credits)—Psychology 201, 310 (6 credits); and 14 credits selected in consultation with the adviser, from among the following: Geography 101, 103; Geology 101-102; History 105-106, 371-372, 451-452; Psychology 364, 411; Zoology 223, 224, 309.

Social Psychology, See Social Psychology

Sociology

Major-interest subject (30 credits)—Sociology 201 (3 credits), 211 (3 credits), 364 (3 credits), 370 (2 credits), 371 (3 credits), 385 (3 credits), 392 (3 credits), 492 (3 credits), and 7 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 220 (Archaeology).

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, 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, 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, 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, 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 related courses in the Prelegal Curriculum.

Wildlife Management, See Biology

Zoology, See Biology

College of Business Administration

Departments of Instruction: Business Administration; Economics; and Secretarial Studies.

Bureau of Business and Economic Research.

Objectives

The major objective of the College of Business Administration is to provide organized study for young men and women planning careers of responsibility in business or industry. Complete four-year programs are shown on the following pages leading to careers in accounting, banking, economics, finance, general business, industrial management, insurance, management, marketing, office administration, personnel management, public administration, real estate, retailing, sales-advertising, and secretarial studies (two- and four-year programs).

Each of these fields of concentration has been designed to give a breadth of understanding, and a balance between professional and cultural education. Emphasis has been placed upon (1) theories, techniques, principles, and practice in basic subjects in the professional fields of business and economics; (2) development of ability to think analytically and logically about business and economic problems and to formulate and test possible solutions 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.

Special Opportunities and Services

Placement Service

The College of Business Administration maintains a placement service for the purpose of assisting graduating seniors in finding suitable employment. This service includes an annual publication summarizing the qualifications of each senior and indicating the types of positions for which he is best suited. The publication is sent to all interested businesses upon request. The placement service also extends invitations to personnel directors of firms of this area to come to the campus, and provides for them ideal facilities for conducting interviews.

Field Trips

Organized visits are planned to nearby industrial centers for the purpose of acquainting students with the practical aspects of business and industry.

Student Employment

Opportunity exists in the College of Business Administration and the Bureau of Business and Economic Research for the employment of a number of highly qualified students. Such employment provides opportunities for students to learn more about the economy of Nevada. The College of Business Administration will also assist students who desire part-time employment in local business concerns. Students who devote a large amount of their time to outside employment should schedule less than the normal load of 16 credits each semester.

Other Opportunities

A large number of reading materials are available for student use in the Dean's Office. Current publications, particularly those dealing with business activity, and new ideas in industry, are featured.

Students interested in scholarships, professional club activities, night classes and correspondence courses in business will find information in other sections of this catalogue.

Business administration courses are offered on the freshman and sophomore level on the Las Vegas campus. These courses are the same as those offered on the Reno campus and full credit toward graduation from the University will be given. Additional courses in business administration in Las Vegas will be offered as interest and demand indicate.

Requirements for a Baccalaureate Degree in Business Administration

Upon completion of any one of the following four-year curricula with satisfactory grades and upon the recommendation of the Dean, the degree of Bachelor of Science in Business Administration will be granted. An economics major may choose an option leading to the Bachelor of Arts degree if he so desires. Adjustments of the curriculum to fit the needs of individual students may be made with the consent of the adviser and Dean of the College. Courses to be included in the subject matter areas shown in each curriculum (humanities, natural science and mathematics, and social science) are to be selected with the approval of the major advisers. No changes will be considered which bring the curriculum into conflict with any of the following requirements which must be met by every student:

1. He must satisfy the requirements of the University for admission to regular standing.
2. He must successfully complete 128 credits of required and elective courses.
3. Of the total credits presented for graduation he must have successfully completed a minimum of 40 credits in courses numbered 300 and above.

4. He must have successfully completed a minimum of 51 credits in nonbusiness subjects which shall include the following:

	<i>Credits</i>
*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 and Mathematics (including at least one course in Mathematics).....	9
Social Science other than Economics (Geography, History, Journalism 101-102, Political Science, Psychology, and Sociology—Pol.Sci. 101-102 or 201-202 must be included*).....	10
Other Nonbusiness Courses.....	12
	51

5. The student must satisfy basic requirements within the College for a total of 51 credits. These shall include the following:

	<i>Credits</i>
Bus.Adm. 101-102—Elementary Accounting I and II.....	8
Bus.Adm. 351—Principles of Management.....	3
Bus.Adm. 365—Corporation Finance.....	3
Bus.Adm. 368—Marketing.....	3
Bus.Adm. 373—Business Law.....	3
Bus.Adm. 374—Advanced Business Law.....	3
Econ. 201-202—Principles of Economics.....	6
Econ. 353—Money and Banking.....	3
Econ. 361—Statistical Methods I.....	3
Econ. (301 or above)—Additional Theory Course.....	3
Other Business Administration, Economics and Secretarial Studies Courses.....	13
	51

Choice of a Field of Concentration

The student must select one of the following fields of concentration: accounting, banking, economics, finance, general business, industrial management, insurance, management, marketing, office administration, personnel management, public administration, real estate, retailing, sales-advertising, and secretarial studies (two- and four-year programs). General business is designed for those particular students who wish to train for some type of business pursuit not included in the curricula shown. Upon consultation with the Dean, a full four-year program may be worked out and designed to fill the student's special needs. Such programs, however, must conform in full to the above statement on requirements for a baccalaureate degree in business administration.

The choice of a field of concentration may be delayed until the sophomore year if the student is undecided and needs the advice and counsel of faculty members in order to help him to arrive at a decision. Such a student should enroll in the suggested freshman year which follows in order that he may be sure that all of his courses will be applicable toward his degree requirements.

*University requirement.

Suggested Freshman Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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. 101—Elem. Accounting.....	4		Bus.Adm. 102—Elem. Accounting.....	4	
Engl. 101—Comp. and Rhetoric.....	3		Engl. 102—Comp. and Rhetoric.....	3	
Humanities	}	7	Humanities	}	7
Natural Science and Mathematics			Natural Science and Mathematics		
Social Science			Social Science		
		16			16

Accounting

Major Adviser—Assistant Professor James M. Hoyt

Accounting is one of the fastest growing professions in the United States. The great demand is the result of the desire of businessmen to learn more about their operations, the desire of stockholders to be better informed about their investments, and the increasing complexity of tax laws. Accounting has been appropriately called the language of business. There is an acute shortage of professional accountants: public, governmental, private, and industrial. The demand is present also for good upper division students who desire to obtain accounting experience while engaged in their regular studies.

Freshman Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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. 101—Elem. Accounting.....	4		Bus.Adm. 102—Elem. Accounting.....	4	
Engl. 101—Comp. and Rhetoric.....	3		Engl. 102—Comp. and Rhetoric.....	3	
Pol.Sci. 201—U. S. Constitution.....	1		Pol.Sci. 202—Nevada Constitution.....	1	
Mathematics.....	3		Humanities.....	3	
Social Science.....	3		Social Science.....	3	
		16			16

Sophomore Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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. 203—Interm. Accounting.....	3		Bus.Adm. 204—Interm. Accounting.....	3	
Econ. 201—Prin. of Economics.....	3		Econ. 202—Prin. of Economics.....	3	
Natural Science and Mathematics.....	3		Humanities.....	3	
Social Science.....	2		Natural Science and Mathematics.....	3	
Electives.....	3		Electives.....	2	
		16			16

Junior Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
Bus.Adm. 309—Cost Accounting.....	3		Bus.Adm. 351—Prin. Management.....	3	
Bus.Adm. 368—Marketing.....	3		Bus.Adm. 374—Adv. Business Law.....	3	
Bus.Adm. 373—Business Law.....	3		Bus.Adm. 412—Auditing.....	3	
Econ. 353—Money and Banking.....	3		Sec.St. 304—Bus. Report Writing.....	2	
Electives.....	4		Electives.....	5	
		16			16

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 305—Adv. Accounting I.....	2	Bus. Adm. 306—Adv. Accounting II.....	2
Bus. Adm. 365—Corp. Finance.....	3	Econ. 351—Public Finance.....	3
Bus. Adm. 413—Fed. Tax Account.....	3	Electives	11
Econ. 361—Statist. Methods I.....	3		
Jour. 301—Pub. Rel. Techniques.....	2		
Electives	3		
	16		16

Economics

Major Adviser—Sidney J. Claunch

The economics major curricula are designed to prepare qualified students for positions as economic and market analysts in business, labor organizations, and government, and for the teaching profession. They serve as ideal foundations for graduate study and research work in the fields of business and of economics and for intelligent living and citizenship. The economics major is aimed at giving the student a background of essential courses needed for an understanding of our economic system, major current problems and the techniques used in solving these problems. Where freedom of choice is available, students are encouraged to elect courses in philosophy, sociology, psychology, political science, history, mathematics, physics, and English, in addition to economics and business administration.

The economics major may lead to the Bachelor of Arts degree or to the degree of Bachelor of Science in Business Administration. The two degree curricula differ in that candidates for the Bachelor of Arts degree must have the equivalent of 16 credits of foreign language during their high school and college course, while candidates for the degree of Bachelor of Science in Business Administration are not required to present credit in a foreign language.

Freshman Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 101—Elem. Accounting.....	4	Bus. Adm. 102—Elem. Accounting.....	4
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Pol. Sci. 101—American Govern.....	3	Pol. Sci. 102—American Govern.....	3
Language ¹	3 or 5	Language ¹	3 or 5
Mathematics	2	Natural Science and Mathematics.....	3
Electives	2	Electives	1
	16		16

Sophomore Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 373—Business Law.....	3	Bus. Adm. 374—Adv. Business Law.....	3
Econ. 201—Prin. of Economics.....	3	Econ. 202—Prin. of Economics.....	3
Humanities	3	Phil. 101—Intro. to Philosophy.....	3
Language ¹	3	Language ¹	3
Natural Science and Mathematics.....	3	Natural Science and Mathematics.....	2
Social Science	2	Electives	3
	16		16

¹Language required only of candidates for the Bachelor of Arts degree; these students may postpone Pol. Sci. 101-102 to the sophomore year and may postpone electives as necessary.

Junior Year

First semester		Credits	Second semester		Credits
Bus. Adm. 365—Corp. Finance	3		Bus. Adm. 351—Prin. Management	3	
Bus. Adm. 368—Marketing	3		Econ. 422—Interm. Income Theory	3	
Econ. 353—Money and Banking	3		Soc. 201—Prin. of Sociology	3	
Econ. 361—Statist. Methods I	3		Electives	7	
Econ. 421—Interm. Price Theory	3				
Electives	1				
		16			16

Senior Year

First semester		Credits	Second semester		Credits
Econ. 354—Bus. and Public Policy	3		Econ. 351—Public Finance	3	
Econ. 365—Labor Economics	3		Econ. 492—Hist. of Econ. Thought	3	
Econ. 373—Business Cycles	3		Electives	10	
Electives	7				
		16			16

Finance

Major Adviser—Associate Professor Alden J. Plumley

The major of finance, with its banking and insurance fields of concentration, is designed both as terminal training in the respective fields and allied activities and as a basis for further graduate study. The banking specialty provides the training and point of view necessary to successful participation in the professions of commercial banking, investment banking, and management of the financial aspects of business in general. It also lays the foundation for positions in research and in government financial agencies. Similar goals are sought in the insurance concentration, although it is oriented toward the profession of insurance. Where freedom of choice is available, students are encouraged to elect courses in philosophy, sociology, psychology, political science, history, mathematics, physics, and English, in addition to economics and business administration.

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	
Bus. Adm. 101—Elem. Accounting	4		Bus. Adm. 102—Elem. Accounting	4	
Engl. 101—Comp. and Rhetoric	3		Engl. 102—Comp. and Rhetoric	3	
Math. 110—College Algebra	3		Phil. 101—Intro. to Philosophy	3	
Pol. Sci. 101—American Govern.	3		Pol. Sci. 102—American Govern.	3	
Electives	1		Electives	1	
		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	
Bus. Adm. 203—Interm. Accounting	3		Bus. Adm. 204—Interm. Accounting	3	
Econ. 201—Prin. of Economics	3		Econ. 202—Prin. of Economics	3	
Humanities	2		Humanities	2	
Natural Science and Mathematics	3		Natural Science and Mathematics	3	
Social Science	3		Social Science	3	
		16			16

Banking

Junior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 368—Marketing_____	3	Bus. Adm. 351—Prin. Management..	3
Bus. Adm. 373—Business Law_____	3	Bus. Adm. 374—Adv. Business Law..	3
Econ. 353—Money and Banking_____	3	Econ. 358—International Trade_____	3
Econ. 361—Statist. Methods I_____	3	Econ. 364—Statist. Methods II_____	3
Econ. 421—Interm. Price Theory_____	3	Econ. 422—Interm. Income Theory..	3
Electives _____	1	Electives _____	1
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 365—Corp. Finance_____	3	Bus. Adm. 353—Prin. Insurance I....	2
Econ. 354—Bus. and Public Policy_____	3	Bus. Adm. 370—Investments_____	3
Econ. 373—Business Cycles_____	3	Econ. 351—Public Finance_____	3
Econ. 460—Bank Pract. and Pol._____	3	Econ. 459—Banking Systems_____	3
Electives _____	4	Electives _____	5
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Insurance

Junior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 353—Prin. Insurance I....	2	Bus. Adm. 351—Prin. Management..	3
Bus. Adm. 365—Corp. Finance_____	3	Bus. Adm. 354—Prin. Insurance II..	2
Bus. Adm. 373—Business Law_____	3	Bus. Adm. 374—Adv. Business Law..	3
Econ. 353—Money and Banking_____	3	Econ. 351—Public Finance_____	3
Econ. 361—Statist. Methods I_____	3	Econ. 364—Statist. Methods II_____	3
Electives _____	2	Electives _____	2
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 368—Marketing_____	3	Bus. Adm. 370—Investments_____	3
Bus. Adm. 375—Econ. Real Estate..	2	Bus. Adm. 388—Insurance Law_____	3
Econ. 354—Bus. and Public Policy_____	3	Econ. 422—Interm. Income Theory..	3
Econ. 373—Business Cycles_____	3	Econ. 468—Social Insurance_____	3
Econ. 421—Interm. Price Theory_____	3	Electives _____	4
Electives _____	2		
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Management

Major Adviser—Assistant Professor James M. Hoyt

There are attractive professional opportunities in government and industry for trained management personnel. Positions range from general personnel work to such specialized fields as job evaluation, employment, safety, wage and salary administration, and training activities. The principles of management are applicable to large and small industries, government bureaus and institutional type operations.

The field of industrial management is designed to give the student an understanding of both the principles of management and the methods of industrial production. Positions for the graduate range from training programs to junior executive positions both of which lead to higher executive work.

Freshman Year

First semester		Second semester	
	Credits		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. 101—Elem. Accounting.....	4	Bus.Adm. 102—Elem. Accounting.....	4
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Pol.Sci. 201—U. S. Constitution.....	1	Pol.Sci. 202—Nevada Constitution.....	1
Mathematics.....	3	Humanities.....	3
Social Science.....	3	Electives.....	3
	<hr/> 16		<hr/> 16

Sophomore Year

First semester		Second semester	
	Credits		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
Econ. 201—Prin. of Economics.....	3	Bus.Adm. 351—Prin. Management.....	3
Psych. 201—General Psychology.....	3	Econ. 202—Prin. of Economics.....	3
Natural Science and Mathematics.....	3	Soc. 201—Prin. of Sociology.....	3
Electives.....	4	Humanities.....	3
	<hr/> 15	Natural Science and Mathematics.....	3
			<hr/> 17

Industrial Management

Junior Year

First semester		Second semester	
	Credits		Credits
Bus.Adm. 309—Cost Accounting.....	3	Bus.Adm. 352—Indust. Mgt.....	3
Bus.Adm. 367—Personnel Mgt.....	3	Bus.Adm. 374—Adv. Business Law.....	3
Bus.Adm. 373—Business Law.....	3	Soc. 391—Human Relations in Bus.....	3
Econ. 353—Money and Banking.....	3	Electives.....	7
Electives.....	5		<hr/> 16
	<hr/> 17		

Senior Year

First semester		Second semester	
	Credits		Credits
Bus.Adm. 365—Corp. Finance.....	3	Bus.Adm. 460—Adv. Mgt. Probs.....	2
Bus.Adm. 368—Marketing.....	3	Bus.Adm. 461—Motion, Time Stud.....	2
Econ. 361—Statist. Methods I.....	3	Bus.Adm. 468—Purchasing Control.....	2
Econ. 365—Labor Economics.....	3	Econ. 366—Labor Problems.....	3
Jour. 301—Pub. Rel. Techniques.....	2	Sec.St. 304—Bus. Report Writing.....	2
Mech.A. 226—Mfg. Processes.....	1	Electives.....	5
	<hr/> 15		<hr/> 16

Personnel Management

Junior Year

First semester		Second semester	
	Credits		Credits
Bus.Adm. 367—Personnel Mgt.....	3	Bus.Adm. 374—Adv. Business Law.....	3
Bus.Adm. 373—Business Law.....	3	Econ. 366—Labor Problems.....	3
Econ. 353—Money and Banking.....	3	Psych. 391—Industrial, Personnel.....	2
Econ. 361—Statist. Methods I.....	3	Soc. 391—Human Relations in Bus.....	3
Econ. 365—Labor Economics.....	3	Electives.....	6
	<hr/> 15		<hr/> 17

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 365—Corp. Finance.....	3	Bus. Adm. 460—Adv. Mgt. Probs.....	2
Bus. Adm. 368—Marketing.....	3	Bus. Adm. 461—Motion, Time Stud....	2
Econ. 367—Labor Legislation.....	3	Bus. Adm. 465—Probs. Indust. Rel....	2
Jour. 301—Pub. Rel. Techniques.....	2	Econ. 468—Social Insurance.....	3
Psych. 363—Communic., Persuasion.....	2	Sec. St. 304—Bus. Report Writing....	2
Psych. 411—Psychological Tests.....	3	Electives	5
	<hr/> 16		<hr/> 16

Marketing

Major Adviser—Associate Professor Benjamin M. Wofford

Marketing deals with economic activities required for supplying to the ultimate customer the finished products of our mines, factories, and farms. Marketing offers two fields of concentration: sales-advertising for those who plan to go into the field of personal salesmanship, and retailing for those who plan to become retail buyers, owners, or operators.

Freshman Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 101—Elem. Accounting....	4	Bus. Adm. 102—Elem. Accounting....	4
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Math. 110—College Algebra.....	3	Phil. 101—Intro. to Philosophy.....	3
Pol. Sci. 101—American Govern.....	3	Pol. Sci. 102—American Govern.....	3
	<hr/> 15		<hr/> 15

Sophomore Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Mil. 201—Second Year Basic.....	1	Mil. 202—Second Year Basic.....	1
P.E. 201—Sophomore Activities.....	1	P.E. 202—Sophomore Activities.....	1
Econ. 201—Prin. of Economics.....	3	Econ. 202—Prin. of Economics.....	3
Hist. 101—United States.....	3	Hist. 102—United States.....	3
Jour. 301—Pub. Rel. Techniques.....	2	Phil. 107—Elementary Logic.....	3
Speech 111—Public Speaking.....	2	Sec. St. 215—Bus. Communication....	3
Natural Science and Mathematics....	4	Natural Science and Mathematics....	3
	<hr/> 16		<hr/> 17

Sales-Advertising

Junior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 333—Credits and Collect..	2	Bus. Adm. 346—Salesmanship.....	2
Bus. Adm. 365—Corp. Finance.....	3	Bus. Adm. 351—Prin. Management....	3
Bus. Adm. 368—Marketing.....	3	Bus. Adm. 371—Merchandising.....	2
Bus. Adm. 373—Business Law.....	3	Bus. Adm. 374—Adv. Business Law....	3
Econ. 353—Money and Banking.....	3	Econ. 361—Statist. Methods I.....	3
Jour. 356—Prin. of Advertising.....	2	Jour. 357—Advert. Copy Writing....	2
	<hr/> 16	Electives	2
			<hr/> 17

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 443—Sales Management....	3	Econ. 358—International Trade.....	3
Econ. 373—Business Cycles.....	3	Econ. 362—Transportation.....	2
Econ. 421—Intern. Price Theory....	3	Econ. 364—Statist. Methods II.....	3
Jour. 320—Publicity Methods.....	2	Jour. 374—Newspaper Advertising....	2
Electives	5	Electives	6
	<hr/> 16		<hr/> 16

Retailing**Junior Year**

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 333—Credits and Collect.	2	Bus. Adm. 346—Salesmanship	2
Bus. Adm. 365—Corp. Finance	3	Bus. Adm. 351—Prin. Management	3
Bus. Adm. 368—Marketing	3	Bus. Adm. 371—Merchandising	2
Bus. Adm. 373—Business Law	3	Bus. Adm. 374—Adv. Business Law	3
Econ. 353—Money and Banking	3	Bus. Adm. 468—Purchasing Control	2
Jour. 356—Prin. of Advertising	2	Econ. 361—Statist. Methods I	3
		Electives	2
	16		17

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 308—Distribution Costs	2	Bus. Adm. 443—Sales Management	3
Bus. Adm. 367—Personnel Mgt.	3	Bus. Adm. 460—Adv. Mgt. Probs.	2
Econ. 373—Business Cycles	3	Econ. 362—Transportation	2
Econ. 421—Interm. Price Theory	3	Econ. 364—Statist. Methods II	3
Electives	5	Electives	6
	16		16

Office Administration

Major Adviser—Assistant Professor Edward M. Vietti

One of the great needs of business is a supply of well trained secretarial talent. College graduates in office administration find excellent job opportunities waiting for them. A good office administrator and secretary is in a position to learn about the operation of all departments of a large business organization; junior and senior executives are frequently chosen from personnel who have had successful office administration experience.

Freshman Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 101—Elem. Accounting	4	Bus. Adm. 102—Elem. Accounting	4
Engl. 101—Comp. and Rhetoric	3	Engl. 102—Comp. and Rhetoric	3
Sec. St. 101—Elem. Typewriting	2	Sec. St. 102—Interm. Typewriting	2
Sec. St. 111—Elem. Stenography	3	Sec. St. 112—Interm. Stenography	3
Mathematics	2	Natural Science	2
	16		16

Sophomore Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Mil. 201—Second Year Basic	1	Mil. 202—Second Year Basic	1
P.E. 201—Sophomore Activities	1	P.E. 202—Sophomore Activities	1
Econ. 201—Prin. of Economics	3	Econ. 202—Prin. of Economics	3
Pol. Sci. 101—American Govern.	3	Pol. Sci. 102—American Govern.	3
Psych. 201—General Psychology	3	Sec. St. 212—Adv. Stenography	3
Sec. St. 211—Adv. Stenography	3	Sec. St. 215—Bus. Communications	3
Humanities	3	Natural Science	3
	17		17

Junior Year

First semester	Credits	Second semester	Credits
Bus.Adm. 368—Marketing.....	3	Bus.Adm. 351—Prin. Management..	3
Bus.Adm. 373—Business Law.....	3	Bus.Adm. 374—Adv. Business Law..	3
Psych. 363—Communic., Persuasion	2	Econ. 361—Statist. Methods I.....	3
Sec.St. 300—Office Org., Mgt.....	3	Sec.St. 302—Sec. Procedures.....	3
Humanities.....	3	Natural Science.....	2
Electives.....	2	Electives.....	2
	<hr/>		<hr/>
	16		16

Senior Year

First semester	Credits	Second semester	Credits
Bus.Adm. 365—Corp. Finance.....	3	Econ. 492—Hist. Econ. Thought....	3
Econ. 353—Money and Banking.....	3	H.Ec. 418—Family Economics.....	2
Sec.St. 303—Exec. Sec. Proced.....	3	Sec.St. 304—Bus. Report Writing....	2
Electives.....	6	Electives.....	8
	<hr/>		<hr/>
	15		15

Secretarial Studies

(Two-Year Program)

The following curriculum is designed for the student who wishes to prepare himself for a secretarial position in a two-year period. A Certificate of Completion will be awarded to those who complete the program with an average grade of C or better. The inclusion of general college requirements in this schedule makes it possible for a student to continue in the four-year course without loss of time. The student with previous training in shorthand and typewriting should consult with the adviser in secretarial studies before registering in these courses.

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
Bus.Adm. 101—Elem. Accounting....	4	Bus.Adm. 102—Elem. Accounting....	4
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Sec.St. 101—Elem. Typewriting.....	2	Sec.St. 102—Interm. Typewriting....	2
Sec.St. 111—Elem. Stenography.....	3	Sec.St. 112—Interm. Stenography....	3
Humanities and Natural Science....	3	Humanities and Natural Science....	3
	<hr/>		<hr/>
	17		17

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
Bus.Adm. 373—Business Law.....	3	Pol.Sci. 102—American Govern.....	3
Pol.Sci. 101—American Govern.....	3	Sec.St. 212—Adv. Stenography.....	3
Psych. 201—General Psychology....	3	Sec.St. 215—Bus. Communication....	3
Sec.St. 211—Adv. Stenography.....	3	Sec.St. 302—Sec. Procedures.....	3
Sec.St. 300—Office Org., Mgt.....	3	Humanities and Natural Science....	3
	<hr/>		<hr/>
	17		17

Teacher Certification

To meet certification requirements prescribed by the Nevada State Board of Education, a student who plans to teach business subjects in high school should consult with the advisers in business education of both the College of Education and the College of Business Administration.

Business Education

Public Administration

Major Adviser—Sidney J. Claunch

The public administration major within the College of Business Administration is designed to prepare qualified students for administrative positions in departments and agencies of government at the federal, state, and local levels. Government at all levels needs persons of professional competence in economics, banking, and the various areas of business administration. The curriculum offered is sufficiently flexible to permit various emphases as to level of government and type of agency, and it is sufficiently general to serve as a terminal educational program for a productive private life or as preparation for further study at the graduate level. The purpose of the major is to provide the student with a background of knowledge which will enable him to understand the needs of this society and with the skills he must have if he is to serve these needs in administrative phases of government service.

Freshman Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 101—Elem. Accounting.....	4	Bus. Adm. 102—Elem. Accounting.....	4
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Pol. Sci. 101—American Govern.....	3	Pol. Sci. 102—American Govern.....	3
Mathematics.....	2	Natural Science and Mathematics.....	3
Electives.....	2	Electives.....	1
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Sophomore Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 373—Business Law.....	3	Bus. Adm. 374—Adv. Business Law.....	3
Econ. 201—Prin. of Economics.....	3	Econ. 202—Prin. of Economics.....	3
Hist. 101—United States.....	3	Hist. 102—United States.....	3
Natural Science and Mathematics.....	3	Phil. 101—Intro. to Philosophy.....	3
Electives.....	2	Natural Science and Mathematics.....	2
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Junior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Bus. Adm. 365—Corp. Finance.....	3	Bus. Adm. 351—Prin. Management.....	3
Bus. Adm. 368—Marketing.....	3	Pol. Sci. 432—Prin. Pub. Admin.....	2
Econ. 353—Money and Banking.....	3	Soc. 391—Human Relations in Bus.....	3
Econ. 361—Statist. Methods I.....	3	Business and Economics.....	3
Pol. Sci. 431—Prin. Pub. Admin.....	2	Humanities.....	3
Electives.....	2	Electives.....	2
	<hr style="width: 50%; margin: 0 auto;"/> 16		<hr style="width: 50%; margin: 0 auto;"/> 16

Senior Year

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
Econ. 354—Bus. and Public Policy.....	3	Econ. 351—Public Finance.....	3
Pol. Sci. 419—Administrative Law.....	2	Pol. Sci. 310—Soc. and Econ. Legisl.....	3
Business and Economics.....	5	Pol. Sci. 418—Pub. Pers. Admin.....	2
History and Political Science		Business and Economics.....	2
(above 300).....	3	History and Political Science	
Electives.....	3	(above 300).....	2
	<hr style="width: 50%; margin: 0 auto;"/> 16	Electives.....	4
			<hr style="width: 50%; margin: 0 auto;"/> 16

Real Estate

Major Adviser—John P. Reed

Real estate is so closely related to economic and social welfare that those planning to engage in its practice must be trained beyond the simple principles of small business operation. Real estate as an investment has taken on new significance and advanced the field of scientific property management. State regulation has multiplied the legal principles and procedures governing ownership and transfer of property. The real estate program is designed to develop these trends and enhance the professional stature of the forward-looking realtor.

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	
Bus.Adm. 101—Elem. Accounting	4		Bus.Adm. 102—Elem. Accounting	4	
Engl. 101—Comp. and Rhetoric	3		Engl. 102—Comp. and Rhetoric	3	
Pol.Sci. 101—American Govern.	3		Pol.Sci. 102—American Govern.	3	
Mathematics	2 or 3		Natural Science	3 or 4	
Electives	1 or 2		Electives	0 or 1	
		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	
Econ. 201—Prin. of Economics	3		Bus.Adm. 270—Prin. Real Estate	3	
Geog. 109—Economic Geography	3		Econ. 164—Econ. Hist. of U. S.	3	
Soc. 201—Prin. of Sociology	3		Econ. 202—Prin. of Economics	3	
Humanities	2 or 3		Humanities	2 or 3	
Natural Science	2 or 3		Natural Science	2 or 3	
		16			16

Junior Year

First semester		Credits	Second semester		Credits
Bus.Adm. 353—Prin. Insurance I	2		Bus.Adm. 351—Prin. Management	3	
Bus.Adm. 365—Corp. Finance	3		Bus.Adm. 370—Investments	3	
Bus.Adm. 373—Business Law	3		Bus.Adm. 374—Adv. Business Law	3	
Bus.Adm. 375—Econ. Real Estate	2		Bus.Adm. 382—Real Estate Brok.	3	
Econ. 353—Money and Banking	3		Humanities	2 or 3	
Soc. 385—Pop., Human Ecology	3		Electives	1 or 2	
		16			16

Senior Year

First semester		Credits	Second semester		Credits
Bus.Adm. 368—Marketing	3		Bus.Adm. 379—Real Est. Appraisal	2	
Bus.Adm. 378—Real Estate Law	3		Bus.Adm. 384—Real Estate Probs.	2	
Econ. 354—Bus. and Pub. Policy	3		Bus.Adm. 478—Real Est. Seminar	2	
Econ. 361—Statist. Methods I	3		Econ. 351—Public Finance	3	
Econ. 373—Business Cycles	3		Electives	7	
Electives	1				
		16			16

Graduate Study

The College offers graduate programs leading to the degrees of Master of Arts and Master of Science. Major and minor concentrations may be made in the various departments of instruction. The general requirements for the degrees are set forth in the Graduate School section of this catalogue.

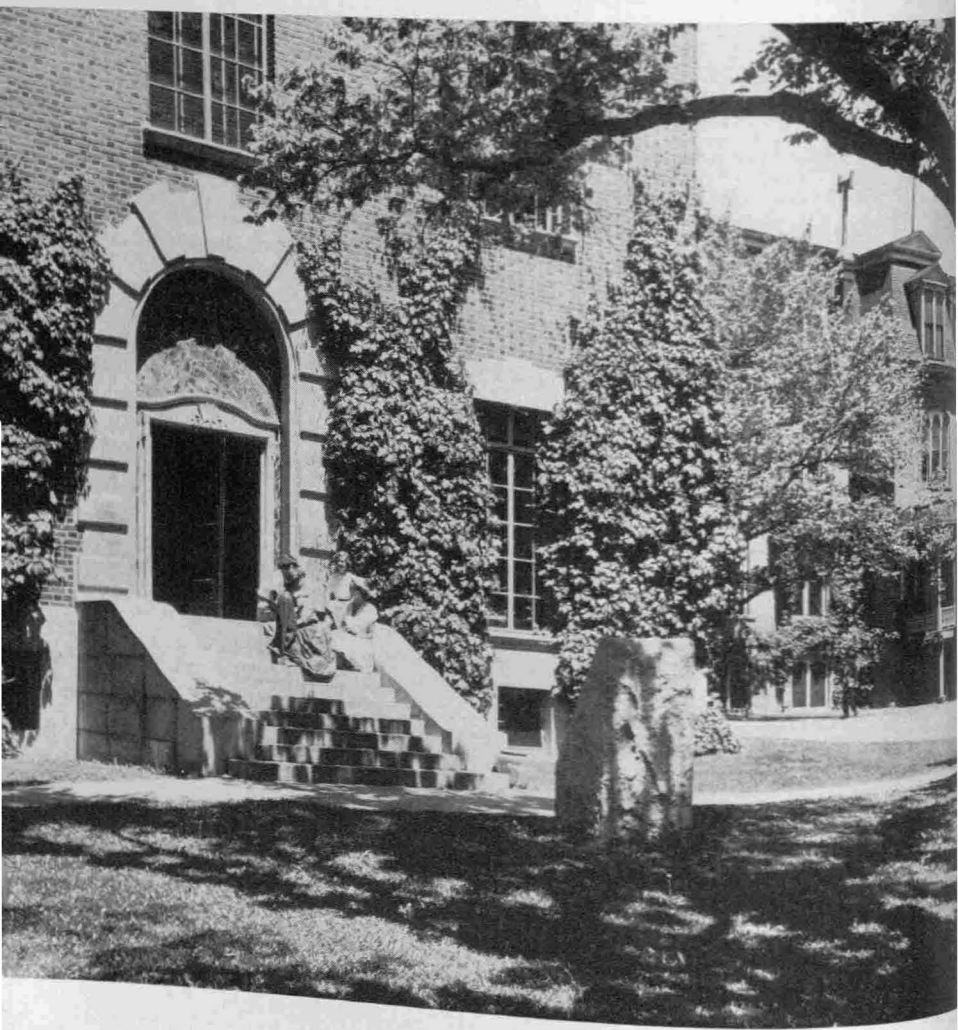
Bureau of Business and Economic Research

The Bureau of Business and Economic Research has three primary functions: to gather and disseminate data concerning the economic life in the State; to stand ready to assist governmental agencies, interested groups of citizens, and business units in obtaining objective economic data; and to encourage and to assist in business and economic research undertaken by faculty members at the University and other competent scholars.

To these ends projects are now under way in the newly established Bureau as follows:

1. Contacts are being established within the State with Chamber of Commerce secretaries, heads of banks, postmasters, and recorders of city and county statistics in order to have a reporting system on Nevada statistics.
2. A Nevada Business Review is being developed.
3. Data files are being set up and filled as rapidly as possible with statistics of Nevada cities and communities.
4. Materials are being compiled for the publication as soon as possible of a Statistical Abstract of Nevada.
5. Groundwork is being laid for coordination between the Bureau and other state agencies on such matters as the development of Nevada's economic resources, Nevada's industrial potential, and how Nevada might share in the dispersal of industry program.
6. Data are being gathered which will allow an assessment of Nevada's present economic position, the determination of trends present in the economy, and recommendations for long range planning and promotion of Nevada's economic welfare.

The degree to which these ends will be achieved will increase over the years but valuable results should be forthcoming within a limited time.



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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 candidate for a baccalaureate degree is required to meet all general University requirements for graduation.

2a. General Academic Education Requirements for Elementary Teaching Curricula—(Kindergarten-Primary, Intermediate, Upper Grades)

	<i>Minimum Credits</i>
<i>Communication Skills</i>	8
Freshman English	6
Speech	2
<i>Humanities</i>	10
English literature	3
American literature	3
Music (fundamentals)	2
Art (fundamentals)	2
<i>Social Studies</i>	20
Political Science 201-202 (or equivalent)	2
European history	6
United States history	6
Geography (physical, regional, cultural, or economic)	6
<i>Science and Mathematics</i>	12
Biological science	4-6
Physical science	5-6
Mathematics (general)	2
<i>Psychology</i> (general)	3
<i>Health and Physical Education</i>	6
<i>Military Science</i> (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:

	<i>Minimum Credits</i>
<i>Communication Skills</i>	8
Freshman English	6
Speech	2
<i>Humanities</i>	7
English or American literature	3
Art, music, philosophy, or speech	4
<i>Social Studies</i>	10
Political Science 201-202 (or equivalent)	2
History	3
Economics, geography, journalism, or sociology	5
<i>Psychology</i>	6
General psychology	3
Educational psychology	3
<i>Health and Physical Education</i>	4
<i>Military Science</i> (men)	4
<i>For B.A. Degree in Education—</i> Foreign languages (see arts and science requirements)	16
<i>or</i> <i>For B.S. Degree in Education—</i> 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 inter-departmental 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	Latin
Biology	Library education
Business education	Mathematics
Chemistry	Music
Economics	Physical education, men
Elementary education	Physical education, women
English	Political science
French	Psychology
Geography	Science
Geology	Social studies
German	Sociology
Health education	Spanish
History	Special education
Italian	Speech and Drama
Journalism	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 19 credits of course work for secondary teaching.

FOUNDATIONS FOR ELEMENTARY TEACHING

Minimum Credits

I.	<i>The Sociological Bases for Education</i>	5
	El.Ed. 101—Orientation to College and Professional Education.....	2
	Ed. 201—Introduction to Education: School Law, Organization, and Social Foundations.....	3
II.	<i>Human Growth and Development</i>	2-3
	El.Ed. 220—Human Growth and Development.....	3
	or	
	Psych. 233—Child Psychology.....	2
III.	<i>Evaluation and Guidance</i>	3
	El.Ed. 330—Elementary School Guidance.....	3
	or	
	Psych. 321—Educational Psychology.....	3
IV.	<i>General Principles, Methods, and Materials for Elementary Education</i>	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	<i>Supervised Teaching in Elementary Education</i>	9
	El.Ed. 427 and 428—Supervised Teaching.....	8
	Ed. 417—Professional Problems in Supervised Teaching.....	1

¹For students preparing to teach in the kindergarten.

FOUNDATIONS FOR SECONDARY TEACHING

	<i>Minimum Credits</i>
I. <i>The Sociological Bases for Education</i>	4
Sec.Ed. 102—Orientation to College and Professional Education.....	1
Ed. 201—Introduction to Education: School Law, Organization, and Social Foundations.....	3
II. <i>Human Growth and Development</i>	2
Psych. 231—Psychology of Adolescence.....	2
III. <i>Evaluation and Guidance</i>	3
Sec.Ed. 340—Introduction to Guidance and Counseling.....	3
IV. <i>General Principles, Materials, and Methods for Secondary Education</i>	5
Sec.Ed. 341—General Principles, Materials, Methods.....	3
Special Methods (teaching field).....	2
V. <i>Supervised Teaching in Secondary Education</i>	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.

Requirement	Course	Credits	
		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 or Physical Science	Geog. 101, 103, 106 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.)	El.Ed. 101	2	or 2

Sophomore Year			
Requirement	Course	1st Sem.	2d Sem.
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	3	or 2
Electives (see adviser)		-	-

Junior Year			
Requirement	Course	1st Sem.	2d Sem.
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			
Requirement	Course	1st Sem.	2d Sem.
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)		-	-

¹Foundations for Elementary Teaching IV courses.

²For 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, elementary school guidance, 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 and Supervision 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 each candidate 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 satisfactorily 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

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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
	<hr/> 18 or 19		<hr/> 18 or 19

Civil Engineering

Uniform Freshman Year (see above)

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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		
	<hr/> 19		<hr/> 19

Junior Year

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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
M.E. 341—Analytic Mechanics.....	3	C.E. 491—Contracts, Specific.....	2
Pol.Sci. 201—U. S. Constitution.....	1	M.E. 342—Analytic Mechanics.....	2
Electives ¹	2	Pol.Sci. 202—Nevada Constitution.....	1
	<hr/> 17	Electives ¹	3
			<hr/> 18

Senior Year

<i>First semester</i>		<i>Second semester</i>	
	<i>Credits</i>		<i>Credits</i>
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
	<hr/> 18	Electives ¹	3
			<hr/> 18

¹Electives 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 113)

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. 351—Differential Eqtns.....	2	E.E. 368—Intro. to Electronics.....	3
M.E. 341—Analytic Mechanics.....	3	M.E. 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	4
M.E. 457—Machine Design.....	3	Communication Lab.	1
Pol.Sci. 201—U. S. Constitution.....	1	E.E. 488—Seminar.....	3
Electives ¹	2	M.E. 353—Fund. Thermodynamics.....	2
18		M.E. 462—M.E. Laboratory.....	1
		Pol.Sci. 202—Nevada Constitution.....	1 or 2
		Electives ¹	1 or 2
		18	

Mechanical Engineering

Uniform Freshman Year (see page 113)

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	

¹See footnote 1, page 113.

Junior Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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. 351—Differential Eqtns.	2		E.E. 352—Alt. Current Mach.	3	
M.E. 341—Analytic Mechanics	3		E.E. 354—Alt. Curr. Mach. Lab.	2	
M.E. 351—Kinematics	3		M.E. 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

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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 Constitution	1	
Pol.Sci. 201—U. S. Constitution	1		Electives ¹	3	
Electives ¹	2				
		18			18

¹See footnote 1, page 113.

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 related to 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 undergraduate curricula that lead to the degrees of Bachelor of Science in Geography, Geology, Geological Engineering, Metallurgical Engineering, and Mining Engineering. The Master of Science 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.

The curricula leading to the degrees of Bachelor of Science in Geography, Geology, Geological Engineering, Metallurgical Engineering, and Mining Engineering are given below:

Geography

The student should take careful note of restrictions and limitations placed upon the geography curriculum as noted below:

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 study, he will be permitted to take the elementary course in the other language; otherwise he must take a second year in the same language.

GEOGRAPHY: The student may not offer more than 27 credits in geography.

MATHEMATICS: Math. 102, 110, and 140; or equivalent are required.

SCIENCE: One year of high school science may be used to satisfy the requirement in the same science. Not more than 2 of the required sciences (biology (botany, zoology), chemistry, and physics) may be satisfied in this manner.

ELECTIVES: It is recommended that elective credits be taken in the following subjects: agronomy, biology (botany, zoology), business administration, civil engineering, economics, geology, history, philosophy, physics, political science, soils.

<i>Freshman Year</i>			
<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
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. 102—Plane Trigonometry.....	2	Engl. 102—Comp. and Rhetoric.....	3
Math. 110—College Algebra.....	3	Math. 140—Analyt. Geometry.....	3
Hist. 105—European Civilization.....	3	Hist. 106—European Civilization.....	3
	<hr/> 17		<hr/> 15

Additional Required Courses

Mil. 201—Second Year Basic.....	1	Mil. 202—Second Year Basic.....	1
P.E. 201—Sophomore Activities.....	1	P.E. 202—Sophomore Activities.....	1
Pol.Sci. 201—U. S. Constitution.....	1	Pol.Sci. 202—Nevada Constitution.....	1
German (or French)—First Year.....	5	German (or French)—First Year.....	5
German (or French)—Second Year.....	3	German (or French)—Second Year.....	3
Phys. 151—General Physics.....	3	Phys. 152—General Physics.....	3
Phys. 153—Gen. Physics Lab.....	1	Phys. 154—Gen. Physics Lab.....	1
Geol. 101—Physical Geology.....	4	Geol. 102—Historical Geology.....	3
Bot. 103—General Botany.....	3	Zool. 103—General Zoology.....	2
Soc. 357—Cultural Anthropology.....	3	Zool. 104—Gen. Zoology Lab.....	2
Econ. 201—Prin. of Economics.....	3	Econ. 202—Prin. of Economics.....	3
Econ. 361—Statistical Methods.....	3	Geog. 106—Cultural Geography.....	3
Geog. 103—Physical Geography.....	3	Geog. 212—Cartography.....	3
Geog. 109—Economic Geography.....	3	Geog. 222—Weather and Climate.....	3
Geog.—Regional Geography.....	3		
	<hr/> 40		<hr/> 34

Total credits required, 136.

Geology, Geological Engineering, Metallurgical Engineering, and Mining Engineering

<i>First semester</i>		<i>Freshman Year</i>		<i>Second semester</i>	
	<i>Credits</i>				<i>Credits</i>
Mil. 101—First Year Basic.....	1	Mil. 102—First Year Basic.....	1	P.E. 102—Freshman Activities.....	1
P.E. 101—Freshman Activities.....	1	Chem. 102—Gen. Inorganic Chem....	2	Chem. 124—Qualitative Analysis....	2
Chem. 101—Gen. Inorganic Chem....	4	Engl. 102—Comp. and Rhetoric.....	3	Geol. 101—Physical Geology.....	3
Engl. 101—Comp. and Rhetoric.....	3	M.E. 105—Engineering Drawing.....	2	Math. 152—Elem. Math. Analysis....	5
Math. 151—Elem. Math. Analysis....	5	Min. 101—Mineral Industry Lec.....	1	M.E. 106—Descriptive Geometry....	2
M.E. 105—Engineering Drawing.....	2				
Min. 101—Mineral Industry Lec.....	1				
		17		19	

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: See foreign language requirement given under the Curriculum in Geography.

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)."

Freshman Year

For tabular statement of courses, see above.

Sophomore Year

<i>First semester</i>		<i>Sophomore Year</i>		<i>Second semester</i>	
	<i>Credits</i>				<i>Credits</i>
Mil. 201—Second Year Basic.....	1	Mil. 202—Second Year Basic.....	1	P.E. 202—Sophomore Activities.....	1
P.E. 201—Sophomore Activities.....	1	Geol. 102—Historical Geology.....	3	Geol. 212—Mineralogy.....	3
Geol. 211—Mineralogy.....	3	German (or French)—First Year....	5	Phys. 152—General Physics.....	3
German (or French)—First Year....	5	Phys. 153—Gen. Physics Lab.....	1	Phys. 154—Gen. Physics Lab.....	1
Phys. 151—General Physics.....	3				
Phys. 153—Gen. Physics Lab.....	1				
Electives (Social Studies).....	3	17		17	

Junior Year

<i>First semester</i>		<i>Junior Year</i>		<i>Second semester</i>	
	<i>Credits</i>				<i>Credits</i>
C.E. 241—Plane Surveying.....	3	Geol. 326—Opt. Mineral. Petrol....	4	Geol. 332—Struct. Geology.....	3
Engl. 201—Advanced Composition...	2	Geol. 450—Field Methods.....	1	Math. 220—Math. Statistics.....	3
Geol. 325—Opt. Mineral. Petrol....	4	Zool. 103—Gen. Zoology.....	2	Zool. 104—Gen. Zool. Lab.....	2
Electives.....	9	Electives.....	3		
		18		18	

Summer Camp

Geol. 451¹—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 Constitution.....	1
Electives	9	Speech 112—Public Speaking.....	2
		Electives	8
	17		17

Total credits required, 146.

Geological Engineering

Freshman Year

For tabular statement of courses, see page 119

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
M.E. 341—Analytic Mechanics.....	3	Geol. 450—Field Methods.....	1
Pol.Sci. 201—U. S. Constitution.....	1	Geol. 484—Ground Water.....	3
Social Studies or Humanities ²	3	Pol.Sci. 202—Nevada Constitution.....	1
Electives	2	Social Studies or Humanities ²	3
	16		15

Summer Camp

Geol. 451—Summer Field Geology.....6 credits.

Senior Year

First semester	Credits	Second semester	Credits
Art 107 ² —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 ²	3
Min. 465—Mine Sampl. and Val.....	2	Electives	5
Social Studies or Humanities ²	3		
Electives	2		
	18		18

Total credits required, 146.

¹In 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.

²These 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.

³May substitute other courses by permission of department chairman or dean.

Metallurgical Engineering

Freshman Year

For tabular statement of courses, see page 119

Summer Work

Met. A.—Mineral Industry Employment.....no credit.

Sophomore Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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	
M.E. 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 ⁴	3	
		19			19

Senior Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
C.E. 361—Hydraulics.....	3		M.E. 353—Fund. Thermodynamics.....	3	
Min. 465—Mine Sampl. and Val.....	2		Met. 344—Ferrous Metallurgy.....	2	
Met. 433—Hydrometallurgy.....	3		Met. 436—Electrometallurgy.....	2	
Met. 451—Physical Metallurgy.....	3		Met. 476—Met. Problems.....	2	
Met. 522—Adv. Mineral Dressing.....	3		Social Studies or Humanities ⁴	3	
Pol.Sci. 202—Nevada Constitution.....	1		Electives.....	5	
Social Studies or Humanities ⁴	3				
		18			17

Total credits required, 146.

Mining Engineering

Freshman Year

For tabular statement of courses, see page 119

Summer Work

For tabular statement of courses, see page 119

⁴See footnote 2, page 120.

Sophomore Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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 ^a —Phys. Measurements.....	2	
		18			18

Junior Year

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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	
M.E. 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 ^a	3		Min. 432—Mining Methods.....	3	
			Social Studies or Humanities ^a	3	
		17			20

Summer Camp

Min. 442—Mine Surveying..... 2 credits.

Senior Year¹

<i>First semester</i>		<i>Credits</i>	<i>Second semester</i>		<i>Credits</i>
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 Constitution.....	1	
Pol.Sci. 201—U. S. Constitution.....	1		Social Studies or Humanities ^a	3	
Social Studies or Humanities ^a	3				
		18			17

Total credits required, 146.

^aMay substitute other courses by permission of department chairman or dean.

^bSee footnote 2, page 120.

¹Each semester several field trips will be taken to mines and reduction works.

School of Nursing

Objectives

In response to the increasing demand for professionally educated nurses in Nevada, and following a special survey of nursing needs and resources in the State, the Board of Regents, upon recommendation of the Citizens' Advisory Committee that participated in the survey, authorized the establishment of the School of Nursing as a professional college of the University in 1955. The instructional program of the new college will commence with the fall term of the academic year 1957-1958.

The primary objective of the School of Nursing is the preparation of qualified professional nurses, who can serve effectively at beginning levels of nursing activities. Emphasis at all times will be upon increasing the student's awareness of individual patient care. At the same time, the student in the School of Nursing will be encouraged to develop a broad understanding in the social and cultural fields that will contribute to her development as a mature and responsible citizen in the community.

Requirements for a Baccalaureate Degree in the School of Nursing

The student will receive a baccalaureate degree in the field of nursing upon successful completion of a four-year program. The completion of this program will qualify her to pursue further education on the graduate level and to take the examination for State Licensure to become a Registered Nurse in the State of Nevada.

A special brochure now in preparation will contain detailed information concerning the four-year curriculum. The brochure will be available upon request to the Dean of the School of Nursing.

Basic Collegiate Program

All subject matter in the curriculum will be integrated to produce sound understandings and principles concerning patient care. Students in nursing will receive instruction in humanities, social sciences, and the basic sciences in regular courses provided for all University students. Clinical experience in nursing will be provided in cooperation with the various community resources in medicine and health throughout the State of Nevada. All nursing subjects will be taught and supervised by professional nurses qualified in their field of nursing

specialty. The nurse faculty members will be full-time faculty members of the University and under University jurisdiction for developing and directing the clinical experiences.

Finances

Students entering the School of Nursing will pay the same fees as students enrolling in other colleges of the University. In addition, they must be prepared to assume the cost of student nurse uniforms and transportation to and from the community resources used for clinical experiences.

Suggested Freshman Year

The following courses are suggested for the freshman year:

<i>First semester</i>	<i>Credits</i>	<i>Second semester</i>	<i>Credits</i>
P.E. 101—Freshman Activities.....	1	P.E. 102—Freshman Activities.....	1
Engl. 101—Comp. and Rhetoric.....	3	Engl. 102—Comp. and Rhetoric.....	3
Introduction to Nursing.....	2	Fundamentals of Nursing.....	3
Speech 111—Public Speaking.....	2	Humanities	} 9
Humanities	} 8	Natural Science	
Natural Science		Social Science	
Social Science			
	— 16		— 16

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, the Dean of the Graduate School, and the dean of his college. 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. 131) 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, and 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 the dean of his college 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 writing¹; 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.

¹Example—Campbell, W. G., "Form and Style in Thesis Writing," Houghton Mifflin Co.

This examination is usually oral, and is conducted by a committee of five, appointed by the Graduate Study Committee. In the examination the student should be able to demonstrate a comprehensive understanding of a broad field, and a somewhat more detailed understanding of a more limited field. The examination may cover also the contents of the thesis, and facts, principles, or theories related to or suggested by the thesis.

The examining committee consists of five members of the faculty: a representative of the major department, a representative of the minor department, a member of the Graduate Study 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. Work accepted by transfer for graduate credit must have been accepted as graduate credit by the accredited institution where the work was completed.
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 and Supervision 588, or Higher and Adult Education 598). This paper should involve an analysis, interpretation, and the systematic treatment of an acceptable problem. 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.
4. The final oral examination for the Master of Education degree will be conducted by five faculty members, three of whom will be selected from the faculty of the College of Education and two from the University Faculty at large by the Graduate Study Committee.

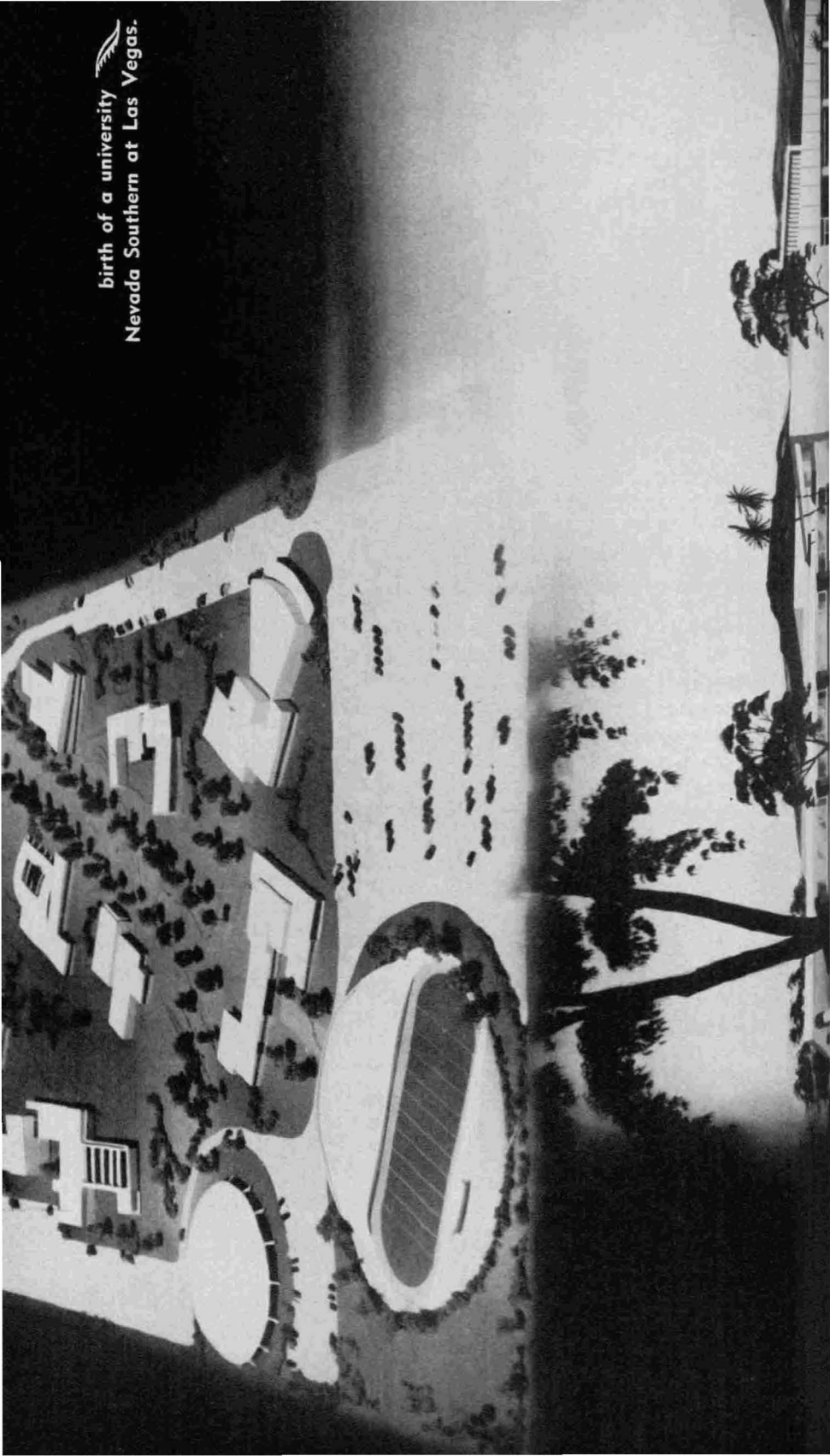
Professional Engineering Degrees

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. The thesis or publication in final form 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.

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Military Science and Tactics

The Army Reserve Officers Training Corps at Nevada is organized under authority of the National Defense Act of 1920, primarily to qualify students for positions of military leadership in time of national emergency. The local unit offers required courses in a general military science curriculum which leads to a reserve commission as second lieutenant in the Army of the United States.

Basic Course

The basic course (Military 101-102 for freshmen and Military 201-202 for sophomores) includes instruction in the various types of weapons used in the Army, map reading, and military history. In addition to classroom instruction, students participate in outdoor military drill during the fall and spring months.

Advanced Course

The advanced course (Military 301, 302, 401 and 402) is a means by which a student, while studying for his degree, may voluntarily complete two years of advanced ROTC training and receive a commission as a second lieutenant in the Army Reserve. The course, applicable toward graduation in any college, includes leadership, military teaching methods, organization of the Army, small unit tactics, communications, logistics, military operations, military administration and military justice. In addition to the courses listed above, the student must complete Military 303, Summer Camp. The summer camp is of six weeks duration and is completed between a student's junior and senior year. At this camp the theories studied in the classroom are put into practice. Emphasis is placed on developing the student's ability to lead men.

Upon graduation, students completing the advanced course are commissioned in the various branches of the Army depending upon their qualifications, field of study, and the needs of the service.

The number of students who may be enrolled in the advanced course each year (within quota limitations assigned by Department of the Army) is limited to those who, during their basic course, have demonstrated a potential for leadership training, have a definite interest in becoming officers, and who meet academic and physical standards. The general requirements are:

1. Completion of (or receive credit for) the basic course.
2. Two years remaining before graduation.
3. Execution of a deferment agreement with the Department of the Army.
4. Passing prescribed mental and physical examinations.

5. Receiving the approval of the dean of the appropriate college and the Professor of Military Science and Tactics.

6. Of such an age that the applicant will not have reached his 28th birthday upon graduation and appointment.

Commission in Regular Army

Advanced course students who demonstrate outstanding academic ability, military proficiency, and leadership potential may be selected as Distinguished Military Students at the beginning of their senior year. Such a nomination entitles the student to apply for a commission in the Regular Army. If accepted by the Department of the Army, the student may, upon graduation from the University, enter the Regular Army on the same basis as a graduate of the U. S. Military Academy at West Point.

Deferment from Induction

Enrollment in ROTC *does not* automatically defer a student from induction.

Under the provisions of the Universal Military Training and Service Act of 1951 (Public Law 51, 82d Congress) ROTC students, within quota limitations allotted by the Department of the Army, may be granted deferments (1-D) under the following conditions:

1. Students must be registered with their local selective service boards.

2. Students must have and maintain satisfactory grades in the University.

3. Execution of a deferment agreement by which the student agrees to complete the basic course, if enrolled therein; at the proper time enroll in, and complete the advanced course, if accepted therefor; accept a commission in the Army Reserve, if tendered; serve on active duty for a period of not less than two years after receipt of commission and to remain a member of the Active Reserve until the sixth anniversary of the commission date; or, if the Army does not require the student's service on active duty, to serve on active duty for training for six months and remain a member of the Active Reserve until the eighth anniversary of the commission date.

4. Receive the approval of the Deferment Board and the Professor of Military Science and Tactics.

Pay

Students taking the basic course receive no pay.

All students formally enrolled in the advanced course are paid commutation of subsistence at a rate prescribed by the Secretary of the Army (currently 90 cents per day or approximately \$27.00 per month). Subsistence is paid beginning the date the student enrolls in the advanced course and continues through one intervening vacation

period, less the period spent at Summer Camp, up to a total of 595 days. In addition, students attending Summer Camp receive \$78.00 per month while attending the six-weeks encampment and travel pay at the rate of five cents per mile to and from camp.

Textbooks, Uniforms, and Equipment

The United States Government provides each basic course student with the necessary textbooks, uniform and equipment.

Students in the advanced course, in addition to receiving texts and instructional equipment at the expense of the United States Government, are provided an officer-type uniform. The United States Government provides the University with a uniform allowance for each student enrolling in the advanced course and this allowance is used to purchase the officer-type uniform, which the student may retain upon graduation. In event the student withdraws from the advanced course for his own convenience, he must reimburse the University a proportionate amount of the cost of the uniform.

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.

Credit by Virtue of Previous Service

Students who have had *active* military service in the Armed Forces of the United States may receive credit toward graduation in any college upon presentation of their honorable discharge (DD Form 214) to the Professor of Military Science and Tactics 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.

Agriculture	Horticulture (See Agronomy)
Agricultural Economics	Italian
Agricultural Education	Journalism
Agricultural Mechanics	Latin
Agronomy	Library Science
Animal Husbandry	Mathematics
Art	Mechanical Engineering
Astronomy (See Physics 107)	Mechanic Arts
Biology	Metallurgy
Botany	Military
Business Administration	Mining
Chemistry	Music
Civil Engineering	Philosophy
Drama (See Speech)	Physical Education
Economics	Physics
Education	Political Science
Electrical Engineering	Psychology
Elementary Education	Range Management
English	School Administration and Supervision
French	Secondary Education
Geography	Secretarial Studies
Geology	Sociology
German	Soils
Health, Physical Education, and Athletics (See Physical Education)	Spanish
Higher and Adult Education	Speech
History	Zoology
Home Economics	

Departments and Staff

Listed below, by colleges, are the departments of instruction and the staff of each department for the academic year 1956-1957. 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 WITWER; 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, Professor.

Assistant Professors CORDS, JENSEN, KINSINGER; Agronomist SCHULZ; Assistant Agronomists BERNHARD, PETERSON; Assistant Range Conservationist KILPATRICK.

Animal Husbandry (A.H.)—Chairman, CASSARD, Associate Professor.

Associate Professors BOHMAN, KIDWELL; Assistant Professor 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.

Assistant Professor BIANCHI; Research Chemist SPENCER.

COLLEGE OF ARTS AND SCIENCE

Art (Art)—Chairman, SHEPPARD, Associate Professor.

Assistant Professor YATES; Mr. HOLLADAY.

Biology (Biol., Bot., and Zool.)—Chairman, LA RIVERS, Associate Professor.

Assistant Professors COONEY, JONES, McDONALD, MILLER, RYSER (Las Vegas).

Chemistry (Chem.)—Chairman, MOOSE, Professor.

Professors DEMING, WILLIAMS; Associate Professor MORRIS; Assistant Professor SEIM; Mr. FALK, Mr. KEMP, Mr. RYGG.

English Language and Literature (Engl.)—Chairman, FRANK, Associate Professor.

Professors ELDRIDGE, HUME, LAIRD; Associate Professors BRINK (Las Vegas), GORRELL, MORRISON; Assistant Professors DICKINSON (Las Vegas), WOODS; Mrs. HENRICH, Mrs. MATHEWS, Miss MOE (Las Vegas), Mr. WILSON, Miss WITTRICK.

Foreign Languages (Fr., Ger., Ital., Lat., and Span.)—Chairman, GOTTARDI, Professor.

Associate Professors DANDINI, MELZ; Assistant Professor KLINE; Mr. McMURRAY.

Health, Physical Education and Athletics (P.E.)—Chairman, BROTEN, Associate Professor.

Professor MARTIE; Associate Professors RUSSELL, SCRANTON; Assistant Professors LAWLOR, McEACHRON, SMITHWICK (Las Vegas); Mr. DANKWORTH, Miss LANE, Miss WILSON.

History and Political Science (Hist. and Pol.Sci.)—Chairman, HICKS, Professor.

Associate Professors BUSHNELL (Las Vegas), ELLIOTT, HUTCHERSON, WRIGHT (Las Vegas); Assistant Professors ROBERTS, SHEPPERSON; Mr. DRIGGS.

- 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 KDOT, Television Station KOLO-TV, Reno Press Service, and the Thomas C. Wilson Advertising Agency.
- Mathematics (Math.)**—Chairman, BEESLEY, Professor.
Assistant Professors DEMERS (on leave), GRAHAM (Las Vegas), MIENTKA, TOMPSON; Mr. BRADSHAW.
- Military Science and Tactics (Mil.)**—Chairman, BEREUTER, Professor.
Assistant Professors CLARK, HOLT, SINGLETON.
- Music (Mus.)**—Chairman, FREEBURNE, Associate Professor.
Associate Professor MACY; Assistant Professors HICKMAN, MERCADO.
- Philosophy (Phil.)**—Chairman, ROELOFS, Associate Professor.
Mr. HALBERSTADT.
- Physics (Phys.)**—Chairman, LEIFSON, Professor.
Associate Professor WORLEY; Assistant Professors FRAZIER, SKABELUND.
- Psychology and Sociology (Psych. and Soc.)**—Chairman, SECORD, Associate Professor.
Assistant Professors BACKMAN, DAY, MCQUEEN, SMITH; Miss SELLERS.
- Speech and Drama (Speech)**—Chairman, GRIFFIN, Professor.
Associate Professor MILLER; Assistant Professor WILSON.

COLLEGE OF BUSINESS ADMINISTRATION

- Business Administration (Bus. Adm.)**
Professor WEEMS; Assistant Professor HOYT; Mr. BUTLER (Las Vegas), Mr. REED.
- Economics (Econ.)**
Associate Professors PLUMLEY, WOFFORD; Mr. CLAUNCH.
- Secretarial Studies (Sec. St.)**
Associate Professor BREWINGTON (Las Vegas); Assistant Professor VIETTI.

COLLEGE OF EDUCATION

- Education, General (Ed.)**—Chairman, BROWN, Professor.
Associate Professor SECORD*; Assistant Professor GRUBBS; Mr. KELLY*; Assistants in Reno and Sparks affiliated schools.
- Elementary Education (El. Ed.)**—Chairman, WILLEY, Professor.
Associate Professor HENDRIX (Las Vegas); Assistant Professors DRURY, GRUBBS, HICKMAN*; Mr. HOLLADAY*; Assistants in Reno and Sparks affiliated schools.

*Part-time only.

Higher and Adult Education (H.A.Ed.)—Chairman, HOLSTINE, Professor.

Associate Professor TUCKER.

School Administration and Supervision (Sch.Adm.)—Chairman, TUCKER, Associate Professor.

Professors HOLSTINE, WILLEY.

Secondary Education (Sec.Ed.)—Chairman, NEWBRY, Associate Professor.

Professors BROWN, CARLSON*; Associate Professors RUSSELL*, SCRANTON*, TRIPPLE*; Assistant Professors CHRISTENSEN*, DERFELT, McQUEEN*; Assistants in Reno and Sparks affiliated schools.

COLLEGE OF ENGINEERING

Civil Engineering (C.E.)—Chairman, BLODGETT, Professor.

Associate Professor BONELL; Assistant Professors BREESE, ORCUTT.

Electrical Engineering (E.E.)—Chairman, GARROTT, Associate Professor.

Professor SANDORF; Assistant Professor MENKE.

Mechanical Engineering (M.E. and Mech.A.)—Chairman, VAN DYKE, Professor.

Professor HARRIS; Assistant Professor VAN TASSLE; Mr. RYAN.

MACKAY SCHOOL OF MINES

Geology and Geography (Geol. and Geog.)—Chairman, LARSON, Associate Professor.

Assistant Professors KERSTEN, LINTZ, MCGIRK, SLEMMONS; Mr. KRAMER.

Metallurgy (Met.)—Chairman, WINSTON, Associate Professor.

Professors BUTLER, SMYTH; Assistant Professor HAMMOND.

Mining (Min.)—Chairman, SMYTH, Professor.

Associate Professor NELSON.

SCHOOL OF NURSING

Professor and Dean, YINGLING.

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, Mackay School of Mines, and School of Nursing.*

*Part-time only.

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 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 **Orientation in Agriculture** (2 + 0) 1 credit F

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 **Biometry** (2 + 3) 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.

580 Agricultural Economics Research 1 to 3 credits F, S

Consideration of essentials for scientific inquiry in agricultural economics. Under staff supervision each student selects a project. The research methods applicable to the project are explored. The student actually plans, performs, and writes up the results of the research. Consent of instructor required.

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.

244 Introduction to Agricultural Education**444 Methods and Materials of Teaching Farm Mechanics**

- 446 Problems in Agricultural Education
 447 Methods in Teaching Vocational Agriculture
 455 Workshop in Vocational Education
 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 even-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 odd-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 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 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 (1 + 3) 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 (1 + 3) 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.)

204 Wool Production (1 + 3) 2 credits S

A survey of the wool industry. Types and market grades of wool. Managing sheep for wool production.

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 Undergraduates** 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.
- 105 **Design** (0 + 4 or 6) 2 or 3 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.
- 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** (0 + 6) 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.
- 466 **History of Indian Art in the Americas** (3 + 0) 3 credits F
Lecture and slides. A study of the art and cultural developments of the major ethnological groups of North and South America from prehistory to the present.
- 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 or 3 + 0) 2 or 3 credits F
An introduction to the principles of botany and zoology. Cannot be used as a prerequisite for other botany and zoology courses.
- 104 **General Biology Laboratory** (0 + 3) 1 credit F
An optional course to accompany Biol. 103.
- 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 or Zool. 103, 104. Miller.
- 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. 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.)

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 structure, physiology, and classification of the flowering plants and related plant groups.

104 Survey of the Plant Kingdom (2 + 0) 2 credits F, 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 F, 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. Cooney.

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. Cooney.

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** (3 + 3) 4 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** (0 + 6) 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 **Elementary Accounting I** (3 + 2) 4 credits F
Accounting cycle, journalizing, posting, adjustments, statements, closing, proprietorships.
- 102 **Elementary Accounting II** (3 + 2) 4 credits S
Partnerships, corporations, stocks, bonds, investments, cost accounting, statement analysis. Prerequisite: Bus.Adm. 101.
- 153 **Introduction to Business** (3 + 0) 3 credits F, S
A general survey of the business world, general function of business, tools and policies of business.
- 203 **Intermediate Accounting I** (3 + 0) 3 credits F
Brief review of elementary accounting; theory and practice of accounting for cash, receivables, prepaid and accrued items, fixed assets, intangible assets. Prerequisite: Bus.Adm. 102.
- 204 **Intermediate Accounting II** (3 + 0) 3 credits S
Current and fixed liabilities, stocks, retained income, capital surplus, reserves, correcting entries, single entry, statement analysis, source and application of funds. Prerequisite: Bus.Adm. 203.
- 270 **Principles of Real Estate** (3 + 0) 3 credits S
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.

- 305(G) **Advanced Accounting I** (2 + 0) 2 credits F
Partnerships, joint ventures, installment sales, consignment, receiverships. Prerequisite: Bus.Adm. 204.
- 306(G) **Advanced Accounting II** (2 + 0) 2 credits S
Estates, trusts, home office and branch relationships, consolidated statements. Prerequisite: Bus.Adm. 305.
- 307 **Governmental Accounting** (2 + 0) 2 credits S
Fund and budget accounts of local governmental units, revenues, appropriations, disbursements, assessments. Prerequisite: Bus.Adm. 102.
- 308(G) **Distribution Costs** (2 + 0) 2 credits F
Marketing costs and their control. Maintenance of stock, packing and shipping, sales, advertising, credit, billing. Prerequisite: Bus.Adm. 102.
- 309(G) **Cost Accounting** (3 + 0) 3 credits F
Materials, labor and overhead, job order and process costing, joint and by-products. Prerequisite: Bus.Adm. 102.
- 310(G) **Standard Cost Accounting** (3 + 0) 3 credits S
Flexible budgets. Advantages, construction, operation and use of a standard cost accounting system. Prerequisite: Bus.Adm. 309.
- 333 **Credits and Collections** (2 + 0) 2 credits F
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 S
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 studied.
- 351 **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.
- 352(G) **Industrial Management** (3 + 0) 3 credits S
Planning, routing, scheduling and control of production. Analysis of plant capacity and production cycles, inspection and quality control, plant layout. Prerequisite: Bus.Adm. 351.
- 353(G) **Principles of Insurance I** (2 + 0) 2 credits F
Nature of risks and uncertainty, the insurance mechanism and the social significance of insurance. Special stress during this phase of the study is placed on fire insurance, automobile insurance and miscellaneous property insurance; consideration of leading elements of life and retirement insurance. Prerequisite: Econ. 202.
- 354(G) **Principles of Insurance II** (2 + 0) 2 credits S
Continuation of Bus.Adm. 353. It emphasizes life and retirement insurance and group insurance. It also takes the student into marine and inland forms of insurance, bond and surety contracts together with further characteristics of insurance carriers and the part played in general by the insurance market in economic affairs. Prerequisite: Bus.Adm. 353.

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. Prerequisite: Bus.Adm. 101, 373; Econ. 202.

367(G) Personnel Management (3 + 0) 3 credits F

Objectives, functions, organization of a personnel department, job analysis and evaluation, selection and placement, training, safety and health, employee services, employee relations, wages and hours, executive development, merit rating, wage classification. Prerequisite: Bus.Adm. 351.

368(G) Marketing (3 + 0) 3 credits F

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. Prerequisite: Econ. 202.

370(G) Investments (3 + 0) 3 credits S

Analysis of investment risks, media, and investment portfolios with relation to the requirements and policies of individuals and also of various institutions. Prerequisite: Bus.Adm. 365 or consent of instructor.

371(G) Merchandising (2 + 0) 2 credits S

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. Prerequisite: Bus.Adm. 368.

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. Prerequisite: Bus.Adm. 373.

375(G) The Economics of Real Estate (2 + 0) 2 credits F

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. Prerequisite: Bus.Adm. 270.

378(G) Real Estate Law (3 + 0) 3 credits F

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. Prerequisite: Bus.Adm. 373 or consent of instructor.

379(G) Real Estate Appraisal (2 + 0) 2 credits S

A study of the process and techniques of valuation: Collecting pertinent data, analysis of neighborhood and site, architecture and construction, depreciation, building inspection. The organization and function of the appraiser in business. Prerequisite: Bus.Adm. 270 and one additional course in real estate.

- 382(G) Real Estate Brokerage** (3 + 0) 3 credits S
 Organization and function of the real estate brokerage business; legal rights and duties; social, economic, and ethical responsibilities; pertinent documents; relationship with other business agencies. Prerequisite: Bus.Adm. 270.
- 384(G) Real Estate Problems** (2 + 0) 2 credits S
 Problems in real estate developing, control, administration, finance and brokerage. Students will be given the opportunity to work on real estate problems of their choice. Prerequisite: Bus.Adm. 270 and one additional course in real estate.
- 388(G) Insurance Law** (3 + 0) 3 credits S
 The essentials of law applied to a highly institutionalized contract and the insurance business including Nevada's statutory regulation thereof. Prerequisite: Bus.Adm. 353.
- 412 Auditing** (3 + 0) 3 credits S
 Public accounting profession and its requirements, internal control, verification of accounts, auditor's reports. Comprehensive practice set to be worked by students. Standards of professional conduct. Prerequisite: Bus. Adm. 102.
- 413 Federal Tax Accounting I** (3 + 0) 3 credits F
 Income, expenses, exclusions, deductions, and credits. Emphasis on individual returns. Prerequisite: Bus.Adm. 102.
- 414 Federal Tax Accounting II** (3 + 0) 3 credits S
 Continuation of Bus.Adm. 413. Emphasis on estates, trusts, partnerships, and corporations. Prerequisite: Bus.Adm. 413.
- 417 Controllership** (2 + 0) 2 credits S
 Controllership function and its place in management, research and financial planning, use of budgets, services of the controller. Prerequisite: Bus.Adm. 102; Bus.Adm. 309 desirable.
- 418 CPA Professional Procedure** (2 + 0) 2 credits S
 Problems of running a CPA practice. Internal procedure, industry analyses, organization of tax practice, accounting partnership arrangements. Prerequisite: Permission of instructor.
- 443 Sales Management** (3 + 0) 3 credits S
 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. Prerequisite: Bus.Adm. 346, 368.
- 460 Advanced Management and Personnel Problems** (2 + 0) 2 credits S
 Survey and discussion of management problems based on current Journals of American Management Association. Oral and written reports. Prerequisite: Bus.Adm. 351, 367, or permission of instructor.
- 461 Motion and Time Studies** (2 + 0) 2 credits S
 Motion and time studies, methods improvement and standardization.
- 465 Problems in Industrial Relations** (2 + 0) 2 credits S
 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. Prerequisite: Bus.Adm. 367 or Econ. 365.

- 468 **Purchasing and Materials Control** (2 + 0) 2 credits S
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.
- 478 **Seminar in Real Estate** (2 + 0) 2 credits S
Designed to give advanced training in real estate brokerage, selling, appraisal, finance and law by coordinating class work with field investigations and field reports. Prerequisite: Bus.Adm. 379.
- 490 **Business Research** (3 + 0) 3 credits S
Theory and technique of research in the social sciences with application to business problems. Prerequisite: Senior standing and permission of instructor.
- 494 **Seminar in Accounting** (3 + 0) 3 credits F, S
Student may study a specialized area of accounting under faculty direction. Prerequisite: Permission of the instructor required.
- 501 **CPA Coaching I** (3 + 0) 3 credits F
Comprehensive study of CPA examination materials preparatory for the CPA examination. Open only to persons with professional accounting training.
- 502 **CPA Coaching II** (3 + 0) 3 credits S
Continuation of Bus.Adm. 501.
- 503 **Accounting Theory** (3 + 0) 3 credits F
Brief history of accounting, American Institute of Accountants' Bulletins, American Accounting Association Monographs, articles from current journals. Prerequisite: Bus.Adm 203 or permission of instructor.
- 504 **Accounting Systems and Automation** (3 + 0) 3 credits S
Determination of accounts needed, information to be provided for efficient control, forms, flow of work, introduction to use of electronic machines for accounting. Prerequisite: Bus.Adm. 309, or 102 and 351.
- 552 **Advanced Management Seminar** (3 + 0) 3 credits S
Diagnosis of executive problems, exercise of foresight, formulation of plans and policies by cutting across subject lines—accounting, marketing, finance by use of base problems and discussion. Prerequisite: Bus.Adm. 351 or permission of instructor.
- 591 **Thesis** 1 to 6 credits F, S

Chemistry (Chem.)

- 101 **General Inorganic Chemistry** (3 + 4) 4 credits F, S
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 semimicro method 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 the solution of chemical problems. Designed especially for students who desire an introductory course, stressing the qualitative aspects of the field of physical chemistry. Prerequisite: Chem. 232 or 234. One year of college physics, and calculus are recommended, but not required. 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
A lecture and problem course giving a more rigorous treatment of the subjects discussed in Chem. 353-354, based on the methods of calculus, and including a derivation of all equations used. 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** (3 + 0) 3 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: M.E. 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: M.E. 341.
- 376 Mechanics of Materials** (3 + 3) 4 credits S
A more extensive course than C.E. 372. Prerequisite: M.E. 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 **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 S
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. 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. 202.
- 354(G) **Business and Public Policy** (3 + 0) 3 credits F
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. 202.
- 356(G) **Public Utilities** (2 + 0) 2 credits S
The economic and legal bases of the public utility concept. The philosophy and techniques of regulation in the public interest. Prerequisite: Econ. 202.
- 358(G) **International Trade** (3 + 0) 3 credits S
The theory of international trade: Tariffs, tariff history, and international finance. Prerequisite: Econ. 353.
- 361 **Statistical Methods I** (2 + 2) 3 credits F, S
An elementary course in the application of statistical methods to business and economic problems. This phase of the course covers charts, tables, averages of central tendency, dispersion, skewness; introduction to index numbers, sampling and elements of statistical inference.

362 **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. 202.

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.

364(G) **Statistical Methods II** (2 + 2) 3 credits S

This phase of the course presents a continuation of the first semester work in index numbers, sampling and statistical inference. In addition, stress is placed upon time series and correlation analysis. Prerequisite: Econ. 361 or Math. 220, or consent of instructor.

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 solution. Prerequisite: Econ. 202.

366(G) **Labor Problems** (3 + 0) 3 credits S

Analysis of issues and techniques involved in negotiation of collective bargaining agreements; procedures and methods of settling grievances under the agreements; voluntary arbitration procedures. Prerequisite: Econ. 365 or junior standing and consent of instructor.

367(G) **Labor Legislation** (3 + 0) 3 credits F

Important federal and state statutes pertaining to labor conditions and problems. Factors influencing government's approach to legislation; accident and safety problems; collective bargaining; child labor control; political action. 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. 202.

421 **Intermediate Price Theory** (3 + 0) 3 credits F

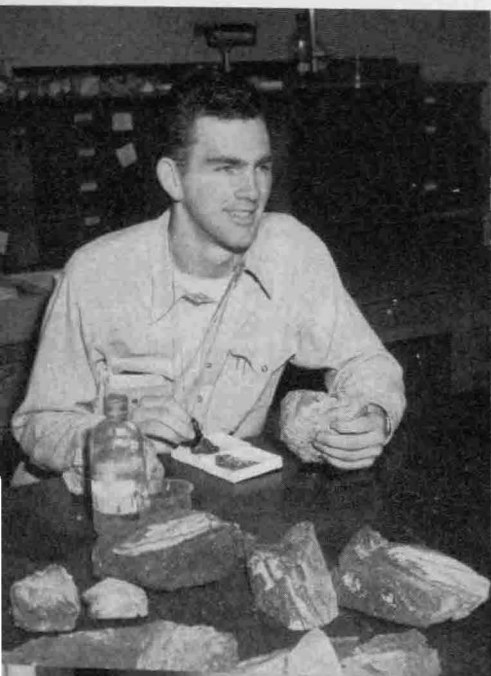
An analysis of the factors which determine relative prices and incomes and the composition of output in a private enterprise economy; a consideration of the conditions which make for economic efficiency in such an economy; and a study of the economic aspects of individual choice and market behavior under competitive, oligopolistic, and monopolistic conditions. Prerequisite: Econ. 202.

422 **Intermediate Income Theory** (3 + 0) 3 credits S

An analysis of the factors which determine the general levels of income, prices and economic output in a private enterprise economy and a consideration of the conditions that contribute to stability and to healthy economic growth. Prerequisite: Econ. 202.

459 **Money Markets and Banking Systems** (3 + 0) 3 credits F

An analysis and interpretation of the economic functions and operations of commercial banks and related financial institutions at home and abroad. Attention is given to the organization of short-term money markets, to current business problems created by the Federal Reserve System credit policies, to the operation of financial institutions in leading European countries, and to international movement of funds. Prerequisite: Econ. 353.



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in library and lab.

- 460 **Bank Practice and Policies** (3 + 0) 3 credits S
 Stress is placed upon the fundamental principles underlying safe and profitable employment of commercial funds. Consideration is given to the credit needs of various types of businesses, technique of credit analysis, management and control of credit advances, bank operating costs, bank earnings and losses. Prerequisite: Econ. 353.
- 468 **Social Insurance and Pension Plans** (3 + 0) 3 credits S
 Analysis of the economic issues and problems involved in our legislative efforts to reduce the economic risks of unemployment, old age dependency and industrial injury. Prerequisite: Econ. 365 or junior standing and permission of instructor.
- 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. 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. 202.
- 498 **Seminar in Social Organization** (2 + 0) 2 credits S
 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.
- 501 **Advanced Price Theory** (3 + 0) 3 credits F
 A rigorous analysis of production, pricing, resource allocation, and income distribution in a private enterprise economy. Prerequisite: Econ. 421, 422.
- 502 **Advanced Income Theory** (3 + 0) 3 credits S
 An advanced analysis of the determinants of national income and the price level. Prerequisite: Econ. 421, 422.
- 503 **Independent Research** 1 to 3 credits F, S
 Advanced study and research in economic problems not covered in listed courses. Open only to seniors and graduate students who have attained an average of B in economics courses.
- 511 **Research Methods** (3 + 0) 3 credits F
 An advanced course in the collection, refinement and presentation of information relating to economic, business, and governmental problems. Prerequisite: Econ. 361, 421, 422.
- 591 **Thesis** 1 to 6 credits F, S

Education (Ed.)

(Also see Elementary Education, Higher and Adult Education, School Administration and Supervision, and Secondary Education)

- 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, (3 + 0) 3 credits F, S, Su
Organization, and Social Foundations

A general introductory course treating the social and cultural background of educational development in Nevada and the United States. Includes selected elements of history and philosophy of education. Meets Nevada State Board of Education requirements in school law for certification. Brown.

- 301(G) Introduction to Library Education and (3 + 0) 3 credits F, Su
Reference Sources

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

A broad survey of the field of literature for children, necessitating wide reading of many children's books. Stresses an understanding of children, their reading interests and needs, and bases for evaluation and selecting library materials for the elementary school. For teachers, teacher-librarians, and administrators. Prerequisite: Foundations for Teaching I, II, III, or equivalent, or permission of instructor. Grubbs.

- 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 (2 + 0) 2 credits Su
Library Materials

Includes classification and cataloguing of library materials, utilization of printed catalogue cards, subject headings for pamphlet files, etc. *Students will receive practice in the actual cataloguing and classification of books and other materials.*

- 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.

- 316(G) The Education of the Handicapped (2 + 0) 2 credits F, Su

Problems of teaching mentally retarded, physically handicapped, gifted, and socially maladjusted children and youth in special and regular school program. Basic course.

- 321(G) Educational Psychology (3 + 0) 3 credits F, S, Su
(For description, see Psychology 321.)

- 401 Audio-Visual Methods in Teaching (3 + 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. Derfelt.

- 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. (Cannot be taken for graduate credit.) Willey.
- 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 **The History and Philosophy of Education** (2 + 0) 2 credits S, 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 F, 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 F, 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.
- 508 **Problems in Audio-Visual Education** (2 + 1) 2 credits F, S, 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 and Derfelt.
- 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 S, 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.
- 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
Jointly sponsored by the Civil Air Patrol and the College of Education. Gives teachers of all grade levels a basic understanding of the fundamentals of aviation in order that they may incorporate this knowledge into their classroom teaching. Through the efforts of the Civil Air Patrol and many other organizations involved in aviation, both civilian and military, the teacher gains first-hand knowledge from guest lecturers and from field trips. While the course is designed primarily for teachers, it is of value to the nonteacher who wishes to expand his knowledge in this area. Newbry.
- 517 **Problems in the Education of the Physically Handicapped** (2 + 0) 2 credits Su
Deals with problems of physically handicapped children and youth; deaf, hard of hearing, blind, partially sighted, crippled, cerebral palsied, etc. Characteristics, educational goals, and teaching procedures will be considered.
- 518 **Problems in the Education of the Mentally Retarded** (2 + 0) 2 credits F, Su
Discusses nature of retardation; diagnosis and selection for special programs; physiological characteristics; educational goals and teaching procedures for retarded and slow learning children in special and regular classrooms; observations; demonstrations; studies of selected cases and problems.
- 519 **Problems in the Education of the Gifted** (2 + 0) 2 credits Su
Consideration of educational programs and procedures to develop stimulating environments for the maximum development of gifted or superior children and youth. Specific cases and demonstration.
- 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 S
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** (1 + 3) 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** (3 + 0) 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.
- 583 **Microwave Laboratory** (0 + 3) 1 credit
Normally accompanying, and having the same prerequisite as, E.E. 581.
- 584 **Computer Laboratory** (0 + 3) 1 credit
Normally accompanying, and having the same prerequisite as, E.E. 582.
- 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)

- 101 **Orientation to College and Professional** (2 + 0) 2 credits F, S, Su
Elementary Education
Required of all freshmen students in the Department of Elementary 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 in the elementary schools; staff will participate. Drury.
- 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. Willey.
- 220 **Human Growth and Development:** (2 + 2) 3 credits F, S, Su
Observation and Laboratory Experience
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** (2 + 0) 2 credits Su
Education
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. Drury.
- 322(G) **Teaching of Elementary** (2 or 3 + 0) 2 or 3 credits F, S, Su
Arithmetic
Methods of teaching arithmetic; diagnostic and remedial treatment of pupil difficulties; readiness; objectives of arithmetic; recent trends. Drury, Willey.

- 323(G) 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. Grubbs.

- 324 Teaching of Elementary Music (3 + 0) 3 credits F, S, Su
(For description, see Music 324.)

- 325(G) Teaching of Elementary Science (2 + 0) 2 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. Drury.

- 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. Grubbs.

- 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, Drury.

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. (Cannot be taken for graduate credit.) 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: ELED. 427 (or may be taken concurrently with it). (Cannot be taken for graduate credit.)

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. Willey.

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. Willey.

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. Willey.

- 523 **Problems of Teaching the Language Arts** (2 or 3 + 0) 2 or 3 credits S, Su

For students who have completed EL.Ed. 323; providing them with the opportunity for advanced study of procedures used in developing skills in oral and written communication in the elementary school. Grubbs.

- 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, Drury.

- 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

The 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.)

NOTE—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.

- A Elementary Composition** (3 + 0) 0 credit F, S

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, Su

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, Su

A continuation of Engl. 101. Prerequisite: Engl. 101.

NOTE—On the basis of performance in the placement examinations, students demonstrating superior training may be admitted to Honors sections of English 101. On the recommendation of the department, students making outstanding records in English 101 will be permitted to substitute for English 102 certain courses within the department numbered to 300, provided that at least 6 credits of work in English are completed.

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.

- 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.

- 141 **Introduction to the Short Story** (2 + 0) 2 credits S, Su
A study of significant short stories and of the short story as a form of literature.
- 145 **The Modern American Novel** (2 + 0) 2 credits F, Su
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.
- 181 **Vocabulary and Meaning** (2 + 0) 2 credits F
The study of meaning, usage, word derivation, and word formation with a view to enlarging and refining a working English vocabulary. Not acceptable for the field of concentration as a substitute for Engl. 281.
- 201-202 **Advanced Composition** (2 + 0) 2 credits each F - S
A study of the methods of composition with extensive practice adjusted to the interests and experience of the student.
- 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.
- 235-236 **Survey of English Literature** (3 + 0) 3 credits each F - S
A study of selected major writers designed to acquaint the general reader with the scope of English literature from Beowulf to the moderns.
- 241 **Survey of American Literature** (3 + 0) 3 credits S, Su
A study of major American writers and literary trends intended for those who wish a general knowledge of American literature.
- 247 **European Novels** (2 + 0) 2 credits S
The reading of significant modern novels for recreation and for the appreciation of the novel as an integrated approach to life.
- 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.
- 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.
- 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 **Fundamentals of 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 and Henrich.
- 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 S, Su
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, Su
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. Eldridge and Hume.
- 355 **Modern Drama** (2 + 0) 2 credits S
 Representative English and American dramatists since 1890. Gorrell and Hume.
- 385 **Descriptive Grammar** (2 + 0) 2 credits S
 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.
- 451-452 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester
Chaucer and the Middle Ages
 Engl. 451 is a broad study of English literature from its sources to 1500, with special emphasis on Chaucer; Engl. 452 is a study of special problems. Frank and Laird.
- 461-462 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester
The Renaissance
 Engl. 461 is a study of English literature from 1500 to the Restoration, with attention to influences from abroad; Engl. 462 is devoted to special problems. Gorrell.
- 464 **The Age of Milton** (2 + 0) 2 credits S
 An intensive study of Milton's poetry and prose, with particular reference to his contemporaries. Frank and Gorrell.
- 465-466 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester
Shakespeare and his Contemporaries
 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.
- 471-472 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester
The Age of Reason
 Engl. 471 surveys English literature from Dryden to Burke, with attention to continental influences; Engl. 472 deals with special problems in the period. Frank and Hume.
- 475-476 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester
The Romantic Movement
 Engl. 475 surveys English literature and its foreign relations during the Romantic period; Engl. 476 deals with special problems in the period. Laird and Morrison.

481-482 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester

The Victorian Period

Engl. 481 surveys the social and artistic movements of the later nineteenth century as revealed in English poetry and prose; Engl. 482 deals with special problems of the period. Morrison and Wittrock.

485-486 (3 + 0; 2 + 0) 3 credits first semester; 2 credits second semester

Modern Literature

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 chairman of the department.

501-502 Seminar credit to be arranged F - S

Open only to graduate students.

591 Thesis 1 to 6 credits F, S, Su

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 (3 + 0) 3 credits each F - S
Composition and Language
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 (3 + 0) 3 credits each F - S
Literature

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, Rousseau, 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, S

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.

103 **Physical Geography** (3 + 0 or 3) 3 or 4 credits F, S

Study of the physical elements of geography. The earth and its representation, the nature and distribution of climate, landforms, natural vegetation, and soils. May be taken with or without laboratory.

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.

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.

212 **Cartography** (1 + 6) 3 credits S

Study and practice of map making: Includes history of maps, map projections, map lettering, and graphic presentation of geographic data. Kramer.

222 Weather and Climate (3 + 0) 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 3 credits of physics or chemistry. Kramer.

336(G) Conservation of Natural Resources (3 + 0) 3 credits S

Past and present use and misuse of primary resources: Includes soil, water, mineral, plant, and animal resources. Prerequisite: Permission of instructor. Kramer.

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.

344(G) Geography of Primary Production (3 + 0) 3 credits S

Study of the agricultural and mineral industries by their products, and physical and economic factors affecting production in the world. Prerequisite: Geog. 103, or equivalent, or permission of instructor. (Alternates with Geog. 348.) Kersten.

348(G) Geography of Manufacturing (3 + 0) 3 credits S

Raw materials, physical bases, economic factors, and products of world manufacturing. Major attention given to North American and European industries. Prerequisite: Geog. 103, or equivalent, or permission of instructor. (Alternates with Geog. 344.) Kersten.

431 Geomorphology (2 + 3) 3 credits F

(For description, see Geology 441.)

471 North America (3 + 0) 3 credits F

Physical and cultural landscapes of the United States, Canada, Alaska, and Mexico, considered in historical perspective. Special attention to American industry. Prerequisite: Geog. 103, or equivalent, or permission of instructor. Kersten.

482 Europe (3 + 0) 3 credits S

A consideration of the physical, cultural, and historical geography of Europe and its regions. Prerequisite: Geog. 103, or equivalent, or permission of instructor. (Alternates with Geog. 486.) Kramer.

486 Asia (3 + 0) 3 credits S

A study of physical landscapes, peoples and their cultures, with emphasis upon eastern and southern Asia. Prerequisite: Geog. 103, or equivalent, or permission of instructor. (Alternates with Geog. 482.) Kersten.

501-502 Advanced Geography 1 to 5 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. 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. 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. 101 and trigonometry. Larson.
- 441 Geomorphology** (2 + 3) 3 credits F
(Same as Geog. 431.) 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 non-metallic 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.
- 501-502 **Advanced Geology** 1 to 5 credits each F - S
(a) General geology, (b) regional geology, (c) mineralogy, (d) petrology, (e) petrography, (f) geochemistry, (g) structural geology, (h) geophysics, (j) geomorphology, (k) paleontology, (m) sedimentation, (n) stratigraphy, (p) mineral deposits, (r) economic geology, (s) ground water, (t) engineering 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 **Universal Stage** (0 + 6) 2 credits F, S
Practice in the use of the universal stage for mineralogic, petrographic, and petrofabric analyses. Prerequisite: Geol. 326, 332. Slemmons.
- 526 **Igneous Petrology Seminar** (2 + 3) 3 credits
Lectures, reports, and discussions on the origin and nature of igneous rocks. Prerequisite: Geol. 326. (Alternates with Geol. 528.) Slemmons.
- 528 **Metamorphic Petrology Seminar** (2 + 3) 3 credits
Lectures, reports, and discussions on the origin and nature of metamorphic rocks. Prerequisite: Geol. 326. (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. 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** (3 + 0) 3 credits each F - S
and Language
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** (3 + 0) 3 credits each F - S
Literature
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, methodology, 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** (2 + 0) 2 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** (2 + 0) 2 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
 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.

408 Europe Since 1914 (3 + 0) 3 credits S

A detailed study of an age of conflict and its interludes of peace. 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 (1 + 4) 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, Ev

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 Marriage and Family Relationships** (2 + 2) 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** (1 + 3) 3 or 4 credits F - S
Child guidance based on actual experience with the preschool group. In order to earn 4 credits, outside work is required.
- 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.
- 490 Problems in Home Economics** 1 to 3 credits F, S, Su
Students may carry on individual or group investigation or work on special problems, such as child development, clothing, family relations, foods, home economics education, home furnishings, home management, household equipment, and housing. By permission of the instructor, may be repeated for a total of 6 credits.
- 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 studied 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 or 2 + 0) 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.
- 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.)

302 Public Relations Problems (2 + 0) 2 credits S

Application of the principles and techniques of public relations to the solving of representative problems. Prerequisite: Jour. 301. Open to juniors and seniors in any college.

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) 2 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 responsibility. Open to juniors and seniors in all colleges. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. 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 upper-class standing. All journalism students concentrating on preparation for advertising work will be expected to elect this course as part of the requirements. Janulis.

360 Television and Radio Advertising (2 + 0) 2 credits S

Study of the principles governing advertising on the air and practice in planning and preparing copy for broadcasting. Prerequisite: Jour. 356. Open to juniors and seniors in any college.

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. 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.)

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. 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.

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.

379(G) **Journalism and Society** (2 or 3 + 0) 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 S

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** (1 + 3 or 5 or 7) 1 or 2 or 3 credits each F - S
Internship

Reporting and copy reading as members of the staffs of the *Nevada State Journal*, the *Reno Evening Gazette*, the United Press Association, the Associated Press, the *Sparks Tribune*, the *Nevada State News*, and the *Carson City Nevada Appeal*; advertising work with the Thomas C. Wilson Advertising Agency, or the Reno newspapers; news or advertising work with Radio Station KOH, Radio Station KDOT, or Television Station KOLO-TV; 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 *Aeneid*. Study of classic myths. Prerequisite: Lat. 103 or three years of high school Latin. Dandini.

331-332 **Greek and Latin Literature** (3 + 0) 3 credits each F - S
in Translation

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** (3 + 0) 3 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.

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 upper-division mathematics courses should substitute Math. 252 for Math. 254. Prerequisite: Math. 251.

301(G) History of Mathematics (2 or 3 + 0) 2 or 3 credits F, S, Su
Lectures and assigned readings in the history of mathematical science. Recommended for those preparing to teach.

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.

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.

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. May be repeated for credit as Math. 451a with consent of Mathematics Department. Prerequisite: Math. 425. Offered when requested by a sufficient number of students. Demers.
- 452 **Advanced Mathematics for Engineers** (3 + 0) 3 credits F, S
 A continuation of Math. 451. May be repeated for credit as Math. 452a with consent of the Mathematics Department. Prerequisite: Math. 451, or consent of the Mathematics Department.
- 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.
- 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.
- 342 **Analytic Mechanics for Engineers** (2 + 0) 2 credits S
 A continuation of M.E. 341. Prerequisite: M.E. 341.
- 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: M.E. 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
 A study of materials and their properties; principles of machine design; design of machine elements. (Cannot be taken for graduate credit.) Prerequisite: C.E. 376; M.E. 341-342, 351.
- 458 Machine Design** (1 + 6) 3 credits S
 A continuation of M.E. 457 with more advanced design problems involving complete machines; analysis of special topics as curved beams, combined stresses, alignment charts, machine dynamics; and economic considerations in design. (Cannot be taken for graduate credit.) 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. (Cannot be taken for graduate credit.) 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. (Cannot be taken for graduate credit.) Prerequisite: M.E. 355, 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. (Cannot be taken for graduate credit.) Prerequisite: M.E. 464.
- 471 Heat-Power Engineering** (2 + 0) 2 credits F
 Power plants, fuels, combustion, steam generators, turbines, and steam generator accessories. (Cannot be taken for graduate credit.) 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 351; M.E. 341-342; 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.)A **Mineral Industry Employment** 0 credit Su
(For description, see Mining A.)204 **Introduction to Metallurgy** (3 + 0) 3 credits S
Fundamental principles relating to the properties, uses, and production of metals and alloys. 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. Winston.311(G) **Fire Assaying** (0 + 6) 2 credits F
Theory and practice of fire assaying, fuels, combustion, roasting, and smelting. Prerequisite: Geol. 211. 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. Winston.



stillness of dusk
campus wintertime.

- 421 **Advanced Mineral Dressing** (1 + 6) 3 credits F
Continuation of Met. 322 with emphasis on the concentration and flotation of nonmetallic minerals and metallic oxides. Prerequisite: Met. 322. Hammond.
- 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. Hammond.
- 433 **Hydrometallurgy** (2 + 3) 3 credits F
Theory and practice of recovering metals by hydrometallurgical procedures. Prerequisite: Met. 322. Hammond.
- 436 **Electrometallurgy** (2 + 0) 2 credits S
Principles and practices of electrolytic recovery processes and the construction and uses of electric furnaces. Butler.
- 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. Winston.
- 451 **Physical Metallurgy** (2 + 3) 3 credits F
Continuation of Met. 450 with special emphasis on transformations in the solid state. 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: Consent of instructor.
- 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. Winston.
- 538 **Rare and Minor Metals** (2 + 0) 2 credits S
Production and uses of rare and minor metals. Hammond.
- 551 **Physics of Metals** (3 + 0) 3 credits F
A theoretical study of the metallic state with emphasis upon crystal structure, elastic and plastic properties, crystal imperfections, and thermal and magnetic properties. Winston.
- 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
General

Drill and conference. Prerequisite: Mil. 301, 302, 303. (Cannot be taken for graduate credit.)

Mining (Min.)

A Mineral Industry Employment 0 credit Su

(Same at Met. A.) A satisfactory report must be submitted upon at least two months' work, in some phase of the mineral industry, done during the freshman, sophomore, or junior vacation. 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. Smyth.

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, with field and laboratory applications. 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** (3 + 0) 3 credits S

The prospecting, development, and exploitation of mineral deposits; includes underground and surface 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. 241. 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. Smyth, Nelson.
- 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.
- 518 **Rock Mechanics** (2 + 0) 2 credits S
Application of mechanics to the solution of mine support and stability problems: includes subsidence, microseismic methods, theories of elasticity and plasticity, and the use of models to test rock failure. Nelson.
- 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
(Same as Geol. 591-592 and Met. 591-592.) 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** (1 + 1) 1 credit each F - S
Training
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 each¹ 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 **Class Piano Instruction** (1 + 0) 1 credit F, S
Fundamentals of keyboard technique, improvisation of simple accompaniments, and playing of smaller pieces. Freeburne.
- 111-112 **University Singers** (0 + 2) 1 credit each¹ 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.
- 118 **Class Vocal Instruction** (1 + 0) 1 credit F, S
Fundamentals of tone production, breath control, and practical technique in reading and interpretation. Macy.
- 117-118 **University Band** (0 + 3) 1 credit each¹ 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 **Symphonic Choir** (0 + 1) 1 credit each¹ 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.
- 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 **University of Nevada Community Symphony** (0 + 1) 1 credit each¹ 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.
- 151-152 **Piano** ($\frac{1}{2}$ 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 Op. 15. Major and minor scales, both parallel and contrary motion, triads, broken chord exercises, standard technical studies such as Czerny Op. 299. Freeburne.

¹A 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.

²See footnote 1, page 283.

³Individual instruction.

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.

159-160 Strings ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S

Etudes equal to Kreutzer, Viotti Concerto No. 23, de Beriot Concerto No. 7 or No. 9.

161-162 Percussion ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S

Fundamental strokes, proper stroking, technique of handling the drum, band experience, beginning study of rudiments.

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.

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.

²Individual instruction.

- 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.
- 259-260 **Strings** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
Works comparable to Viotti Concerto No. 22, Spohr Concerto No. 2, easier Bach Sonatas, ensemble work.
- 261-262 **Percussion** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
Further work on rudiments, studies by Straight, Bauer, and Moore, continued ensemble experience.
- 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 of secondary sevenths, irregular resolutions, chromatic devices employed by nineteenth-century composers. Further ear training and original work. Prerequisite: Mus. 201-202. Mercado.
- 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. Mercado.
- 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. Mercado.
- 305-306 **University Chamber Music Ensemble** (1 + 0) 1 credit each¹ 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 + 2) 1 credit each¹ F - S
(For description, see Music 111-112.) Macy.
- 317-318 **University Band** (0 + 3) 1 credit each¹ F - S
(For description, see Music 117-118.) Hickman.
- 319-320 **Symphonic Choir** (0 + 1) 1 credit each¹ 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.

¹See footnote 1, page 283.²Individual instruction.

- 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 **University of Nevada Community** (0 + 1) 1 credit each¹ F - S
Symphony
 (For description, see Music 125-126.) Mercado.
- 349 **Methods and Materials in Teaching Secondary** (2 + 0) 2 credits S
Instrumental and Vocal Music
 (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.
- 359-360 **Strings** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
 Concertos by Mendelssohn and Bruch, adequate technical grounding in scales, broken chords, bowing and phrasing. Representative works by composers in all periods, Sevcik Op. 1, 2, and 8, Fiorillo, Rode, and Schradieck.
- 361-362 **Percussion** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
 Study of percussion as used in representative band and orchestral works, study of xylophone, tympani, bells and other percussion instruments, continued study of drum etudes, ensemble.
- 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. Mercado.
- 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.

¹See footnote 1, page 283.²Individual instruction.

- 406 **Form and Analysis** (3 + 0) 3 credits S
 Analysis of song forms, variation, rondo, and sonata forms. Prerequisite: Mus. 301-302. Mercado.
- 447 **Music Director's Workshop** (1 + 0) 1 credit Su
 This course is scheduled during the final week of the Summer Music Camp, and is designed to use instrumental and vocal groups for demonstration. Special attention to repertoire, conducting, program planning; individual conferences with music camp faculty.
- 448 **Instrumental Problems** (2 + 0) 2 credits Su
 An analysis and discussion of band and orchestral problems, with lectures and demonstrations by instrumental specialists.
- 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.
- 459-460 **Strings** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
 More difficult concert repertoire, special attention to interpretative and technical problems to enable the student to work independently, concentration on contemporary violin works.
- 461-462 **Percussion** ($\frac{1}{2}$ or 1 + 0)² 1 or 2 credits each F - S
 Advanced study of drum technique, solo work, special attention to advanced percussion in orchestral literature, study of contemporary works featuring the various percussion instruments, such as those by Bartok and Chavez.
- 502 **Survey of Music Literature** (2 + 0) 2 credits Su
 A survey of major works by composers of the classical, romantic, and modern periods.

Philosophy (Phil.)

- 101 **Introduction to 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.

²Individual instruction.

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.

107 Elementary Logic (3 + 0) 3 credits F, S

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.

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.

307(G) Symbolic Logic (3 + 0) 3 credits S

A study of developments in modern logic, including general characteristics of deductive systems, analysis of propositions, techniques of deductive inference, and applications of symbolic methods in research situations. Halberstadt.

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. Roelofs.

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 Hegel, 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 twentieth century philosophy as found in the writings of such men as Bergson, Santayana, James, Dewey, Whitehead, and Russell. Prerequisite: Phil. 101, or consent of instructor. (Offered in alternate years.) Roelofs.

- 370(G) Philosophy of Science** (3 + 0) 3 credits S
An analysis of the characteristics and assumptions of scientific method. Attention will be given to the application of this analysis to the various sciences. (Offered in alternate years.) Halberstadt.
- 380(G) Philosophy of Civilization** (3 + 0) 3 credits F
A study of various interpretations of man and his culture, with emphasis upon such topics as the role of the individual in history, the rise and decline of civilizations, the meaning of history, and the idea of progress. Roelofs.
- 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. 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. Roelofs.
- 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. Roelofs.
- 481 Contemporary Ethical Theories** (2 + 0) 2 credits S
A discussion of the most influential ethical theories of the twentieth 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.) Roelofs.
- 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.) Roelofs.
- 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. Roelofs.

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, trampolines, 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.

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.

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 Treatment of Athletic Injuries (2 + 0) 2 credits F

The prevention and treatment of common athletic injuries. Practical application will be practiced at the varsity athletic training quarters.

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 Lifesaving 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 + 2) 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 S
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) 1 credit F, S
 Advanced work in activities offered for students who have completed or are registered for their required physical education.
- 362 **Junior Activities** (0 + 2) 1 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.
- 372 **Coaching and Officiating Team Sports (women only)** (1 + 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** (3 + 0) 3 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) 1 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.)
- 462 **Lifesaving** (0 + 2) 1 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.
- 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.

351(G) Theoretical Mechanics (3 + 0) 3 credits F

Newtonian mechanics: Its logical structure, mathematical formulation, and special applications to problems in atomic and nuclear physics. Dynamics of a particle and a system of particles. Introduction to generalized coordinates and the methods of Lagrange and Hamilton. Prerequisite: General physics and calculus. Skabelund.

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.

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.

372(G) Atomic and Nuclear Physics (3 + 0) 3 credits S

Foundations of molecular and atomic structure. Introduction to quantum theory. Properties of nuclear particles, particle accelerators, and nuclear energy. Prerequisite: General physics and calculus. Leifson.

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.

460 Thermodynamics (3 + 0) 3 credits S

Fundamental principles of thermodynamics from both a phenomenological and a statistical point of view. Special attention given to the equation of state, the laws of thermodynamics, and the concept of entropy. Prerequisite: General physics, calculus, and differential equations. Frazier.

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. 372. 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.

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.

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.

310(G) Social and Economic Legislation (3 + 0) 3 credits S
 An analytical and critical survey of contemporary problems of American government. Particular attention will be devoted to recent legislation affecting agriculture, labor, business, and other interest groups. Some attention will be given to foreign policy as it relates to the internal economic situation.

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.

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.

374(G) American Political Thought (2 + 0) 2 credits S
 A consideration of the main trends of American political thinking from colonial times to the present. Puritanism, the political thought of the Framers of the Constitution, social Darwinism, progressivism, and the New Deal will be among the topics examined.

- 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.
- 408 World Politics** (2 + 0) 2 credits S
Some of the problems of present day international politics such as nationalism, colonialism, and the balance of power. The elements and strategies of world politics will also be examined by study of certain historical situations, including Versailles and Munich.
- 415 Political Behavior** (2 + 0) 2 credits S
An analysis of the actions and attitudes of people in relation to the political aspects of their society. Particular attention is given to such topics as: the nature of political leadership, group behavior and public opinion, the psychology of political preference, and the techniques of behavioral research.
- 416 Political Parties** (3 + 0) 3 credits S
The party system in the United States; the history, composition, and functions of parties—their organizations and methods.
- 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.
- 419 Administrative Law** (2 + 0) 2 credits F
Legal setting of public administration, administrative legislation, administrative adjudication, procedural restrictions on administrative action, judicial review of administrative decisions, official liability.
- 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.
- 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.
- 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.
- 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.

- 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.
- 301(G) Experimental Psychology** (2 + 4) 4 credits S
A lecture and laboratory course in the application of scientific methods to the study of behavior and mental processes. Prerequisite: Psych. 201. Day, Smith.
- 303(G) Perception and Cognition** (3 + 0) 3 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. Smith.
- 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.

- 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. Smith.
- 403 Comparative and Physiological Psychology** (2 + 3) 3 credits F
An introduction to techniques for psychological research with animals, including consideration of the anatomical and physiological mechanisms involved in the various types of human and animal behavior. Prerequisite: Psych. 201.
- 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. Day.
- 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. Secord.
- 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. Day.
- 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. Smith.
- 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
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. Smith.
- 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. Secord.

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. Secord.

451 Psychological Principles of Counseling (3 + 0) 3 credits S

A consideration of therapeutic techniques, with main emphasis upon the client-centered approach. Some attention to tests, sound recordings, case materials, and other adjuncts to counseling. Prerequisite: Psych. 201 and consent of instructor.

490 Seminar in Sensation and Perception (3 + 0) 3 credits F

A consideration of contemporary theory and research in the areas of sensory processes, physiological processes, and perception. Prerequisite: Senior or graduate standing and consent of departmental chairman.

491 Seminar in Motivation and Learning (3 + 0) 3 credits S

A consideration of contemporary theory and research in the areas of motivation, emotion, and learning. Prerequisite: Senior or graduate standing and consent of departmental chairman.

493 Seminar in Social Psychology (3 + 0) 3 credits S

A consideration of contemporary theory and research in the area of social psychology. Prerequisite: Senior or graduate standing and consent of departmental chairman.

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, S, 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, S, Su

A consideration of general organization, curriculum organization, qualifications of teachers and principals, records, supplies, plant, and curricula materials. Tucker.

- 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 **Public School Finance** (2 + 0) 2 credits S, Su

An advanced course 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 **Administration and the Improvement of the Curriculum and Instruction** (3 + 0) 3 credits S, Su

A course to clarify the role of administrator in improving curriculum and instruction in the public schools. The various available techniques, methods, and materials whereby improvement may be made in an individual school program will be developed and applied practically. May be used as a workshop. Tucker.

- 582 **Supervision in the Public Schools** (3 + 0) 3 credits F, S, Su

Stresses principles and procedures used by supervisors to improve the instructional program in elementary, junior high, and senior high schools. Consideration is given to the various problems of supervision of instruction, including human relations, methods and techniques, materials, and the objectives of public education. The roles of the teacher, principal, and superintendent are thoroughly analyzed. Tucker.

- 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. Derfelt.

- 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. Tucker.

- 586 **Problem Areas in School Administration** (2 or 3 + 0) 2 or 3 credits S, Su

Enables administrators and supervisors to select problems pertaining to administration which are in need of attention and to develop proposed solutions to such problems. Several such problems will be examined; factual materials related to the problem will be gathered and evaluated. May be used as a workshop course, and repeated for a total of 6 credits in accordance with the theme of the workshop. 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)

- 102 **Orientation to College and Professional Secondary Education** (1 + 0) 1 credit F, S,

Required of all freshmen students who indicate a desire to teach in the secondary schools. The course enables adjustment to college life through a discussion of proper study habits and organization of course work, and orients the student to teaching in the secondary schools. Derfelt.

- 231 **Psychology of Adolescence** (2 + 0) 2 credits F, S, Su
(For description, see Psychology 231.)

- 244 **Introduction to Agricultural Education** (1 + 0) 1 credit S

The operation, history, and philosophy of the vocational agricultural program. (Offered in even-numbered years.) Christensen.

- 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. Tucker and Newbry.

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 S, 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, S, Su
Derfelt.

345(G) Methods and Materials in Teaching Mathematics (2 or 3 + 0) 2 or 3 credits F, S
Brown.

346 Methods and Materials in Teaching Art in the Secondary School (1 + 3) 2 credits S, Su
Holladay.
(For description, see Art 346.)

349 Methods and Materials in Teaching Secondary Instrumental and Vocal Music (2 + 0) 2 credits S
Hickman.
(For description, see Music 349.)

352 Methods and Materials in Teaching Business Education (2 + 0) 2 credits F, 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. Derfelt.

353(G) Methods and Materials in Teaching Health and Physical Education for Men (2 + 0) 2 credits F
(For description, see Physical Education 353.) Scranton.

354(G) Organization and Administration of Physical Education for Women (2 + 0) 2 credits F
(For description, see Physical Education 354.) Russell.

357 Methods and Materials in Teaching Foreign Languages. (2 + 0) 2 credits S
Gottardi.

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.

- 442 Junior High School Instruction** (3 + 0) 3 credits F, S, Su
Includes the development, basic philosophy, recommended educational procedures, curriculum requirements, and recommended activities for the effective junior high school program. Discussions will be presented on the psychological and educational foundations for the junior high school and the corresponding implications for the instructional program, supervision, guidance, and evaluation of progress of pupils in the upper elementary and junior high school grades. Drury, Willey.
- 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** (1 + 3) 2 credits S
Leadership training, FFA programs, teaching of educational contests, skill development in agricultural teaching. 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, trades and industrial education, and agricultural education, as organized under the direction of the College of Education and the State Department of Vocational Education; for in-service of these subjects. Prerequisite: Permission of the instructor. May be repeated for a total of 6 credits. Christensen.
- 456 Noninstructional Responsibilities of the High School Teacher** (2 + 0) 2 credits S, Su
Gives the potential secondary school teacher, or the teacher in service, an overall view of the responsibility for noninstructional activities in secondary schools. Attention will be given to the administration of these activities. Derfelt.

**457 Supervised Teaching in the (0 + 2½ per credit) 1 to 8 credits F, S
Secondary School (Major and/or Minor Teaching Field)**

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 in 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. (Cannot be taken for graduate credit.)

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. Newbry.

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. 534, or equivalent. Derfelt.

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 (2 + 0) 2 credits F, S, Su
School Subjects**

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. Derfelt and Newbry.

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. Christensen.

552 Workshop in Business Education (2 + 0) 2 credits Su
For experienced teachers and office personnel who wish to remain informed concerning the newest techniques, materials, methods, equipment, and trends in business education. Derfelt.

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 Elementary Typewriting (3 + 0) 2 credits F, S

Keyboard is presented for those who do not already know the touch system of operation. Mastery of the keyboard, skill development, speed building, business letter writing.

102 Intermediate Typewriting (3 + 0) 2 credits S

Emphasis given to skills necessary for typing production in the office. Tabulation, manuscript writing, legal documents, business forms. Prerequisite: Sec.St. 101 or equivalent.

103 Advanced Typewriting (3 + 0) 2 credits F, S

Office typewriting problems. Statistical data, reports, stencil work. Advanced speed building. Prerequisite: Sec.St. 102 or equivalent.

111 Elementary Stenography (3 + 0) 3 credits F

The theory of Gregg Shorthand. Unless the student has had previous training in typewriting. Sec.St. 101 (Elementary Typewriting) should be taken concurrently.

112 Intermediate Stenography (3 + 0) 3 credits S

Theory review, speed development, dictation. Prerequisite: Sec.St. 111 or knowledge of Gregg Shorthand theory.

129 Computing Machines (3 + 0) 2 credits F, S

Training in the use of adding, calculating, rotary, listing, and ten-key machines. Laboratory work, demonstrations, and field trips.

211 Advanced Stenography (3 + 0) 3 credits F

Speed dictation with stress on fluency and accuracy of writing. Mailable transcripts with emphasis on spelling, punctuation, typewriting, vocabulary. Prerequisite: Sec.St. 112 or the ability to write from dictation at not less than sixty words a minute.

212 Advanced Stenography (3 + 0) 3 credits S

Training in rapid writing and transcription. For students who wish to qualify for leading stenography position. Prerequisite: Sec.St. 211 or the ability to write from dictation at not less than eighty words a minute.

215 Business Communications (3 + 0) 3 credits S

A presentation and application of the psychology, principles, and problems underlying effective communications in business and industry. Prerequisite: Engl. 102.

300 Office Organization and Management (3 + 0) 3 credits F

Scientific management principles applicable to office organization and control. Planning correct office methods and systems, employee supervision and control; office problems of special departments.

302 **Secretarial Procedure** (3 + 0) 3 credits S

Training in office procedures, organization routine, and human relations. Practice in business etiquette, filing, use of the telephone, and operation of voice-writing, duplicating, and calculating machines. Application of secretarial skills previously acquired. Prerequisite: Sec.St. 102 and 212, or equivalent.

303 **Executive Secretarial Procedures** (3 + 0) 3 credits F

Development of job intelligence on the office executive level. Direction of office staff, control of supplies and equipment, handling of correspondence. Field trips, lectures, readings, conferences. Prerequisite: Sec.St. 300.

304 **Business Report Writing** (2 + 0) 2 credits S

To prepare the student to communicate business data effectively by means of written and oral reports. Emphasis on the use of language, the organization of data, logical presentation of materials, and qualities of style.

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: Open to any sophomore and to freshmen who rank in the upper one-half on their mental tests scores.

211 **Introduction to Anthropology** (3 + 0) 3 credits F

An examination of the major concepts and areas of anthropology with emphasis on the physical and cultural development of early man.

352(G) **Juvenile Delinquency** (2 + 0) 2 credits S

Causes, conditions, and prevention of juvenile crime. Backman.

357(G) **Cultural Anthropology** (3 + 0) 3 credits

A historical approach to cultural theories illustrated by representative studies from the major cultural areas of the world. Prerequisite: Soc. 201 or 211. Sellers.

359 **Indians of North America** (3 + 0) 3 credits

A descriptive survey of the culture areas and representative tribes of North America. Sellers.

361(G) **Criminology** (3 + 0) 3 credits F

Theories, causes, classification, apprehension, treatment, and prevention of crime. Backman.

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.

365(G) **Culture and Personality** (3 + 0) 3 credits

An examination of significant studies on the role of culture in the formation of personality. Prerequisite: Junior standing; and two of the following courses: Soc. 201, 211 or Psych. 201. Sellers.

- 370(G) Social Control** (2 + 0) 2 credits S
The social processes providing control of behavior. Prerequisite: Soc. 201 or Psych. 201. Backman.
- 371(G) Social Organization** (3 + 0) 3 credits
The structure forms, functions, and development of major social institutions. Analytical study of the structure and functioning of major forms of social organization in societies of varying degrees of complexity. Prerequisite: Soc. 201 or 211. Sellers.
- 375 Marriage and the Family** (3 + 0) 3 credits
A course designed to prepare the student for typical problems encountered in dating, courtship, marriage, and parenthood. Backman.
- 379 Ethnic and Race Relations** (3 + 0) 3 credits
The social, psychological, economic, and political aspects of minority problems in American society. Sellers.
- 380(G) The Family** (2 + 0) 2 credits S
Forms and functions of the family as a social institution. Emphasis on present trends. Backman.
- 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. Sellers.
- 391(G) Human Relations in Business and Industry** (3 + 0) 3 credits S
A survey of the major areas of industrial sociology with emphasis on social factors related to problems of administration and work unit productivity and morale. Backman.
- 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. Backman.
- 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.
- 324(G) Soil Physical Properties as Related (3 + 0) 3 credits S
to Plant Growth
Soil texture, structure, moisture, aeration, and temperature in relation to plant growth. Irrigation, drainage, and cultural practices as related to the proper maintenance of the soil's physical condition. Prerequisite: Soils 201.
- 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.)
- 326(G) Soil Physics Laboratory (0 + 6) 2 credits S
Techniques for examining and evaluating various physical properties of soils. Prerequisite: Must be taken concurrently with or following Soils 324.
- 418 Soil Fertility (2 + 0) 2 credits F
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 even-numbered years.)
- 420 Soil Fertility Laboratory (0 + 6) 2 credits F
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, Ibañez, etc. Prerequisite: Span. 103-104. Kline.
- 355–356 Intermediate Spanish Composition** (3 + 0) 3 credits each F - S
and Language
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** (3 + 0) 3 credits each F - S
Literature
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** (2 + 0) 2 credits each F-S
and Conversation
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.
- 414 Ancient and Medieval Oratory** (2 + 0) 2 credits F or S
Study of ancient and medieval oratory from the early Greeks through the reformation. Particular attention to the evolution of rhetorical principles and practices as exemplified in the works of the rhetoricians and orators through the ages.
- 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 or 3 + 0) 2 or 3 credits F, S
An introductory course dealing with the general principles of animal biology.
- 104 **General Zoology Laboratory** (0 + 3 or 4) 2 credits F, S
An optional course to accompany Zool. 103.
- 203 **Vertebrate Zoology** (3 + 0) 3 credits S
A course concerned with the biology of the vertebrates. The main emphasis will be on the land vertebrates—amphibians, reptiles, birds, and mammals. Prerequisite: Zool. 103.
- 204 **Vertebrate Laboratory** (0 + 3) 1 credit S
An optional laboratory and field course to accompany Zool. 203. Field trips will be made to collect and study the amphibians, reptiles, birds, and mammals of Nevada. Prerequisite: Zool. 104.
- 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.
- 322(G) **Parasitology** (2 + 3) 3 credits F
An introductory study of disease producing animals of medical, veterinary, and wildlife importance.

- 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. Prerequisite: Zool. 104.
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.)
- 337(G) Mammalogy** (2 + 4) 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.)
- 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. Prerequisite: Zool. 104.
La Rivers.
- 359(G) Entomology** (2 + 0) 2 credits F
An introduction to the principles of insect biology. Prerequisite: Zool. 103. La Rivers.
- 360(G) Entomology Laboratory** (0 + 8) 3 credits F
An optional course to accompany Zool. 359. Students planning to do their insect collecting during the summer preceding the course must make arrangements with the instructor prior to such collecting. Prerequisite: Zool. 104. 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. Jones.
- 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) Animal 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.
- 382(G) Animal Ecology** (2 + 0) 2 credits S
Part II. A study of animal communities. Prerequisite: Zool. 381 or consent of the instructor.
- 384(G) Animal Ecology Laboratory** (0 + 4) 1 credit S
An optional laboratory and field course to accompany Zool. 381 and/or 382. Prerequisite: Zool. 104.

446 General and Comparative Physiology (2 + 0) 2 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 pre dental curricula. Prerequisite: At least two years of chemistry and two years of biology are recommended. Jones.

447 General and Comparative Physiology (0 + 3) 1 credit S
Laboratory

An optional course to accompany Zool. 446. Jones.

463 Game Management (2 + 4) 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.)

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.

475 Wildlife Conservation Law Enforcement (2 + 0) 2 credits S

Acquaints the wildlife management student with the place and purpose of wildlife protection in modern conservation organizations. Stressed are: Principles and theories of criminal law including laws of arrest, search and seizure, venue, bail, evidence, court procedure and the rights of the defendant in a criminal proceeding; field procedures in wildlife protection including patrol techniques, game and fish identification, search and seizure procedure, collection and presentation of evidence, investigation and interrogation, public relations and contacts. Prerequisite: Senior standing in the wildlife curriculum.

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.

495-496 Seminar in Zoology 1 or 2 credits each F - S

The presentation by students of reviews and discussion of assigned reports of research in zoological literature. May be repeated for credit. Prerequisite: 9 credits of zoology. La Rivers.

591 Thesis 1 to 6 credits F, S

Summer School

*FIRST SESSION

June 10 through June 21, 1957

*LONG SESSION

June 10 through August 16, 1957

*MAIN SESSION

June 24 through August 2, 1957

*POST SESSION

August 5 through August 16, 1957

Opportunity and Purpose

The Summer Sessions are an integral part of the University of Nevada organization. The same high standards prevail as in the regular session; equivalent work carries equivalent credit and the same high quality of teaching personnel is maintained.

One of the primary purposes of the Summer Sessions is to meet the needs of teachers who wish to spend a part of the summer vacation in serious study or investigation. The Summer Sessions afford unusual opportunity to increase teaching skill, to develop teaching personality, to obtain help with individual classroom problems, to acquire new cultural and recreational interests, and to become better informed concerning current and social problems, and to build depth in academic fields.

Of almost equal importance is the opportunity given by the Summer Sessions to students desiring to accelerate their programs. Moreover, some students find it advantageous to attend summer school to gain a desired classification or to study a particular subject not offered in the regular sessions.

Specific courses are designed for high school teachers, elementary teachers, and teachers of departmental work. Courses offered in any of the Summer Sessions may be applied for advancement toward a special school diploma, a bachelor's or master's degree, and toward certification by the Nevada State Board of Education. A bulletin describing the faculty, the curriculum, and the facilities available during the summer may be obtained by addressing the Director of Summer Sessions.

*Registration is on preceding Saturday.

Admission and Credits

High School graduates or adults with ability to do scholastic work on the University level may register in the Summer Sessions. However, credit toward any University degree or diploma will be granted only after the student has met all requirements for admission and has matriculated at the University.

Usually the student may enroll for a maximum of 6 or 7 credits of work in the main Summer Session. The number of credits allowed for each course is determined on the basis that fifteen University lecture periods of fifty minutes each, together with two hours of out-of-class preparation for each class, earn 1 credit. A total of 10 to 12 credits may be earned during the Summer Sessions.

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, Winnemucca, and Ely. These 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 or from the Director of the Summer School.

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 Agricultural Extension work in agriculture and home economics is conducted in Nevada under the provisions of the Smith-Lever Act of May 8, 1914, amended by Public Law 83, 83d Congress, Chapter 157, and under the Nevada Statutes, Chapter 94, Sections 1-9, approved March 20, 1947.

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 agricultural 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 and subjects relating thereto to persons not attending or resident in said colleges in the several communities, and imparting information on said subjects through demonstrations, publications and otherwise."

The Agricultural Extension Service is one of the educational divisions of the University of Nevada. Its over-all objective is to assist people in improving their economic, physical, mental and social well-being by helping them to help themselves and others in strengthening their desire and ability to:

1. Identify, analyze, and solve their own problems.
2. Seek, understand, and use scientific and other practical information.
3. Use natural resources wisely.
4. Work together actively to solve common problems.
5. Support their own leaders and accept leadership responsibility.
6. Evaluate and appreciate their own progress.
7. Appreciate and enjoy the aesthetic values of life.

To accomplish these objectives, work is carried on through instruction and demonstrations to people individually or in adult and youth groups. Adult groups may include any organization, whether developed by extension workers or not. The youth work is organized into groups called 4-H Clubs.

The organization for extension work in Nevada comprises an administrative and specialist staff, resident at the University, and county agricultural and home agents. Sixteen of the seventeen Nevada counties have cooperative agreements between the Agricultural Extension Service and the respective Boards of County Commissioners. This work is conducted through eleven county staff headquarters located throughout the State.

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 of the Legislature 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 values of the substances submitted.

The records of the laboratory are open to public 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.
 SHERMAN TRESKA, Inspector and Technician.
 PETER A. FERRETTO, Inspector.
 CARLTON W. STROUD, Inspector.
 ARTHUR B. ANDERSON, Inspector.
 A. J. RAFAEL, Resident Inspector, Las Vegas.
 KNUTE PENNINGTON, Inspector, 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.

United States Department of the Interior Bureau of Mines

Rare and Precious Metals Experiment Station

Staff

T. R. GRAHAM, Chief, Division of Mineral Technology; Supt., Rare and Precious Metals Experiment Station.

CLYDE E. ARRINGTON, Chemist.

DONALD J. BAUER, Chemical Engineer.

WILLMAR T. BENSON, Mining Engineer.

JAMES I. BOTSFORD, Chemist.

JOHN M. BOYLAN, Chemist.

KENNETH G. BROADHEAD, Chemical Engineer.

ERNEST A. BROWN, Chemist.

NICHOLAS H. CAROUSO, Chemist.

EDWARD G. DAVIS, Chemist.

DOUGLAS A. DOUGLASS, Chemist.

ABRAHAM L. ENGEL, Metallurgist.

MICHAEL J. GALLAGHER, JR., Mining Engineer.

GLENN G. GENTRY, Mining Engineer.

MARGARET J. GERRING, Chemist.

HOWARD H. HEADY, Chemist.

W. A. HEDEEN, Procurement Officer.

HAROLD J. HEINEN, Metallurgist.

GEORGE H. HOLMES, JR., Mining Engineer.
ERNEST D. HULL, Physical Metallurgist.
RAYMOND H. JEBENS, Chemical Engineer.
HENRY W. JONES, Mining Engineer.
A. C. JOHNSON, Mining Engineer.
GEORGE H. JOHNSON, Mining Engineer.
RAY G. KNICKENBOCKER, Metallurgist.
ROALD LINDSTROM, Chemical Engineer.
WILLIAM H. LENZ, Physical Metallurgist.
ALBERT E. LONG, Mining Research Engineer.
FARREL W. LYTLE, Chemist.
I. BERNICE MACKEY, Draftsman.
JACK D. MARCHANT, Metallurgist.
HARRY J. MCCREARY, Safety Representative.
ROBERT L. MONTGOMERY, Chemist.
EDWARD MORRICE, Metallurgist.
DON A. NELSON, Chemist.
JOHN N. NOLAND, Superintendent (Maintenance).
RAY G. PASTORINO, Chemist.
JACK D. RAMSDELL, Physical Metallurgist.
ANDREW C. RICE, Chemist.
SPANGLER RICKER, Executive Officer, DMEA.
EDWARD T. SCHENK, Geologist.
VAN E. SHAW, Chemist.
BENJAMIN SHEAHAN, Mining Engineer.
EDWARD S. SHEDD, Metallurgist.
M. CLAIR SMITH, Mining Engineer.
RUSSELL R. TRENGOVE, Mining Engineer.
JOHN D. WARNE, Mining Engineer.
L. ALLAN WHITE, Physicist.
FRANK J. WIEBELT, Mining Engineer.
JOHN S. WINSTON, Physical Metallurgist.
WALTER J. WYATT, Chemist.
CHARLIE WYCHE, Chemist.
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 1956-1957

Scholarships

Scholarships for 1956-1957 for the following students were announced by the Scholarships and Prizes Committee on Commencement Day, June 4, 1956:

JEWETT W. ADAMS SCHOLARSHIPS of \$100

Bruce Capron	Harry Pacini
Nancy Chandler	Robert Reeder
William Eddelman	Robert Rose
Donna Holstine	Salvador Ruiz
Linda Jasin	Joan Sawle
Suzanne Kuypers	Lois Soule

ARMANKO OFFICE SUPPLY SCHOLARSHIPS of \$100

In Physics.....	Gregory Jeanbart
In Chemistry.....	Robert Pearson

ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP of \$50

Mary-Jean Hackwood

JOSEPHINE BEAM SCHOLARSHIPS of \$250 to Reno or Sparks students; \$500 to students not residing in Reno or Sparks.

Brent Fabbi	James Reed
Barbara Houghton	Alohn Stanley
Marius Kendall	Carol Stever
John Miller	Don Sullivan
Gary O'Neal	

CHESTER A. BRENNEN SCHOLARSHIP IN AGRICULTURE of \$300

Frank Stock

FRANK O. BROILI SCHOLARSHIP IN ELECTRICAL ENGINEERING of \$100

Sam Wauchope

AZRO C. CHENEY SCHOLARSHIP IN ENGLISH of \$100

Bernard Mergen

CHARLES ELMER CLOUGH SCHOLARSHIPS of \$150

Bruce Capron

Don Ricketts

COPPERMINES' FOUNDATION, INC., SCHOLARSHIPS of \$500

Thomas Keegan

Nicholas Reyes

CHARLES FRANCIS CUTTS SCHOLARSHIPS of \$500

Denise Hawkins

Clarence Richardson

DELTA DELTA DELTA SCHOLARSHIP of \$150

Bonnie Stewart

EDGERTON, GERMESILAUSEN & GRIER, INC. SCHOLARSHIP of \$1,000

Divided among: James K. Jackson, Thomas Mark, Walter Wiseman

EMPORIUM OF MUSIC SCHOLARSHIP IN MUSIC of \$100
Robert Stange

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of \$250

Charles Baker	Maxine Mansor
James Bright	Marvin Mayo
Robert W. Brown, Jr.	Beverly Ricketts
Joseph Crook	Angeline Smith
Harry W. Garner, Jr.	Yvonne Thornton
Francine Mannix	Patricia Turner

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS of \$500

Charlotte Gleason	Mark Nicklanovich
George Hellerich	Robert Stratton
Nora Kellogg	Eugene Wahl
Marjorie Mead	

MAJOR MAX C. FLEISCHMANN SCHOLARSHIPS for entering freshmen: \$250 to Reno or Sparks students; \$500 to students not residing in Reno or Sparks.

Bernard Fumagalli	Jean Rivkin
Mary Louise Glenn	Carol Titus

FRENCH LANGUAGE SCHOLARSHIP of \$100
Gloria Urriola

GRAND ARMY OF THE REPUBLIC SCHOLARSHIP of \$100
Donna Fisher

ROYAL D. HARTUNG INDUSTRIAL EDUCATION SCHOLARSHIPS of \$500

Lewis Dodgion	Tommy Jayo
William Dolan	Arlen McGee

HERMAN AND HERMAN SCHOLARSHIP of \$500
Patricia Sue Casey

MRS. CARL OTTO HERZ SCHOLARSHIP IN ELECTRICAL
ENGINEERING of \$100
Arthur Carlson

INDEPENDENT ORDER OF ODDFELLOWS SCHOLARSHIP of \$300
Fred Bartlett

KENNECOTT COPPER CORPORATION SCHOLARSHIP of \$1,000
Divided between: Leon Larche, Jr. James Schenk

KLUTE SCHOLARSHIPS of \$100

Jerry Fenwick	Joanne Ortiz
Gertrude Halvorsen	

LAS VEGAS PRESS CLUB SCHOLARSHIPS of \$200

Versiellen Eberle	Karen Knudsen
Robert Faiss	Henry Rilling

CARRIE BROOKS LAYMAN MEMORIAL SCHOLARSHIP of \$200
Marilyn Feathers

WILLIAM S. LUNSFORD SCHOLARSHIP IN JOURNALISM of \$100
Dwight Dyer

HONORABLE WILLIAM O'HARA MARTIN AND LOUISE STADTMULLER MARTIN
SCHOLARSHIP IN HISTORY AND POLITICAL SCIENCE of \$50
Louise Harrison Evans

ROSE SIGLER MATHEWS SCHOLARSHIPS of \$100
Max Botz
George Corfield

Stewart Hampton
Christine Peschel

PAT MCCARRAN MEMORIAL SCHOLARSHIP of \$500
Lee Holland

NEVADA HIGHWAY EMPLOYEES SCHOLARSHIP IN CIVIL ENGINEERING of \$100
Richard Arden

NEVADA REBEKAH ASSEMBLY SCHOLARSHIP of \$100
Vanessa Bianco

NEVADA SCHOOL FOOD SERVICE ASSOCIATION SCHOLARSHIP of \$50
Jacquelyn Hunt

NEVADA STATE PRESS ASSOCIATION SCHOLARSHIP of \$250
Divided between: Angeline Farros Kenneth Robbins

PREMEDICAL-PRENURSING SCHOLARSHIP of \$100
Thomas See

RALSTON PURINA SCHOLARSHIP of \$500
Pat O. Currie

RENO BUSINESS AND PROFESSIONAL WOMEN'S CLUB SCHOLARSHIP of \$50
Janet Matheus

RENO NEWSPAPERS, INC., SCHOLARSHIP IN BUSINESS of \$100
Jo Anne Garwood

ROTARY CLUB OF RENO SCHOLARSHIP of \$300
Charles Walker

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of \$250
Richard Short

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIP of \$200
Carol McBain

SEARS ROEBUCK AGRICULTURAL FOUNDATION SCHOLARSHIPS of \$125
Lester Albright Clinton Perkins
Robert Morton Danny Pool
Donald Parks James Sloan

SEMENTA SCHOLARSHIP IN ECONOMICS AND BUSINESS of \$100
Elizabeth Landers

MARY ELIZABETH TALBOT MEMORIAL SCHOLARSHIP IN MATHEMATICS of \$300

Charles Arnold

REUBEN C. THOMPSON SCHOLARSHIP IN PHILOSOPHY of \$100

George Wilkinson

RITA HOPE WINER MEMORIAL SCHOLARSHIP IN EDUCATION of \$50

Simmie Cooper

KENNETH W. YEATES SCHOLARSHIP IN PSYCHOLOGY of \$150

Richard McClintic

Prizes and Honors

Prizes and Honors for the following students were announced on Commencement Day, June 4, 1956:

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN'S honorary memberships

Gail Altenburg

Marjorie Mortensen

Helen Meader

HENRY ALBERT SENIOR PUBLIC SERVICE PRIZES of \$37.50

Gail Altenburg

Roger S. Trounday

PHILO SHERMAN BENNETT PRIZE of \$75

Jack McAuliffe

THE FRENCH MEDAL

Inez S. Davis

THE GINSBURG JEWELRY COMPANY AWARDS of two fine watches

Joseph Crook

Donna Holstine

ALEX RANSON MEMORIAL AWARD of \$25

Mark J. Crossett

C. F. AND FRANK WITTENBERG MEMORIAL PRIZE of \$100

Lillis Hatch

HONOR ROLL OF THE SENIOR CLASS (Listed according to rank)

Kenneth Adams

Richard Morrill

Charles Taylor

Patricia Samon

James Brune

Dennis Burge

Paul Finch

William Dennett

Janice Brownfield

Inez S. Davis

Doyle Spurlock

Helen Meader

John Metcalfe

George Evans

John Poppe

Edith Caruk

HONOR ROLL FOR THE FOUR-YEAR COURSE (Listed according to rank)

Charles Taylor

Dennis Burge

James Brune

Inez S. Davis

Patricia Samon

William Dennett

ELECTED TO PHI KAPPA PHI

Lois Baskerville
James Brune
Dennis Burge
Inez Davis
William Dennett
Helen Eaton
George Evans
Jacob Faragher
Paul Finch
Raymond Gore

Francine Luwe
Janice Palludan
Ray Pastorino
Dwight Powell
Patricia Samon
Dixie Sturges
Charles Taylor
Bertha Wagner
Hawke Williams

THE GOLD MEDAL
Charles M. Taylor

Awards for Military Excellence

GOVERNOR'S MEDAL
Cadet Lieutenant Colonel Everett L. Witt

COMBAT FORCES MEDAL
Cadet Colonel Robert C. Lewis

PRESIDENT'S MEDAL
Cadet William F. Rusk

VETERANS OF FOREIGN WARS TROPHY
Cadet Lieutenant James A. Lusk

ARMED FORCES COMMUNICATIONS AND ELECTRONICS AWARD
Cadet Major Daniel S. Goodman

AMERICAN SOCIETY OF MILITARY ENGINEERS AWARD
Cadet Major Charles M. Taylor

RESERVE OFFICERS ASSOCIATION AWARD
Cadet Ken H. Fujii

SCABBARD AND BLADE AWARDS
Gold Medal, Cadet Ken H. Fujii
Silver Medal, Cadet Richard S. Beeghley
Bronze Medal, Cadet Ralph Rubenstein

KERAK TEMPLE AWARDS
Gold Medal, Cadet Charles Baker
Silver Medal, Cadet David Wood
Bronze Medal, Cadet Wayne Kramer

HEARST TROPHY AND MEDALS
Cadet Lieutenant Richard L. Mills (Capt.)
Cadet Lieutenant Terrance L. Katzer
Cadet Lieutenant Colonel Maxwell Botz
Cadet Lieutenant Eugene Espin
Cadet Master Sergeant John Middlebrook

NATIONAL INTERCOLLEGIATE TROPHY
 Cadet Lieutenant Richard L. Mills (Capt.)
 Cadet Major Charles M. Taylor
 Cadet William F. Rusk
 Cadet Lieutenant Colonel Maxwell K. Botz
 Cadet Lieutenant Terrance L. Katzer

Graduates

Diplomas and degrees were awarded on Commencement Day, June 4, 1956, as follows:

Master of Arts

Ray Rom Chandler (8-19-55)	Secondary Education
University of Nevada, 1954	
Robert Baer Gaw	School Administration and Supervision
University of California, Berkeley, California, 1951	
Harold Burton Hayes	Secondary Education
University of Nevada, 1950	
Vincent S. Keele	Secondary Education
University of Nevada, 1946	
Roger R. Olmstead (1-25-56)	History
University of Nevada, 1950	
Charlotte Cooper Patnoudé	Elementary Education
University of Hawaii, Honolulu, T. H., 1951	
Hazel M. Sheldon	Special Education
University of California at Los Angeles, Los Angeles, California, 1938, 1936	

Master of Education

Joseph F. Bashista (8-19-55)	Elementary Education
State Teachers College, Indiana, Pennsylvania, 1939	
William G. Bowden (1-25-56)	School Administration and Supervision
University of Nevada, 1950	
Floyd L. Edsall	School Administration and Supervision
University of Nevada, 1947	
Buddy Alvin Garfinkle	School Administration and Supervision
University of Nevada, 1950	
Mary E. Murray (1-25-56)	Education
University of Nevada, 1952	
Rosemary B. Ruymann (1-25-56)	Elementary Administration and Supervision
University of Southern California, Los Angeles, California, 1932	
Philip Herbert Tovey (8-19-55)	Counseling and Guidance
Simpson College, Indianola, Iowa, 1950	
Richard M. Trachok	School Administration and Supervision
University of Nevada, 1949	
Andrea Smart Woodbury (8-19-55)	Elementary Education
University of Nevada, 1950	

Master of Science

Charles Reagan Breese	Civil Engineering
University of Nevada, 1948	
Howard C. Brooks	Geology
Idaho State College, Pocatello, Idaho, 1953	
Douglas Allen Douglass	Chemistry
University of Nevada, 1953	

Roderick A. Falk	Westmont College, Santa Barbara, California, 1950	Chemistry
Fred J. Fulton	University of Nevada, 1953	Physical Metallurgy
Roger Keith Miller	University of Wyoming, Laramie, Wyoming, 1952	Range Management
Gerald Stauffer Schubert Strickler	Colorado State College of A. & M., Fort Collins, Colorado, 1954	Range Management
LeGrand Walker	Utah State Agricultural College, Logan, Utah, 1928	Animal Husbandry
Alfred Hanson Wheeler (1-25-56)	Massachusetts Institute of Technology, Cambridge, Massachusetts, 1951	Mining Engineering
Peter Frederick Young	University of Nevada, 1954	Physical Metallurgy

Civil Engineer (C.E.)

Paul L. Nichols	University of Nevada, 1934
Edward Leonard Pine	University of Nevada, 1938, 1935

Engineer of Mines (E.M.)

Charles M. Harris	University of Nevada, 1939
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Metallurgical Engineer (Met.E.)

James W. Byrkit	University of Nevada, 1923
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Max C. Fleischmann College of Agriculture

Bachelor of Science in Agriculture

Gary Bowler Hafen	Doyle Spurlock
Martin H. Mann (1-25-56)	Warren Chester Young (1-25-56)

Bachelor of Science in Home Economics

Doris Mildred Ames	Marjorie Lee Mortenson
Annette Gail Dickson	Janet Quilici
Jo Ann Foster Elston	Patsy Diane Terry
Lillis Heloise Hatch	

College of Arts and Science

Bachelor of Arts

Shirley Lois Allen	Betty Karen Ihfe
Thomas William Arvin	Robert Charles Lewis
Robert Burton Ballard	Jerry Ellis Mann
William Thomas Barrett	Anthony W. Martin
Lois Sandorf Baskerville (1-25-56)	Carole Joan Matthiesson
Leroy Richard Bergstrom (1-25-56)	Georgia Meyers
James A. Brennan (1-25-56)	George Stratton Morris
Ralph Michael Brinton	Theresa Joanne Naveran
Raymond Charles Bookman, Jr.	Thelma Williams Nielsen (8-19-55)
Lelan A. Ceccarelli (8-19-55)	Dwight Sampson Powell
Chad Phillip Combs	Vivienne Mae Potter (8-19-55)
	Vincent West Reagor (8-19-55)

COLLEGE OF ARTS AND SCIENCE (Bachelor of Arts)—Continued

Robert Tyrrell Cooper
(1-25-56)

Phyllis Yvonne Crowder

Benny Lewis Crowell

Inez Sarasua Davis

Elizabeth Carr Diehl

Robert Lyle Gerring

John Ellerby Harden

(8-19-55)

Teresa D. Herrera

Sue Ann Humphrey

Adella Carole Ruotsala

Patricia Ellen Samon

Ruth L. Stephens

(8-19-55)

Dixie Olean Sturges

Evalyn Marie Celine Titus

Carol Laurene Tollefson

Roy Marion Whitacre, Jr.

Hawke John Insko Williams

George Preston Young

(1-25-56)

Bachelor of Arts in Journalism

Jo'Ann Miller Allard

William Ward Eaton

Paul H. Finch

Hazel Kathryn Johnson

Sandra Marie Mitts

Karen Elizabeth Phillips

Bachelor of Science

Dennis Knight Burge

William H. Colbert, Jr.

(8-19-55)

Edward George Davis

William H. Dennett

James Gordon Dunseath

Jacob A. Faragher

Shirley Guylene Ferguson

Buddy Harano Fujii

(1-25-56)

Margaret Jones Gerring

Duane Allan Glanzmann

Paula Gray

Janice Susan McElwin

Eugene B. Mills

Richard Gould Morrill

John Richard Nugent

Ray Glen Pastorino

Knute Donovan Pennington

(8-19-55)

Roger Wesley Pettenger

Ewald D. Pyzel

Gerald Kenneth Swanson

Sherman Joseph Tresca

(1-25-56)

John Clyde Valone

Everett Lester Witt

Bachelor of Science in Business Administration

James Joseph Adams

Terry R. Bastian

(1-25-56)

Kenneth Benjamin Adams

Dan Durbin (1-25-56)

John Etcheto

Joseph Emmanuel Garro

John Joseph Hanifan

(1-25-56)

Gerald John Lyons

(8-19-55)

John Calvin Mead

John Moulton Metcalfe

Charles Duane Moore

Norman Otis Olsen

Frank R. Randall

George Powers Sadler

William D. Van Wagoner

Bachelor of Science in Chemistry

Ernest Arthur Brown

Raymond Louis Ferrari

(1-25-56)

Fred Hertlein III

Farrel Wayne Lytle

Don A. Nelson

Bachelor of Science in Chemical Technology

George Llewellyn Bower

John Christian Jepsen

Gerald John Svob

College of Education

Bachelor of Arts in Education

Gail Marie Altenburg	Lola Ann Honey
Rose Saponara Arvin	Lillian V. Ianni
Charles Fulton Booth (8-19-55)	Earl L. Jarrett (1-25-56)
Lillian Lewis Borghi (1-25-56)	Manetta Bleak Lytle
Janice Whitaker Brownfield	Rochelle Maclean
Edith Campbell Caruk	David S. Pratt (1-25-56)
Alice Marie Cochran	Mary Virginia Sheehan
William Allen Deal (1-25-56)	Julie P. Stavros
Barbara Ray Dodge (8-19-55)	Loene Tippin
Helen Kay Eaton	Gerald Noble Towner
Barbara Jean Erb	Roger Sauveur Trounday
Josephine Tyrrel Frugoli	Fairy Blee Utter
Burnice June Hannon (8-19-55)	Janet Alice Watson (1-25-56)
	Jo Ann Marie Zubieta

Bachelor of Science in Education

Chauncey O. Bingham, Jr.	Edward Michael Leslie (1-25-56)
Grant Lynn Bowler	Lois DeRuchia McAuliffe
Helen F. Carpenter	Helen Louise Meader
Dean W. Clark	Rita Childrey Moore
Phillip R. Collins	Lucille Nelson
Boyce Lamar Ford	Fern Nickell (8-19-55)
Dorothy Gully Heckman (8-19-55)	Janice Jo Palludan
Dorothy Esther Hill	Barbara Louise Price
Juanita W. Hollingshead (8-19-55)	Evelyn Lucille Johnson Primm
Robert Arthur Jepsen	Dorothy Elizabeth Kine Rants
Edward August Jesse	Grant Sprague Truman
Rhea Ann Leavitt (1-25-56)	Bertha Betty Wagner
	Rose Marie Westfall (8-19-55)

College of Engineering

Bachelor of Science in Civil Engineering

Robert Collins Briney	Carlo Frank Panicari
Dale Wayde Burt	John Bernard Poppe, Sr.
Fenwick Carlile	John Edward Shevlin
Frank Evans	Donald Gene Showalter
Linn Doyle Ferguson (1-25-56)	Robert William Thomason
Edgar Stanley Johnson	Joseph Weldon Triguero
Bruce A. Packard	Roland Dexter Westergard
	Elwyn Glenn Wilkinson

Bachelor of Science in Electrical Engineering

George William Evans
 Jerry Linwood Fowler
 Louis Lawrence Garneau
 Daniel Sheridan Goodman
 Raymond Allen Gore
 David Joseph Mahoney
 Jerome Henry Markoski

J. Franklin Phelps, Jr.
 Ralph Windel Powell
 Theodore Calvin Robb
 (8-19-55)
 Warren H. Shelton
 James Thomas Wright
 Gerald Albert Zeitler

Bachelor of Science in Mechanical Engineering

Rino Buonamici (8-19-55)
 Gearld Edward Crowe
 Robert A. Lavond

Thomas Winfield Reynolds
 (8-19-55)
 William Jay Sprow

Mackay School of Mines**Bachelor of Science in Geology**

Con Jay Lund

Kerry L. Van Gilder

Bachelor of Science in Geological Engineering

James Nell Brune
 John Lynn Cardinalli

William Roger Hall

Bachelor of Science in Metallurgical Engineering

Donald Eugene Crowell

Richard Frederick Dixon

Bachelor of Science in Mining Engineering

Harold Leonard Jacobson
 (1-25-56)
 Matthew J. Piccini

William Everts Richards
 Charles Mosser Taylor

Students Commissioned in the Armed Forces

Second Lieutenant commissions were awarded on Commencement Day, June 4, 1956, as follows:

William T. Barrett
 Terry R. Bastian (1-30-56)
 Grant L. Bowler
 George L. Bower
 Ralph M. Brinton
 Dennis K. Burge
 Dale W. Burt
 Lelan A. Ceccarelli (8-5-55)
 Phillip R. Collins
 Robert T. Cooper (1-30-56)
 Gearld E. Crowe
 Edward G. Davis
 Glenn W. Dory (8-5-55)
 James G. Dunseath
 Clair F. Earl (8-5-55)

Robert C. Lewis
 Con J. Lund
 Gerald J. Lyons, Jr., (8-20-55)
 Farrel W. Lytle
 David J. Mahoney
 Jerome H. Markoski
 John C. Mead
 Eugene B. Mills
 Ronald R. Munk (8-5-55)
 Ray G. Pastorino
 Dwight S. Powell
 Gerald J. Svob
 *Charles M. Taylor
 Robert W. Thomason
 *Roger S. Trounday

*Distinguished Military Graduates.

STUDENTS COMMISSIONED IN THE ARMED FORCES—*Continued.*

Raymond L. Ferrari (1-30-56)	Grant S. Truman
Duane A. Glanzmann	Duane B. Urban (8-5-55)
Daniel S. Goodman	Roy M. Whitacre, Jr.
Gary B. Hafen	*Everett L. Witt
John J. Hanifan (1-30-56)	James T. Wright
John C. Jepsen	George P. Young (1-30-56)
Robert A. Jepsen	Warren C. Young (1-30-56)

*Distinguished Military Graduates.

Enrollment Summary by Registration Periods*

1956-1957

RENO CAMPUS—	Summer 1956	Fall 1956	Spring 1957
<i>College of Agriculture—</i>			
School of Agriculture.....	---	59	53
School of Home Economics.....	---	39	35
<i>College of Arts and Science.....</i>	---	550	507
<i>College of Business Administration.....</i>	---	232	243
<i>College of Education.....</i>	---	291	293
<i>College of Engineering—</i>			
Civil.....	---	134	107
Electrical.....	---	134	130
Mechanical.....	---	88	72
<i>Mackay School of Mines—</i>			
Geology.....	---	45	33
Metallurgy.....	---	15	14
Mining.....	---	40	34
<i>School of Nursing.....</i>	---	---	1
<i>Nonmatriculated Students.....</i>	---	75	70
<i>Auditors.....</i>	---	27	9
LAS VEGAS CAMPUS—			
<i>College of Agriculture.....</i>	---	6	3
<i>College of Arts and Science.....</i>	---	89	81
<i>College of Business Administration.....</i>	---	35	32
<i>College of Education.....</i>	---	55	46
<i>College of Engineering.....</i>	---	33	26
<i>Mackay School of Mines.....</i>	---	3	0
<i>School of Nursing.....</i>	---	---	0
<i>Nonmatriculated Students.....</i>	---	279	239
<i>Auditors.....</i>	---	18	10
GRADUATE STUDY.....	---	96	95
EVENING AND SATURDAY STUDY—			
Credit (Includes Regular and Nonmatriculated† Students).....	---	499	380
Audit.....	---	83	50
SUMMER SESSIONS—			
Reno Campus.....	1,319	---	---
Other Centers.....	573	---	---
CORRESPONDENCE STUDY.....	---	233	217
ENROLLMENT TOTALS.....	1,892	3,158	2,780

*Data indicates gross enrollments in each registration period. Enrollments subsequent to February 15, 1957 not included.

†Includes Evening and Saturday Division students not included elsewhere.

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