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UNIVERSITY OF MONTANA BULLETIN

State University Series April, 1946

Number 407

Montana State University

COLLEGE OF ARTS AND SCIENCES
SCHOOLS OF BUSINESS ADMINISTRATION,
EDUCATION, FORESTRY, JOURNALISM,
LAW, MUSIC, PHARMACY, AND
THE GRADUATE SCHOOL

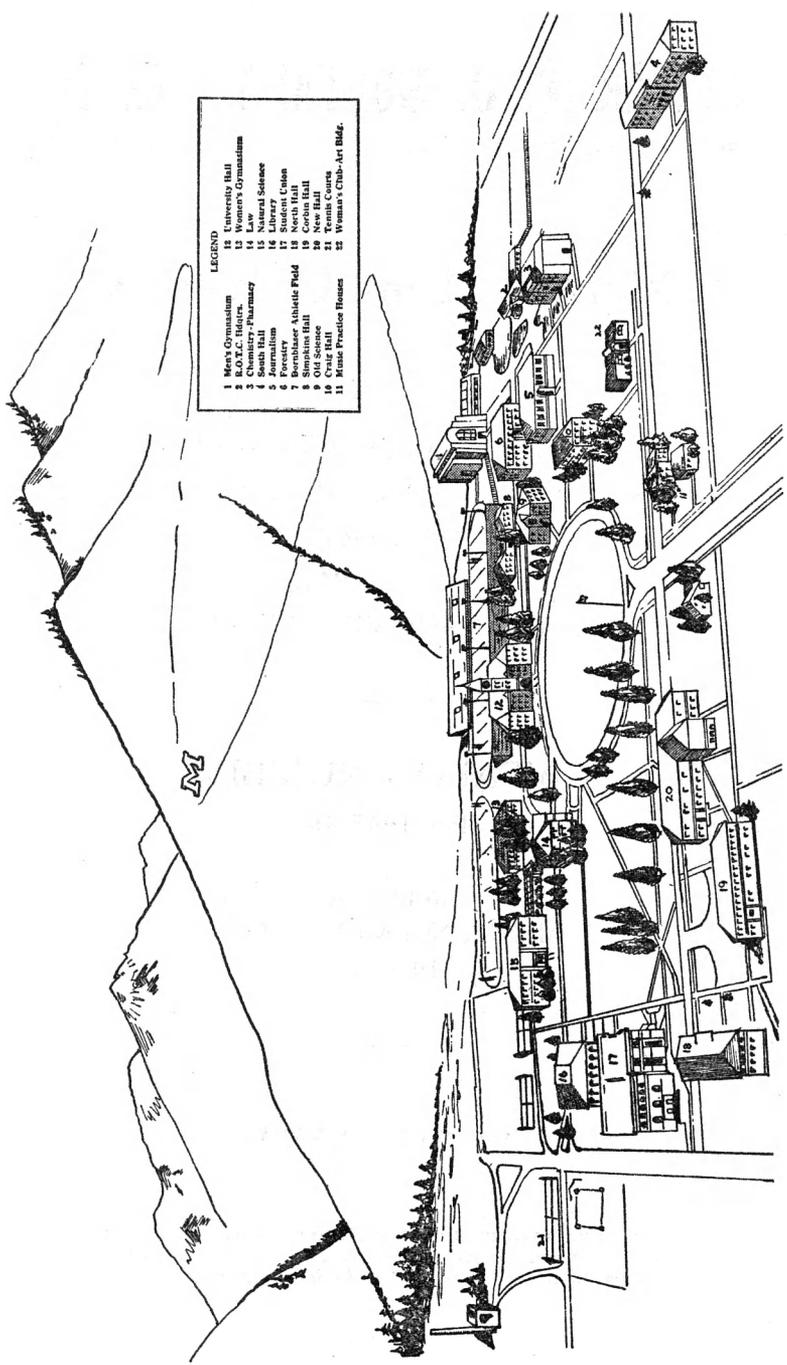
CATALOG NUMBER

For 1945-46

INCLUDING
ANNOUNCEMENTS FOR
1946-47

MISSOULA, MONTANA

Issued six times yearly, Jan., Feb., March, April, June, and December. Entered as second-class matter at the postoffice at Missoula, Montana, under Act of Congress, August 24, 1912.



LEGEND

- 1 Men's Gymnasium
- 2 B.O.T.C. Bldg.
- 3 Chemistry - Pharmacy
- 4 Law
- 5 Journalism
- 6 Forestry
- 7 Business - Athletic Field
- 8 Strunkman Hall
- 9 Old Science
- 10 Craig Hall
- 11 Arts Practice Rooms
- 12 Scientific Hall
- 13 Women's Gymnasium
- 14 Law
- 15 Physical Science
- 16 Library
- 17 Student Union
- 18 Social Hall
- 19 Corbin Hall
- 20 New Hall
- 21 Tennis Courts
- 22 Women's Club - Art Bldg.

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Official Directory, 1945-46

Executive Board

| | |
|---|----------|
| JAMES A. McCAIN, (ex-officio Chairman)..... | Missoula |
| THEODORE JACOBS | Missoula |
| ALEX M. STEPANZOFF..... | Missoula |
| J. B. SPEER, Secretary..... | Missoula |

Administrative Officers*

| | |
|--|---|
| JAMES A. McCAIN, M.A. | President |
| RICHARD H. JESSE, Ph.D. | Vice President |
| JAMES B. SPEER, B.A., LL.B. | Controller |
| JAMES W. MAUCKER, Ph.D. | Director of Summer Session |
| J. EARL MILLER, Ph.D. | Dean of Men |
| ¹ J. BENTON GILLINGHAM, M.A. | Director, Special Student Personnel Services |
| LEO SMITH, M.A. | Registrar |
| MARY ELROD FERGUSON (Mrs.), M. A. | Assistant Dean for Women |
| E. A. ATKINSON, M.A. | Director, Division of Extension and Public Service |
| GARVIN D. SHALLENBERGER, Ph.D. | Director of Placement Bureau |
| KATHLEEN CAMPBELL, M. S. | Librarian |

The Faculty

| | |
|---------------------------------------|---|
| ² ADAMS, HARRY F. | Associate Professor of Physical Education; Track Coach; Assistant Football Coach B.A., Montana State University, 1921. |
| AMES, WALTER R. | Professor of Education Ph.B., University of Wisconsin, 1917; Ph.M., 1918; Ph.D., 1926. |
| ² ANDERSON, WALTER A. | Professor of Education; Dean of the School of Education; Director of Teacher Education; Di- rector of Summer Session B.S., University of Minnesota, 1929; M.A., 1931; Ed.D., Columbia University, 1937. |
| ARMSBY, LUCILLE JAMESON (Mrs.)..... | Secretary to the President B.A., Montana State University, 1922. |
| ARNOLD, ADEN F. | Assistant Professor of Fine Arts B.A., State University of Iowa, 1925; M.A., 1928. |
| ARNOLDSON, LOUISE G. (Mrs.) | Professor of French Diplôme d'Études Françaises de Touraine (Alliance Française— Université de Poitiers), 1914; B.A., University of Utah, 1919; Docteur de l'Université de Paris (Lettres), 1934. |

*Ernest O. Melby, President, resigned September 1, 1945.

*Everett G. Marble, Registrar, resigned July 1, 1946.

¹Effective December 5, 1945.

²On Leave of Absence.

²Resigned, effective September 1, 1945.

- ATKINSON, E. A.Professor of Psychology;
Director, Division of Extension and Public Service.
B.A., University of Denver, 1920; M.A., Montana State University,
1922.
- BADGLEY, E. KIRKUniversity Auditor; Graduate
Manager Intercollegiate Athletics; Assistant Business Manager
B.A., Montana State University, 1924.
- ¹BARKLEY, FRED A.Instructor in Botany
B.A., University of Oklahoma, 1930; M.S., 1932; Ph.D., Washing-
ton University, 1937.
- BATEMAN, WILLIAM G.Professor of Chemistry
B.A., Stanford University, 1907; M.A., 1909; Ph.D., Yale University,
1916.
- BATY, HARVEY F.Assistant Professor of Religion;
Director, Affiliated School of Religion
B.A., Montana State University, 1931; B.D., Colgate-Rochester
Divinity School, 1934.
- BEAVER, HELEN I. (Mrs.).....Instructor in Home Economics
B.S., University of Tennessee, 1930; M.S., 1937.
- BELL, CLARENCE W.Assistant Professor of Music; Band Director
B.S. Ed., University of Illinois, 1936; M.A., Eastman School of
Music, 1945.
- ²BENNETT, EDNA K. (Mrs.).....Instructor in Mathematics
B.L., University of California, 1912; M.S., University of Chicago,
1917.
- BENNETT, EDWARD E.Professor of History and Political Science
B.A., University of Kansas, 1916; M.A., University of Wisconsin,
1923; Ph.D., 1925. (Out-of-Residence Leave, Summer Quarter,
1945).
- BERG, PHYLLIS M.Residence Hall Director
B.A., Montana State University, 1942.
- BISCHOFF, PAUL A.Associate Professor of Spanish
B.S., Montana State University, 1927; B.A., 1928; M.A., Oberlin
College, 1932.
- BLAKE, GRACE (Mrs.)Social Director of South Hall
- ¹BLOOM, CHARLES W.Assistant Professor of Forest Engineering
B.S., Montana State University, 1927; M.F., Syracuse University,
1934.
- BRADEN, GERALDINE R. (Mrs.)Kindergarten Teacher, Nursery School
B.M., Northwestern University, 1943.
- ³BRADY, AGNES M.Assistant Professor of Home Economics
B.S., Ohio State University, 1914; M.A., Columbia University, 1926.
- BRIGGS, EDWIN W.Associate Professor of Law
B.S., Oklahoma A. & M. College, 1927; LL.B., University of Okla-
homa, 1932; LL.M., Harvard University Law School, 1935. (Pro-
fessor, July 1, 1946).
- BROWMAN, LUDVIG G.Associate Professor of Zoology and Physiology
B.S., University of Chicago, 1928; Ph.D., 1935. (Professor, July 1,
1946)
- BROWN, JAMES G.Instructor in Physical Education
B.A., Montana State University, 1937.

¹On Leave of Absence.²January 7 to May 11, 1946.³Resigned, September 1, 1945.

- BROWN, VIRGINIAAssistant in Dramatics
B.S., Skidmore College, 1945.
- BUE, OLAF J.Associate Professor of Journalism
B.A., Montana State University, 1923; M.S.J., Northwestern University, 1941.
- CAMPBELL, KATHLEENLibrarian; Associate Professor of Library Economy
B.S., University of Denver, 1934; M.S., 1939.
- CAREY, EUGENE F. A.Associate Professor Emeritus of Mathematics
B.S., University of California, 1905; M.S., 1914.
- CASTLE, GORDON B.Professor of Zoology; Director, Biological Station
B.A., Wabash College, 1928; M.A., University of California, 1930; Ph.D., 1934. (Out-of-Residence Leave, Spring Quarter, 1946.)
- CHATLAND, HAROLDAssistant Professor of Mathematics
B.A., McMaster University, 1934; M.S., University of Chicago, 1935; Ph.D., 1937. (Associate Professor, July 1, 1946.) (Out-of-Residence Leave, Summer Quarter, 1945.)
- ¹CLAGUE, BETTYAssistant Professor of Physical Education
B.S., Columbia University, 1930; M.S., 1931.
- CLAPP, MARY B. (Mrs.)Instructor in English
B.A., University of North Dakota, 1903; M.A., 1906.
- CLARK, FAY G.Professor of Forest Management
B.A., University of Michigan, 1912; M.S.F., 1914.
- CLARK, WESLEY P.Professor of Classical Languages
B.A., University of Richmond, 1903; M.A., 1904; Diplôme d'Études Françaises (Université de Grenoble et de Montpellier), 1921; Ph.D., University of Chicago, 1928.
- ²COAD, FRANCIS E.Assistant Professor of Law
B.A., University of Oregon, 1929; J.D., 1931; LL.M., Columbia University, 1932.
- COGSWELL, ANDREW C.Associate Professor of Journalism
B.A., Montana State University, 1927; M.A., University of Minnesota, 1943.
- COLEMAN, RUFUS A.Professor of English
B.A., Whitman College, 1909; M.A., Columbia University, 1914; Ph.D., Boston University, 1938. (Out-of-Residence Leave, Summer Quarter, 1945.)
- ³COLVILLE, FRANCES L. (Mrs.).....Instructor in Business Administration
B.A., Montana State University, 1929.
- CROW, CLEOAssistant Professor of Business Administration
B.S., Kent State University (Ohio) 1931; M.A., New York University, 1933.
- CROWDER, JOHN B.Professor of Music, Dean of the School of Music
B.A., University of Richmond, 1925; studied in Vienna, 1925-28; M.A., Eastman School of Music, 1938.
- ⁴DAHLBERG, GEORGE P.Associate Professor of Physical Education; Basketball Coach; Assistant Football Coach; Assistant Athletic Manager
B.A., Montana State University, 1925.

¹On Leave of Absence. Resigned, effective February 13, 1946.

²On Leave of Absence.

³Spring Quarter, 1945-46.

⁴Acting Director of Athletics, Autumn Quarter, 1945-46.

- DAUGHTERS, FREEMANProfessor Emeritus of Education;
Dean Emeritus of the School of Education
B.A., Kansas Normal College, 1896; S.T.B., Philadelphia Divinity
School, 1903; M.A., Columbia University, 1915; Ed.D., (Honorary),
Intermountain Union College, 1933.
- DAVIS, KENNETH P.Professor of Forestry; Dean of
the School of Forestry
B.S.F., Montana State University, 1928; M.F., University of Michi-
gan, 1932; Ph.D., 1940.
- ¹DEISS, CHARLESProfessor of Geology
B.A., Miami University, 1925; Ph.D., University of Michigan, 1928.
- DIETERT, REUBEN A.Associate Professor of Botany
B.A., DePauw University, 1925; M.S., Michigan State College, 1927;
Ph.D., State University of Iowa, 1937. (Out-of-Residence Leave,
Summer Quarter, 1945.)
- DUBISCH, ROYInstructor in Mathematics
B.S., University of Chicago, 1938; M.S., 1940; Ph.D., 1943.
- ²DUFFALO, JOHN A., JR.Assistant University Physician
B.S., University of Minnesota, 1937; M.B., 1939; M.D., 1940.
- DUGAN, EDWARD B.Assistant Professor of Journalism
B.J., University of Missouri, 1932; M.A., 1940.
- ELROD, MORTON J.Professor Emeritus of Biology
B.A., Simpson College, 1887; M.A., 1890; M.S., 1902; Ph.D., Illinois
Wesleyan University, 1905; LL.D. (Honorary), Montana State Uni-
versity, 1938.
- ³ELY, ROY J. W.Associate Professor of Economics
B.Sc. in B.A., University of Nebraska, 1924; M.A., 1925; Ph.D., 1937.
(Professor, July 1, 1946.)
- EMBLEN, DONALD J.Professor of Business Administration
B.A., Ohio University, 1932; M.A., University of Pennsylvania, 1935;
Ph.D., Columbia University, 1941.
- ²EPHRON, MARGUERITE HEINSCH (Mrs.).....Instructor in Latin and
Humanities
B.A., Montana State University, 1931; M.A., 1932.
- EUBANKS, BURNIE L.Assistant in Military Science and Tactics
Staff Sergeant, U. S. Army.
- FERGUSON, MARY ELROD (Mrs.).....Assistant Dean for Women
B.S., Montana State University, 1911; M.A., Columbia University,
1934.
- ⁴FESSENDEN, DOUGLAS A.Head Football Coach, Professor
of Physical Education; Director of Intercollegiate Athletics.
B.S., University of Illinois, 1927; M.A., Montana State University,
1946.
- ²FIEDLER, LESLIE M.Instructor in English
B.A., New York University, 1938; M.A., University of Wisconsin,
1939; Ph.D., 1941.
- FLINT, ELAINE M. (Mrs.)Circulation Librarian
B.A., College of St. Scholastica (Minnesota), 1939; A.B., L.S., Uni-
versity of Michigan, 1940.

¹Resigned, effective August 31, 1945.

²On Leave of Absence.

³Acting Dean of School of Business Administration, September 21, 1945, to
May 3, 1946.

⁴Returned from Leave of Absence, January 14, 1946.

- FORD, JAMES L. C. Professor of Journalism; Dean of the School of Journalism
B.A., Lawrence College, 1928; M.A., University of Wisconsin, 1939.
(Out-of-Residence Leave, Summer Quarter, 1945.)
- ¹FOX, GUY Instructor in Political Science
B.A., Texas Christian University, 1929; M.A., Southern Methodist University, 1930.
- FREEMAN, EDMUND L. Professor of English
B.A., Missouri Wesleyan College, 1915; M.A., Northwestern University, 1924.
- ²FREEMAN, MARY B. (Mrs.) Assistant in English
B.S., Northwestern University, 1921.
- Fritz, EDMUND T. Instructor in Law
B.A., LL.B., Montana State University, 1930.
- ³FROST, BENJAMIN R. Counselor, Special Student Personnel Services
B.S., University of North Dakota, 1933; M.A., University of Minnesota, 1940.
- ⁴GARLINGTON, J. C. Assistant Professor of Law
B.A., LL.B., Montana State University, 1930.
- ⁵GATES, HELEN STEWART (Mrs.) Residence Hall Director
B.A., Montana State University, 1937.
- ⁶GILLESPIE, HELEN D. (Mrs.) Instructor in Mathematics
B.A., University of Minnesota, 1919.
- ⁷GILLINGHAM, J. BENTON Director, Special Student Personnel Services; Associate Professor of Economics and Sociology.
B.A., State College of Washington, 1939; M.A., University of Wisconsin, 1942.
- GLEASON, HELEN Professor of Home Economics
B.S., Columbia University, 1922; M.A., 1927. (Out-of-Residence Leave, Summer Quarter, 1945.)
- GORDON, INA C. (Mrs.) Social Director of Corbin Hall
- GREENFIELD, RUTH N. MILKWICK (Mrs.) Instructor in Physical Education
B.A., Montana State University, 1944.
- GULBRANDSEN, NORMAN R. Instructor in Music
B.S., University of Utah, 1942; M.M., Northwestern University, 1945.
- ⁸HARDY, CHARLES W. Supt. of Press; Assistant Professor of Journalism.
- ⁹HARDY, MABELLE G. (Mrs.) Assistant in Economics and Sociology
B.A., Montana State University, 1938.
- HATHAWAY, BAXTER L. Assistant Professor of English
B.A., Kalamazoo College, 1935; M.A., University of Michigan, 1936; Ph.D., 1940. (Associate Professor, July 1, 1946.) (Out-of-Residence Leave, Summer Quarter, 1945.)
- HAZELBAKER, MILDRED (Mrs.) Assistant in Journalism
B.A., Montana State University, 1936.

¹On Leave of Absence.²Effective January 28, 1946.³Effective March 20, 1946.⁴Winter and Spring Quarters, 1945-46.⁵Resigned, effective April 7, 1946.⁶January 7 to May 11, 1946.⁷Effective December 5, 1945.⁸On Leave of Absence, effective January 1, 1946.⁹Winter and Spring Quarters, 1945-46.

- ¹**HEARN, G. EDWARD**Instructor in English; Director of Dramatics
B.S., University of Oregon, 1939; M.A., University of Iowa, 1940.
- ²**HERTLER, CHARLES F.**Associate Professor of Physical Education
B.P.E., Normal College of American Gymnastic Union, 1932; M.A.,
Columbia University, 1936.
- HETLER, DONALD M.**Professor of Bacteriology and Hygiene
B.A., Kansas University, 1918; M.A., 1923; Ph.D., Yale University,
1926. (Out-of-Residence Leave, Summer Quarter, 1945.)
- ³**HETLER, ROSSLEENE (Mrs.)**Instructor in Chemistry
B.A., Oberlin College, 1916; M.A., University of Illinois, 1918;
Ph.D., Yale University, 1926.
- HOFFMAN, RUDOLPH O.**Professor of French
Ph.C., State University, Ghent, Belgium, 1910; M.A., University of
Wisconsin, 1921; Diplôme Supérieur d'Études de Civilisation Fran-
çaise (Université de Paris), 1929.
- ⁴**HOOK, WALTER**Instructor in Mathematics
B.A., Montana State University, 1942.
- HOVEE, AGNES**Acting Director, Residence Halls
B.A., Montana State University, 1935.
- HOWARD, JOSEPH W.**Professor of Chemistry
B.A., Shurtleff College, 1912; M.A., University of Illinois, 1913;
Ph.D., 1915. (Out-of-Residence Leave, Summer Quarter, 1945.)
- HUBBELL, EILEEN**Residence Hall Director
B.S., University of Minnesota, 1940.
- JACOBS, MARJORIE**Residence Hall Director
B.A., Montana State University, 1941.
- JEPPESEN, C. RULON**Associate Professor of Physics
B.A., Brigham Young University, 1928; M.A., University of Cali-
fornia, 1930; Ph.D., 1932. (Professor, July 1, 1946.)
- ⁵**JESSE, LUCILLE L. (Mrs.)**Assistant in English
B.A., University of Nebraska, 1916.
- JESSE, RICHARD H.**Professor of Chemistry; Vice President
B.A., University of Missouri, 1902; M.A., Harvard University, 1907;
Ph.D., 1909.
- KARLIN, JULES A.**Instructor in History
and Political Science
B.S., Georgetown University, 1936; M.A., University of North Caro-
lina, 1937; Ph.D., University of Minnesota, 1940.
- KELLY, WILLIAM G.**Professor of Military Science and Tactics
Major, Infantry, U. S. Army; B.A., Montana State University, 1930.
- KRAMER, JOSEPH**Assistant Professor of Botany
B.S., University of Nebraska, 1921; M.A., 1923; Ph.D., 1936. (Asso-
ciate Professor, July 1, 1946.)
- ⁶**LAKE, RICHARD**Graduate Assistant in English
B.A., Montana State University, 1934.
- ⁶**LANGEN, ROBERT**Graduate Assistant in Music
B.M., Montana State University, 1942.

¹Resigned, effective September 1, 1945.²On Leave of Absence.³Winter and Spring Quarters, 1945-46.⁴Effective May 13, 1946.⁵Effective January 28, 1946.⁶Effective January 15, 1946.

- LEAPHART, CHARLES W.Professor of Law; Dean of the School of Law
B.A., University of Missouri, 1905; M.A., 1906; LL.B., Harvard University, 1913; S.J.D., 1929.
- LENNES, N. J.Professor Emeritus of Mathematics
B.S., University of Chicago, 1898; M.S., 1903; Ph.D., 1907.
- LESTER, JOHNProfessor of Music
B.A., B.M., Southwestern University (Texas), 1922; studied in Nice, France, 1923-26; Milan, Italy, 1927-30.
- ¹LINE, LOUISE (Mrs.)Assistant in English
A.B., Mount Holyoke College, 1914; M.A., University of Wisconsin, 1915.
- ²LINE, ROBERT C.Professor of Business Administration; Dean of the School of Business Administration.
B.A., Montana State University, 1910; M.A., Harvard University, 1912.
- ³LORY, EARLAssociate Professor of Chemistry
B.S., Colorado State College, 1928; Ph.D., Johns Hopkins University, 1932.
- LOWELL, WAYNE R.Assistant Professor of Geology
B.S., Washington State College, 1936; M.S., University of Chicago, 1939; Ph.D., 1942. (Associate Professor, July 1, 1946.)
- ⁴MCCAIN, JAMES A.President
B.A., Wofford College, 1926; M.A., Duke University, 1929.
- ⁵MCGINNIS, RALPH Y.Assistant Professor of Speech; Debate Coach
B.A., Kent State University (Ohio), 1932; M.A., Northwestern University, 1938.
- ⁶MACARTHUR, ELEANORAssistant Director and Acting Director of Residence Halls; Assistant Professor of Home Economics
B.A., Montana State University, 1930.
- ⁷MACDONALD, JOHN G.Graduate Assistant in History and Political Science
B.A., Jamestown College, 1937.
- MACKEY, DONNA BURDITTGraduate Assistant in English
B.A., University of Idaho, 1943.
- MACKEY, JOHN W.Instructor in English
B.A., Carroll College, 1940.
- MADDOCK, WILLIAM E.Professor Emeritus of Education
B.L., Earlham College, 1894; B.A., Harvard University, 1904; M.A., Stanford University, 1922.
- ⁸MANSFIELD, MICHAEL J.Assistant Professor of History and Political Science
B.A., Montana State University, 1933; M.A., 1934.
- ⁹MARBLE, EVERETT G.Registrar; Instructor in Business Administration and Research Associate, Business Office.
B.A., Montana State University, 1926.

¹Winter Quarter, 1945-46.²On Leave of Absence, September 21, 1945-May 3, 1946.³Effective March 9, 1946.⁴Effective September 17, 1945.⁵Returned from Leave of Absence December 26, 1945.⁶On Leave of Absence.⁷Winter and Spring Quarters, 1945-46.⁸On Leave of Absence.⁹Resigned as Registrar July 1, 1946.

- ¹MARTELL, EARL W. Editor, Publications and News Service
B.A., Montana State University, 1939.
- MARVIN, EDWIN L. Associate Professor of
Philosophy and Psychology
B.A., Central College (Missouri), 1921; M.A., Harvard University,
1923.
- ²MARVIN, LEONA S. (Mrs.) Assistant in Music
B.A., Central College (Fayette, Missouri), 1925.
- MASON, DAVID R. Professor of Law
LL.B., University of South Dakota, 1924; B.A., 1926; S.J.D., Har-
vard University, 1927.
- ³MAUCKER, JAMES W. Professor of Education; Dean
of the School of Education
B.A., Augustana College, 1933; M.A., State University of Iowa,
1936; Ph.D., 1940.
- MEADOWS, PAUL Assistant Professor of Sociology
B.A., McKendree College (Illinois), 1935; M.A., Washington Uni-
versity, 1936; Ph.D., Northwestern University, 1940.
- ⁴MELBY, ERNEST O. President
B.A., St. Olaf College, 1913; M.A., University of Minnesota, 1926;
Ph.D., 1928.
- MERRIAM, HAROLD G. Professor of English; Chairman
of the Division of Humanities
B.A., University of Wyoming, 1905; B.A., Oxford University, Eng-
land, 1907; M.A., 1912; Ph.D., Columbia University, 1939. (Out-
of-Residence Leave, Summer Quarter, 1945.)
- MERRILL, A. S. Professor of Mathematics;
Director of Institutional Research; Director, Veterans Education
B.A., Colgate University, 1911; M.A., 1914; Ph.D., University of
Chicago, 1916. (Out-of-Residence Leave, Summer Quarter, 1945.)
- MILLER, J. EARLL Professor of History and Political
Science; Chairman of the Division of Social Sciences; Dean of Men
B.A., University of Kansas, 1910; LL.B., 1912; M.A., University of
Illinois, 1914; Ph.D., 1917.
- MIRRIELES, LUCIA B. Professor of English
B.A., Stanford University, 1909; Ph.D., 1924.
- MOLLETT, CHARLES E. F. Professor of Pharmacy
Ph.C., University of Kansas, 1904; B.A., Montana State University,
1920; M.S., University of Kansas, 1927. (Out-of-Residence Leave,
Summer Quarter, 1945.)
- MOORE, JOHN E. Instructor in English
B.A., University of Michigan, 1936; M.A., 1937. (Assistant Pro-
fessor, July 1, 1946.) (Out-of-Residence Leave, Summer Quarter,
1945.) (Assistant Professor July 1, 1946.)
- MORRIS, MELVIN S. Associate Professor of Forestry
B.S., Colorado State College, 1930; M.S., 1932.
- NELSON, RITA M. (Mrs.) Acquisitions Librarian
B.A., Montana State University, 1934.

¹Effective January 14, 1946.²Spring Quarter, 1945-46.³Effective February 6, 1946.⁴Resigned, effective September 1, 1945.

- ¹NOBLE, ANDREW A. R.Instructor in Mathematics
B.A., Pacific University, 1929; M.A., University of California, 1934;
Ph.D., 1935.
- NUTTERVILLE, CATHERINELecturer in Sociology and Counselor
B.A., Montana State University, 1930; M.A., 1934; Ed.D., Columbia
University, 1942.
- O'BRIEN, DOROTHY (Mrs.)Assistant in Physical Education
B.S., University of Washington, 1927; M.Ed., Montana State Uni-
versity, 1941.
- ²O'NEIL, DOROTHY PETERSON (Mrs.)Acquisitions Librarian
B.A., Montana State University, 1941.
- PATON, BERNICE H.Cataloger and Assistant
Professor of Library Economy
B.A., University of Oklahoma, 1925; B.S.L.S., Columbia University,
1932; M.A.L.S., University of Michigan, 1944.
- PATTEN, O. M.Instructor in Forestry and Staff Forester
B.S., Colorado State Agricultural College, 1935. (Out-of-Residence
Leave, Winter Quarter, 1946.)
- PAYNE, PHILIP W.Instructor in English
B.A., Montana State University, 1939.
- PERKINS, JESSIE (Mrs.)Head Teacher, Nursery School
B.A., Montana State University, 1943; M.E., Montana State Uni-
versity, 1946.
- ³PETERSON, ALEX F.Instructor in Pharmacy
Ph.C., Montana State University, 1923; B.S., University of Minne-
sota, 1924.
- ⁴PHILLIPS, PAUL C.Professor of History
and Political Science
B.A., Indiana University, 1906; M.A., 1909; Ph.D., University of
Illinois, 1911.
- PLATT, ANNE C.Professor of Home Economics
B.S., University of Washington, 1917; M.S., 1928.
- ⁵POPE, WALTER L.Professor of Law
B.A., University of Nebraska, 1909; J.D., University of Chicago,
1912.
- RAMSKILL, BERNICE BERRY (Mrs.)Associate Professor of Music
- RAUK, MARION (Mrs.)Assistant in Physical Education
B.S., LaCrosse State Teachers College, 1945.
- ⁶RICH, CARL H.Assistant Professor of Education
B.A., Western Washington College of Education, 1939; M.A., Col-
lege of Puget Sound, 1941; Ed.D., Stanford University, 1943.
- RIMEL, VERA S. (Mrs.)Social Director of New Hall
- ⁶RINEHART, KEITHInstructor in English
B.A., University of Oregon, 1940; M.A., 1941.
- ⁴RONHOVDE, ANDREAS G.Associate Professor of
History and Political Science
B.A., St. Olaf College, 1927; M.A., University of North Dakota, 1929.

¹Spring Quarter, 1945-46.²On Leave of Absence. Resigned, effective March 7, 1946.³Winter and Spring Quarters, 1945-46.⁴On Leave of Absence.⁵On Leave of Absence, effective February 1, 1946.⁶Spring Quarter, 1945-46.

- ROWE, JESSE P.Professor Emeritus of Geology
B.S., University of Nebraska, 1897; M.A., 1903; Ph.D., 1906; D.S.C.
(Honorary), 1935.
- RUSSELL, CHARLOTTELibrarian, Law Library
- SANFORD, EMMETT R.Professor Emeritus of
Business Administration
B.A., Montana State University, 1918; M.A., University of Cali-
fornia; C.P.A., California, 1925.
- ¹SAPPENFIELD, BERT R.Instructor in Psychology
B.A., DePauw University, 1935; M.A., New York University, 1938;
Ph.D., 1941. (Assistant Professor, July 1, 1946.)
- SCHUECH, FREDERICK C.President Emeritus; Professor
Emeritus of Modern Languages
M.E., Purdue University, 1893; A.C., 1894; LL.D., (Honorary)
Montana State University, 1938.
- ²SCHLUETER, RUDOLPH J.Assistant Professor of German
B.A., Northwestern College (Wisconsin), 1921; M.A., University
of Wisconsin, 1926; Ph.D., 1934.
- SCHREIBER, WILLIAM E.Professor of Physical Education
B.A., University of Wisconsin, 1904. (Out-of-Residence Leave, Sum-
mer Quarter, 1945.)
- SEVERY, J. W.Professor of Botany; Chairman
of the Division of Biological Sciences
B.A., Oberlin College, 1915; M.S., Washington University, 1926;
Ph.D., University of Wisconsin, 1931. (Out-of-Residence Leave,
Summer Quarter, 1945.)
- ³SHALLENBERGER, GARVIN D.Professor of Physics; Director
of Placement Bureau; Chairman of the Division of Physical Sci-
ences
B.S., Oklahoma A. & M. College, 1912; B.S., Tulane University,
1917; M.S., 1919; Ph.D., University of Chicago, 1923.
- ⁴SHERMAN, GEORGE W.Instructor in English
B.A., University of Washington, 1928.
- SHOUP, MITTIE L.Social Director of North Hall
Grad., Sioux City (Iowa) Normal Training School, 1894.
- ⁵SMITH, GEORGE H.Graduate Assistant in English
B.A., University of California, 1933.
- SMITH, C. FRANKAssistant Professor of
Business Administration
B.S., State University of Iowa, 1942; M.A., 1943; Ph.D., 1945.
- SMITH, FLORENCE R. (Mrs.)Professor of Organ
and Accompanist
- ⁶SMITH, LEORegistrar
B.S., Whitman College, 1927; M.A., University of Washington, 1934.
- ⁷SMITH, RUSSELL E.Assistant Professor of Law
LL.B., Montana State University, 1931.

¹Returned from Leave of Absence, January 1, 1946.

²On Leave of Absence.

³On Leave of Absence, July 5, 1945-February 10, 1946.

⁴Spring Quarter, 1945-46.

⁵Winter and Spring Quarters, 1945-46.

⁶Effective July 1, 1946.

- ¹SMITH, THEODORE H. Professor of Business Administration; (Dean, School of Business Administration, July 1, 1946.)
B.A., Heidelberg College, 1921; M.B.A., Northwestern University, 1926; Ph.D., Ohio State University, 1940.
- SMYTH, HUGH Graduate Assistant in Modern Languages
B.A., Montana State University, 1940; M.A., Montana State University, 1946.
- SORENSEN, THORA Instructor in Spanish
B.A., Montana State University, 1927; M.A., Montana State University, 1945.
- SPAULDING, THOMAS C. Professor of Forestry; Director of Forest and Conservation Experiment Station
B.S., Montana State University, 1906; M.S.F., University of Michigan, 1909.
- SPEER, JAMES B. Controller; Professor of Business Administration
B.A., Montana State University, 1908; LL.B., University of Michigan, 1916.
- SPEER, LUCILE Documents and Serials Librarian; Assistant Professor of Library Economy
B.A., Montana State University, 1924; M.A., University of Chicago, 1925.
- ²SPITTLER, JAMES E. Assistant, School of Business Administration
- STANEK, FRANK J. Assistant in Military Science and Tactics
Staff Sergeant, U. S. Army.
- STIFFLER, RONALD-BEL Instructor in English
Director of Dramatics
- SUCHY, JOHN F. Professor of Pharmacy
Ph.C., B.S., Montana State University, 1917; M.S., University of Colorado, 1927; Ph.D., 1934.
- ³SVORE, C. R. Director of Health Service
B.A., St. Olaf College, 1932; M.D., University of Denver, 1939.
- ⁴SWEARINGEN, MONICA BURKE (Mrs.) Director of Residence Halls; Professor of Home Economics
B.A., Montana State University, 1918; M.A., Columbia University, 1924.
- SWEARINGEN, THOMAS G. Maintenance Engineer; Assistant Professor of Forest Engineering
B.A., Montana State University, 1920.
- TASCHER, HAROLD Assistant Professor of Sociology
B.A., University of Illinois, 1925; M.A., 1926; Ph. D., 1932. (Associate Professor, July 1, 1946.)
- ⁵TEEL, STANLEY M. Associate Professor of Music
B.Mus., DePauw University, 1925; M.Ed., Montana State University, 1943.

¹Effective June 1, 1946.²Spring Quarter, 1945-46.³Effective May 8, 1946.⁴Returned from Leave of Absence, February 1, 1946.⁵On Leave of Absence.

- THOMAS, BART E.**Professor of Spanish
B.S., Wisconsin State Teachers' College, 1901; B.A., Montana State University, 1924; Ph.D., University of Wisconsin, 1937.
- TOELLE, HOWARD**Dixon Professor of Law
B.A., Indiana University, 1913; LL.B., Columbia University, 1914; M.A., 1916; LL.M., Harvard University, 1925. (Out-of-Residence Leave, Summer Quarter, 1945.)
- ¹**TURNER, A. P. L.**Associate Professor of Economics
B.A., Harvard University, 1930; M.A., 1933; Ph.D., 1935.
- TURNER, ROBERT T.**Instructor in History and Political Science
B.A., University of California at Los Angeles, 1939; M.A., 1940; Ph.D., 1945.
- ²**TURNER-HIGH, HARRY**Professor of Anthropology and Sociology
B.A., St. Stephan's College (New York), 1922; M.A., University of Wisconsin, 1924; Ph.D., 1928.
- VANDUSER, CYRILE C.**Manager, Montana Student Union
B.A., Montana State University, 1927.
- VANVOROUS, GLADYS (Mrs.)**Instructor in Home Economics; Supervisor Student Teachers
B.S., Purdue University, 1919.
- WALDON, CURTIS H.**Professor of Pharmacy; Dean of the School of Pharmacy
B.S., University of Minnesota, 1935; M.S., 1937; Ph.D., 1941.
- WATERS, CHARLES W.**Professor of Forestry and Botany
B.S., B.L., Berea College (Kentucky), 1919; M.A., Ohio State University, 1921; Ph.D., University of Michigan, 1927.
- WEISBERG, A. HERMAN**Professor of Violin; Orchestra Director
Studied Leipzig Royal Conservatory, Germany, 1901-1903; Paris, 1903-1904.
- WEISBERG, FLORA B. (Mrs.)**Assistant Professor Emeritus of German
B.A., Montana State University, 1928.
- ³**WENDT, RUDOLPH**Instructor in Music
B.M. (Piano Pedagogy), Eastman School of Music, 1936; B.M. (Piano Performer), 1937.
- WHITE, M. CATHERINE**Assistant Librarian; Assistant Professor of Library Economy
B.A., Montana State University, 1927; M.A., 1940.
- ⁴**WILHELM, HENRIETTA L.**Assistant Registrar; Acting Secretary, Committee on Admission and Graduation
B.A., Montana State University, 1925.
- ⁴**WILLIAMS, CALDER T.**Instructor in English
B.A., University of California, Los Angeles, 1939.

¹On Leave of Absence. Resigned, effective January 7, 1946.

²Returned from Leave of Absence, January 1, 1946.

³On Leave of Absence.

⁴Spring Quarter, 1945-46.

- ¹WILSON, BRENDA FARRELL (Mrs.).....Assistant Professor of Business Administration
B.A., Montana State University, 1932; M.A., University of Southern California, 1939. (Associate Professor, July 1, 1946.)
- ²WILSON, VINCENTInstructor in Physical Education
B.A., Montana State University, 1943.
- ³WORDEN, DONOVANInstructor in Law
B.A., LL.B., Montana State University, 1923.
- ²WREN, MELVIN C.Assistant Professor of History and Political Science
B.A., University of Iowa, 1936; M.A., 1938; Ph.D., 1939.
- WRIGHT, PHILIP L.Assistant Professor of Zoology
B.S., University of New Hampshire, 1935; M.S., 1937; Ph.D., University of Wisconsin, 1940. (Out-of-Residence Leave, Summer Quarter, 1945.)
- ⁴YPHANTIS, GEORGEAssociate Professor of Fine Arts
B.A., University of Toronto, 1926; B.F.A., Yale University, 1930.
-
- ¹Assistant Dean of School of Business Administration, September 21, 1945, to May 3, 1946.
²On Leave of Absence.
³Winter Quarter, 1945-46.
⁴On Leave of Absence. Resigned, effective March 7, 1946.

Special Appointments for Summer Session, 1945

- ARNDT, C. O.Visiting Professor of Education
- ATWATER, MARY M. (Mrs.)Visiting Lecturer in Education
- BAUM, C. W.Visiting Lecturer in Education
- BALDWIN, BOYDVisiting Instructor in Education
- BURLINGAME, MERRILL G.Visiting Professor of Education
- BURNETT, JUDSON O.Visiting Professor of Business Administration
- CARLETON, LINUSVisiting Professor of Education
- CORSON, LLOYD N.Teacher, Demonstration School—Education
- CROW, CLEOVisiting Professor of Business Administration
- FESSENDEN, S. A.Visiting Professor of Education
- FOX, GUYVisiting Professor of Education
- FORSTER, THELMA (Mrs.)Visiting Lecturer in Education and Music
- LAWLER, MARCELLAVisiting Professor of Education
- LEFORT, EMILIOVisiting Professor of Education and Spanish
- MCLAUGHLIN, SAMUEL J.Visiting Professor of Education
- MASON, ELDON W.Visiting Lecturer in Education
- REESE, MARYVisiting Lecturer in Education
- ROBINSON, HORACE W.Visiting Professor of English
- SMITH, W. LEOVisiting Professor of Education
- VESETH, PEARL (Mrs.)Visiting Instructor in Education and Secretary
- WOODARD, J. A.Visiting Professor of Education

Montana State Board of Examiners in Accountancy

- ROWLAND, ALFRED J.—C.P.A., Chairman.....Miles City
- BJORNLIE, CONRAD T.—C.P.A., SecretaryGreat Falls
- FINLAY, WILLIAM B.—C.P.A.Great Falls

THE UNIVERSITY OF MONTANA

A congressional grant was made in 1881 of seventy-two sections of the public domain for University purposes in Montana, and an additional congressional grant was made in 1889 of 100,000 acres for a school of mines, 100,000 acres for normal schools, and 140,000 acres for an agricultural college. The third Legislative Assembly of the state of Montana enacted laws in 1893 to establish the State University at Missoula, the State College at Bozeman, the State Normal College at Dillon, and the Montana School of Mines at Butte.

As the lands, or the timber and stone thereon, have been sold, the proceeds have gone into permanent funds, the interest on which, together with rentals of unsold lands, has been used for the support of the respective institutions. Each subsequent Legislative Assembly has voted appropriations to supplement those maintenance resources, and several assemblies have provided for the erection of new buildings.

In 1913 the four institutions were combined into the University of Montana under the executive control of an officer whose title is Chancellor. Edward C. Elliott of the University of Wisconsin, first Chancellor of the University of Montana, was appointed by the State Board of Education in 1915. He held the office until 1923, when he was succeeded by Melvin A. Brannon, former president of Beloit (Wisconsin) College. Dr. Brannon resigned July 1, 1933. Miss Dorothy Green was appointed acting executive secretary of the State Board of Education on April 15, 1941, to fill the vacancy caused by the death of Dr. H. H. Swain, and was appointed executive secretary July 24, 1944. On July 1, 1943, the office of Chancellor, which had been revived by the 1943 State Legislature, was filled by the appointment of Dr. Ernest O. Melby, president of Montana State University. Dr. Melby resigned July 1, 1944. Dr. George A. Selke, president of the Minnesota State Teachers College was appointed Chancellor April 8, 1946. The Chancellor's office is in the State Capitol, Helena.

The Legislative Assembly of 1925 provided for the organization of the Eastern Montana State Normal School at Billings as the fifth unit of the University of Montana. A sixth unit, the Northern Montana College at Havre, was opened September 24, 1929.

In November, 1940, the voters approved a measure adopted by the twenty-first Legislative Assembly which permits, during the succeeding ten years, an annual levy of a tax not exceeding three and one-half mills for maintenance of the University of Montana.

Montana State University

Montana State University, located in Missoula, was formally opened in 1895. The local board was made up of J. H. T. Ryman, Hiram Knowles, and Thomas C. Marshall.

The campus site was donated to the state by Edward L. Bonner and Frances G. Higgins of Missoula. In 1897 the Legislature authorized the issuance of bonds, in the amount of \$100,000, for construction purposes. With these funds University Hall and Science Hall were constructed. They were completed in 1899, at which time the State University occupied its permanent quarters. In 1901 an additional bond issue was authorized to construct Craig Hall and the Women's Gymnasium. In 1907 a library building, now occupied by the Law School, was completed.

Oscar J. Craig of Purdue University was the first president. During his administration, from 1895 to 1908, Montana State University made remarkable progress. The faculty increased from five to thirty, and the proportional increase in the number of students was even greater.

In 1908 Clyde A. Duniway of Stanford University became president, and carried on a policy of vigorous development. The School of Law was established and the Summer Session was made a part of the State University.

Edwin B. Craighead, for eight years president of Tulane University, succeeded to the presidency in 1912. During the next few years Business Administration, Journalism, Pharmacy, Home Economics and Forestry were added to the schools and departments of the State University.

From 1915 until the summer of 1917, Professor Frederick C. Scheuch, now president emeritus and professor emeritus of modern languages, was acting president. Edward O. Sisson, who had been State Commissioner of Education in Idaho, was appointed president in 1917, and served until 1921. Upon Dr. Sisson's resignation, Charles H. Clapp was appointed. He served until his death on May 9, 1935.

Professor Scheuch again served as acting president until January 1, 1936, when the presidency was assumed by Geo. Finlay Simmons, a zoologist and explorer, formerly with the University of Texas and the Cleveland Museum of Natural History, who was engaged in experimental research at the University of Chicago when called to Montana State University in the autumn of 1934. Dr. Simmons resigned the presidency, effective April 15, 1941, with leave of absence until September 1, 1941. Charles W. Leaphart, Dean of the Law School, was appointed to serve as acting president. The State Board of Education, at its meeting in September, 1941, appointed Dr. Ernest O. Melby as the next president. Dr. Melby, formerly Dean of the School of Education at Northwestern University, assumed the presidency on October 21. On July 1, 1943, he was appointed Chancellor of the University of Montana. Charles W. Leaphart, vice president, was appointed acting president, effective July 1, 1943. Dr. Melby resigned the chancellorship and was reapointed to the presidency on July 1, 1944, serving until September 1, 1945, when he resigned to accept the deanship of the School of Education at New York University. Mr. James A. McCain, who was dean of vocational education and guidance at Colorado State College and during World War II a lieutenant commander on duty in the Bureau of Naval Personnel at Washington, D. C., was appointed to the presidency by the State Board of Education at its meeting on August 21, 1945.

From 1934 to the present time six new buildings have been erected on the campus, new equipment has been added and old equipment improved. Courses of instruction have been expanded and strengthened, and scholarship standards have been raised. The faculty numbers one hundred twenty-three, ninety-six on the teaching staff and twenty-seven in administration and service. Twenty-two members are on leave of absence.

Accreditation. Montana State University is on the accredited list of the Association of American Universities and the Northwest Association of Secondary and Higher Schools.

Surroundings and Campus. Montana State University is situated at Missoula, county seat of Missoula county, and principal city in western Montana. The city is easily reached by the main lines of the Northern Pacific and the Chicago, Milwaukee, St. Paul & Pacific railroads.

In addition, there are branch lines from the Coeur d'Alenes, and the Bitterroot and Flathead valleys. Missoula is on the Yellowstone Trail (U. S. Highway No. 10), the International Parks Highway, and the main line of the Northwest Airlines.

Missoula is a pleasant residence city with a population of twenty-three thousand. It has an excellent climate and unsurpassed health conditions. Many miles of paved streets and bus lines make the campus of the University accessible from any part of the city. The surrounding country is a beautiful region of mountain ranges, easily reached by rail or auto, and furnishing excellent opportunity for recreation.

The campus, which has an area of approximately 100 acres, lies southeast of the business district and at the foot of Mount Sentinel. In addition, the University owns 520 acres extending from the campus to the summit of the mountain, an elevation of 2,000 feet above the campus.

The value of buildings, equipment, and ground is approximately three and a quarter million dollars.

The Library and Museums. The library, which contains about 257,497 volumes and government documents, is housed in the library building and in the departmental libraries. The faculty and library staff of the University have free access to the stacks. Any undergraduate or graduate student may obtain "stack permission" for one year by securing the signature of a faculty member and the approval of the librarian on a pass card to the stacks. Any reputable person not connected with the University may obtain admittance to the stacks by receiving the signature of the librarian on a pass card.

The Library receives over 600 periodicals, the current numbers of which are available in the reading room, as are newspapers and college exchanges.

The biological collections of Montana State University, established in 1898, are on the second floor of the Natural Science building. Special attention has been given to local fauna and flora of the state.

The rocks, fossils, coals, minerals, and ores are housed in the Department of Geology in University Hall.

The herbarium is in the Department of Botany, adjoining the museum in the Natural Science building.

The Treasure Room, for valuable historical and archaeological materials, is on the third floor of the Journalism building.

The people of the state are invited to inquire about the loan facilities of the library, to visit the museums, and to make contributions to the Library and museums. All donations will be acknowledged and recorded under the donor's name. The articles will be properly labeled and preserved.

Requirements for Admission

Students applying for admission should send in the following credentials:

(a) An original transcript of high school credits, signed by the principal.

(b) Official transcript from each college attended, including institutions attended while in military service.

(c) Statement of honorable dismissal from the last college regularly attended.

(d) An application for admission filled out on a form provided by Montana State University.

Veterans of any branch of the United States Armed Forces must present a discharge marked "other than dishonorable." Application for military service credits may be made after matriculation upon presentation of separation record, discharge or other documentary evidence giving dates of service and information about specialized training.

Certificates and transcripts of records relating to admission should be sent to the Registrar a month in advance of registration so that there will be ample time for notice of acceptance for admission to the University. Prompt attendance to these details will avoid delay and the additional expense of telegraphing. Delay in sending certificates is likely to cause difficulty in registration, and frequently makes it impossible for the student to enroll in classes to which he might otherwise be admitted.

Applicants for admission who fail to present proper certificates **will not be admitted to registration.** Forms for applying for admission may be obtained on application to the Registrar.

The University may require a deposit of \$25.00 of applicants for admission who are not residents of Montana at the time of their acceptance for admission, this deposit to be refunded when the student matriculates and pays registration fees.

General Admission

Applicants for admission must be at least sixteen years of age, and must present evidence of good moral character.

The completion of a high school or preparatory course of four years, including at least fifteen units of work, is the standard for regular admission. A unit is the amount of work represented by the successful completion of one subject pursued for a school year of not less than thirty-six weeks, with five recitations per week, each recitation period being not less than forty-two minutes net. Two periods of laboratory, shop, or drawing work count as one recitation.

Students must offer three units of English, one of American history and government, and at least two other units from each of three of the following groups: (a) mathematics: algebra, plane and solid geometry, trigonometry, general mathematics; (b) history and social science: Greek, Roman, medieval, modern or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history, geography, government, psychology, vocations; (c) laboratory science: physics, chemistry, biology, botany, zoology, physiology, agriculture, astronomy, geology, physiography, general science, home economics; (d) foreign languages.

Note: If the civics is included in the one unit of American history and government, it may not be used to satisfy requirement (b). The two units offered in satisfaction of requirement (d) must be in one language.

Students who have not completed these required courses must: (1) pass an entrance examination in the subject in which they are deficient; or (2) earn eight college credits in the subject in which they are deficient in addition to any college work in that subject required for a degree. Such credits may be counted toward the degree. Students must remove all entrance deficiencies during their first year of attendance.

Students transferring from other colleges will be required to meet these requirements.

Admission on Certificate

Graduates of any Montana high school or academy fully accredited by the State Board of Education, or of any high school or academy in another state accredited by the North Central Association or the Northwest Association are admitted to regular standing by the presentation of an official certificate of graduation.

Graduates of any other secondary schools outside of Montana are admitted under similar conditions, if the school maintains, on the basis of regular inspection, accredited relationship with the state university or other university within the state included in the membership of the Association of American Universities.

Admission by Examination

Any person not a graduate of an accredited high school must, in order to be admitted to regular standing, pass satisfactory examinations on not less than fifteen units* of secondary school work; provided that any graduate of a Montana high school accredited by the State Board of Education for the work of only one, two, or three years, may receive entrance credit without examinations upon such work as has been successfully completed in such accredited courses, as shown by official certificates.

Those who expect to take entrance examinations must notify the Registrar in advance, stating what subjects they desire to offer by examination.

Veterans who wish to clear entrance requirements by use of the USAFI examinations should write or contact the Registrar well in advance of the date on which they expect to present themselves for examination, since sometime is required to secure the tests.

Conditional Admission

The entrance requirement of graduation from a four years' accredited high school course may be modified in individual cases by permitting the conditional admission of a student if he has at least fifteen entrance units and has been in regular attendance in a fully accredited high school for four years. To acquire regular standing such a student must present a total of sixteen entrance units. He must make up the number lacking in one year from the date of his first registration.

Admission by Transfer from Other Units of the University of Montana

All credits earned in any unit of the University of Montana may be transferred to any other of the institutions and the full face value of such credits will be placed upon the records of the second institution. This does not, however, relieve the student from fulfilling the institutional requirements for graduation at the second institution. A number of highly specialized curricula are offered at the various units of the University of Montana; consequently a student who changes his objective either while continuing in an institution or in changing from one institution to another, must expect to lose time thereby.

Students transferring from one unit to another after the successful completion of a two years' course of junior college rank to the senior college of another institution may not use excess credits gained in the junior college to decrease the two years usually required to complete the senior college work.

*These fifteen units must include the required subjects listed above. A student offering foreign languages as a part of his preparation must present at least two units in one language.

A student suspended or dropped from one of the other institutions of the University of Montana will not be considered for admission without the approval of the president of the institution from which he was suspended or dropped.

Admission by Transfer from Other Colleges and Universities

Students from other colleges and universities of recognized standing will be admitted on presentation of certificates from the registrar that they have completed the regular entrance requirements, and are eligible to return. Credit will be given for work of collegiate grade done in other institutions of approved standing. In addition to the transcript of college record, the student must also present a transcript of his secondary school work.

Graduates of an approved two-year normal course requiring fifteen units for entrance are admitted to junior standing. Students who complete only part of the two-year normal college course may receive credit in the University for such work as may be found to represent the equivalent of courses required or permitted as electives in the University.

When credits are accepted from another college, grade points are evaluated at the time of transfer (see pages 28 and 34). Students entering with fewer grade points than credits must earn enough additional grade points at Montana State University to satisfy the grade point requirement for graduation. A transfer student must meet the grade point requirement on credits earned at Montana State University as well as on his entire record.

Admission of Special Students

Persons 21 years of age* or over (not graduates of high schools) who cannot offer all of the requirements for admission and who are not candidates for degrees may be admitted as special students without the usual entrance units upon passing general intelligence and English placement tests, and upon submitting satisfactory evidence that they are prepared to pursue successfully the courses open to them. Such students are required to select courses open only to freshmen and sophomores unless they show preparation and aptitude in particular fields.

Special students are permitted to continue in the University only in case they carry the work satisfactorily. If it becomes evident that they are unable to carry university work, their relations with the University may be severed at any time. In order to be able to register for a fourth or any succeeding quarter as a special student, the sum of the student's grade points (both positive and negative) must be at least equal to the total number of credits earned. See "Grade Points," page 34.

A special student may acquire status as a regular student and become a candidate for a degree either by taking entrance examinations, or by transferring to entrance credit sufficient credits earned in the University to make up all entrance units required for admission to regular standing, including the subjects listed on page 21. Before the student may register for his seventh quarter of residence, not including summer sessions, **he must make up all entrance units required for admission to regular standing.** The Registrar's office shall at that time transfer to entrance credit as many University credits as are

*Men or women students honorably discharged from the Armed Forces who cannot offer all of the requirements for admission may be admitted as special students.

necessary for such purpose at the rate of eight college credits for one entrance unit. In order to be eligible for a degree from Montana State University a special student must fulfill the same requirements for graduation as a regular student.

Special students must file application for admission on a form provided for this purpose, which may be obtained from the Registrar. This application must include certificates of such preparatory work as the applicant has done.

Credits Earned While in Military Service

Unassigned credit, not to exceed 12 quarter credits, is granted for educational growth while in military service, depending on length of time in the service. Three quarter credits are granted for the first three months of service and one additional quarter credit for each subsequent four months of service up to the maximum of 12 quarter credits. Time spent in college training programs such as C.T.D., A.S.T.P. and Navy V-12, will be deducted in computing this credit grant. Credit will be granted for work completed in special service training courses in accordance with the recommendations of the American Council on Education in the "Guide to Evaluation of Educational Experiences in the Armed Forces" upon the presentation of evidence of satisfactory completion of such courses. The veteran may apply for such credits after matriculation at Montana State University.

Transcripts of record will be required covering all work completed under C.T.D., A.S.T.P., and Navy V-12 programs. Credits will be evaluated on the basis of these transcripts in the same manner as non-military transfer credentials with the exception that veterans may elect, not later than the beginning of their second quarter in residence, to reject these credits in their entirety. If rejected, these credits cannot in any way be used in satisfaction of graduation requirements.

Ineligibility for Admission to Junior Class

A student who, at the end of the quarter in which he acquired 90-96 credits (dependent upon requirement in physical education), has a deficiency of 20 or more grade points, shall not be admitted to further work in Montana State University

Admission to Graduate Standing

Candidates for admission to graduate standing must have a Bachelor's degree from Montana State University or from another institution of approved standing. Admission to candidacy for the Master's degree is granted by the Graduate Committee to students, who, in addition to holding the baccalaureate degree from an institution of approved standing, have completed the requisite undergraduate work in the departments in which they wish to do graduate work and are enrolled in an approved schedule of graduate courses.

Requirements for Graduation

Degrees and Certificates

The Bachelor's degree is awarded to regular students who complete the courses offered by Montana State University and who fulfill the other conditions required for graduation.

The College of Arts and Sciences confers upon its graduates the Degree of Bachelor of Arts, Bachelor of Science in Medical Technology,

Bachelor of Science in Wild Life Technology, or Bachelor of Science in Nursing Education. Students doing major work in Law may also secure the Bachelor of Arts degree by meeting the requirements of the College of Arts and Sciences.

The degree of Bachelor of Arts in Business Administration is conferred upon graduates of the School of Business Administration.

The degree of Bachelor of Arts in Education is conferred upon graduates of the School of Education.

The degree of Bachelor of Arts in Journalism is conferred upon graduates of the School of Journalism.

The degree of Bachelor of Music is conferred upon graduates of the School of Music.

The degree of Bachelor of Laws is conferred upon graduates of the School of Law who have previously completed two years of college work.

The degree of Bachelor of Science in Forestry is conferred upon graduates of the School of Forestry.

The degree of Bachelor of Science in Pharmacy is conferred upon graduates of the School of Pharmacy.

The Secondary State certificate of qualification to teach may be obtained by graduates of Montana State University who meet the requirements set forth in the School of Education. (See Certification page 70.)

The Montana State University issues a certificate for public accountancy under specified conditions (see School of Business Administration).

The degrees of Master of Arts, Master of Science in Forestry, Master of Science in Pharmacy, and Master of Science with a combined major in Botany and Forestry are granted to those who complete a satisfactory course of at least one year in graduate work beyond that required for a Bachelor's degree provided they comply with the regulations governing graduate work set forth on pages 93 to 96.

The Master of Education degree is granted to those who complete a minimum period of teaching and at least one year of graduate work beyond that required for a Bachelor's degree. (See page 95.)

The Master of Forestry degree is granted to those who complete at least one year of graduate work beyond that required for the degree of Bachelor of Science in Forestry and who complete a professional paper. (See page 96.)

Candidacy for a Degree

Students of the University who are admitted as candidates for a degree must have satisfied the following conditions: (a) they must have fulfilled the entrance requirements of regular students; (b) they must complete the general University requirements shown in the following paragraphs. Students who are candidates for a degree or certificate must file formal application with the Registrar on the date specified on Official University Notices (at least one quarter preceding the quarter in which requirements are to be completed).

Credits Required for Graduation

The work in Montana State University is named in terms of credit. One credit represents three hours of time per week for one quarter of twelve weeks. The time required for each credit may be distributed in

any combination among preparation, recitation, lecture, or laboratory work.

Credits Required for a Degree. Candidates for Bachelor of Arts degrees and for the degrees of Bachelor of Science in Medical Technology, Bachelor of Science in Nursing Education and Bachelor of Science in Wildlife Technology conferred by the College of Arts and Sciences, and for the degrees of Bachelor of Arts in Business Administration, Bachelor of Arts in Education, Bachelor of Arts in Journalism, Bachelor of Music, or Bachelor of Science in Pharmacy are required to complete 180 credits in addition to the required credits in Physical Education. Candidates for the degree of Bachelor of Science in Forestry must complete 186 credits in addition to the regular requirements in Physical Education and Military Science. Candidates for the degree of Bachelor of Laws must complete three years of Law, totaling 126 credits, in addition to the entrance requirements of the School of Law.

Credits Required for a Major. A department or school may require that the major students complete from 40 to 55 credits in the chosen field. Not more than 65 credits in any one department or school, including 5 credits earned in survey courses given in the Division, may be counted toward graduation. These rulings do not apply in the Schools of Business Administration, Forestry, Journalism, Law, Music, or Pharmacy. Exceptions to these regulations may be made on the basis of entrance credits in the Departments of Modern and Classical Languages and Mathematics. Not more than 65 credits in one foreign language nor more than 90 credits in all foreign languages, may be counted toward graduation. Not more than 90 credits of English, Drama and Speech for a combined major and teaching minor may be counted toward graduation. Not more than 21 credits in Military Science, nor 15 credits in Religion may be counted toward graduation. Except in the School of Music, not more than 12 credits in applied music nor 6 credits in ensemble music may be counted toward graduation.

Course Requirements for Graduation

Required Courses. All candidates for the Bachelor's degree must meet the following requirements:

- (1) Physical Education, 6 quarters (6 credits) required of all freshmen and sophomore students (except discharged veterans) less than 27 years of age, unless excused for cause.
- (2) Military Drill, 6 quarters (6 credits) required of all freshmen and sophomore men, (except discharged veterans) unless excused for cause.
- (3) English Composition, 3 quarters (9 credits) or 2 quarters (10 credits). During Freshman Week all freshmen must take a placement examination in English composition. Students who place high in this examination will be excused from taking the first quarter of required composition (English 11a or 12a). Students failing to attain an acceptable college standard in this placement will be required to take English A without credit before enrolling for English 11a or 12a. English Composition 11ab or 12abc, must be taken in the freshman year, preferably consecutively. Students who receive a grade of "A" in English 11a will be exempted from the requirement of the second quarter; those who receive "A" in 12b, from 12c.

Restricted Elective Courses. All candidates for the Bachelor's degree, except candidates for the degree of Bachelor of Laws, Bachelor

of Science in Forestry, Bachelor of Science in Pharmacy, or Bachelor of Music must meet the following requirements, unless otherwise indicated: (See page 124 for requirements for Bachelor of Music degree in field of applied music.)

- (1) Two of the following general courses must be completed: Social Science 11abc, Biological Science 13abc, Humanities 15abc, Physical Science 17abc. This requirement may be waived for transfer students entering Montana State University with junior standing. Five of the credits earned in survey courses given in the division (whether the course was taken for one, two, or three quarters) are included in the maximum of 65 credits allowed in any one department. Completion of courses 13abc or 17abc, 11abc, 15abc also satisfies the specific requirements under (3), (4), and (5), respectively, as listed below. **NOTE:** Was discontinued during World War II and has not been reinstated.

- (2) Classical or modern language, 5 quarters (23 to 25 credits) in one language or a reading knowledge of it, subject to the following conditions:

Entrance credit in modern or classical language may be offered in satisfaction of this requirement, one unit being regarded as equivalent to two quarters of university work. Thus students who enter with one unit of language are normally required to complete only three quarters of the same language in the University; those who enter with two units, one quarter; and those who enter with three or more units in one foreign language shall be regarded as having fulfilled all foreign language requirements for graduation upon passing a reading test at the University. However, all students desiring to offer entrance credit in fulfillment of or toward this requirement or who wish to take further work in a language offered for entrance must take a placement examination preferably at the time of entrance, during Freshman Week. Those who are found by the placement examination to be unprepared for the class for which they are normally eligible will be placed in a lower class; such students may receive credit for only one quarter of a foreign language below the class for which their entrance credits would normally prepare them.

A reading knowledge of a foreign language at the level of attainment expected of a student who has passed at least four quarters in a language as demonstrated by a suitable achievement test will be accepted as satisfying the foreign language requirement for graduation.

Foreign languages will not be required in the Schools of Business Administration, Education, or Journalism or of candidates for the degrees of Bachelor of Science in Medical Technology, Bachelor of Science in Nursing Education or Bachelor of Science in Wild Life Technology. (The Schools of Forestry and Pharmacy and the degrees of Bachelor of Laws and Bachelor of Music are also exempt from this requirement—see statement regarding **Restricted Elective Courses** on page 26.)

- (3) Bacteriology, Botany, Chemistry, Geology, Mathematics, Physics, Zoology; 3 quarters (12 credits, eight of which must be in one science or in mathematics) or one of the general courses, Biological Science 13abc, Introduction to Biological Science, and Physical Science 17abc, Introduction to Physical

Science. The combined sciences for high school and the University must include not less than two different sciences of this group. In each of these two sciences the student must offer not less than one unit or eight credits. With the exception of the two general courses, science subjects in which laboratory work is not required shall not be considered as satisfying the restricted elective requirement in science. The amount of laboratory work necessary to the courses for fulfillment of the requirement is one laboratory period of not less than two hours per week.

- (4) Anthropology, Economics, History, Political Science, Sociology; 2 quarters (8 credits) or the course, Social Science 11abc, Introduction to Social Science.
- (5) English Literature, Philosophy, Psychology; 2 quarters (8 credits) or the course, Humanities 15abc, Introduction to the Humanities.

Elective Courses. The remainder of the credits required for graduation after the restricted electives and the divisional and major requirements have been completed are free electives.

Divisional, Departmental, and School Requirements for Graduation

All candidates for a Bachelor's degree must comply with any requirements announced by the college or school from which the degree is to be granted, in addition to the general requirements included under "Requirements for Graduation."

Grade Point Requirements for Graduation

First Period. A candidate for a degree or certificate granted by Montana State University must be at the time of his candidacy have obtained a number of grade points at least equal to the number of credits earned on courses taken to the end of the quarter in which he earns his 90-96th credit (i.e., over his freshman and sophomore years). This is equivalent to an average grade of C in all courses for which he has received credit. Grade points are computed as follows: 3 grade points for each credit of A; 2 grade points for each credit of B; 1 grade point for each credit of C. In a subject in which an "incomplete" grade has been received, grade points are counted only after the incomplete has been removed.

Second Period. In the period succeeding the quarter in which the student receives his 90-96th credit (i.e., junior and senior years), he must obtain as many grade points as credits for which he has registered. **Note:** When a student has once entered the second period he cannot in any way (by repetition, duplication, etc.) be changed back into the first period. An incomplete or condition received in the first period and removed or allowed to revert to an F during the second period, will be included in the record of the second period. Courses dropped without a grade (i.e., courses in which a "W" is given) are not counted. Courses graded F (failure), I (unremoved incomplete), E (condition) are given one negative grade point (-1) per credit. The negative grade points must be subtracted from the positive grade points earned to determine the number of grade points acquired toward meeting this requirement. In the case that a student who has failed to make a C average during the first period is admitted to the second period, he must make up the deficiency under the regulations which are in force during the second period. However, deficiencies made in the second period cannot be removed by applying excess grade points earned in the first period.

When credits are accepted from another institution, grade points are evaluated at the time of transfer; however, a student must meet the above requirement on credits earned at Montana State University as well as on his entire record.

Residence Requirements for Graduation

1. One year of residence, or three summer sessions of ten weeks each, at Montana State University, during which the student must complete 45 credits of college work, is the minimum requirement.
2. Thirty-five of the last 45 credits required for graduation must be earned in residence in the University.
3. Not more than 45 credits earned by correspondence study may be counted toward graduation.

Senior Examinations

1. All students, before receiving the Bachelor's degree from Montana State University, may be required by the school or department in which they are majoring, to pass a special examination to be known as "Senior Examination" covering the field of concentration. This examination shall not in any way replace the regular quarterly examination except that departments adopting these Senior Examinations may excuse their major students during the senior year from regular quarterly examinations in major department subjects. Each department or school must announce its intention with regard to Senior Examinations in the catalog.
2. The field of concentration shall include the total major requirements and such additional subjects as the major department or school may determine. It is to be understood that the questions asked are not to be limited to the courses taken.
3. The examination shall be a written examination of at least three hours, and in addition further oral or written examinations may be given.
4. The examination in each case shall be in charge of the major department or school concerned. Such parts of the examination as lie outside of the major subjects shall be furnished by the departments whose work is represented.
5. The examinations shall be given in the last quarter of senior residence and may be arranged in each department or school at the convenience of the persons concerned. Reports on such examinations shall be made to the Registrar not less than four weeks prior to the close of the quarter.
6. The same grades shall apply as in the quarterly examinations. If a student fails to pass this special examination he shall be given another opportunity within six months without the necessity of taking additional courses. In case of a second failure further opportunity will be granted at the discretion of the department or school concerned and the Committee on Admission and Graduation.

Senior Examinations for Honors

A student who wishes to be graduated with honors must meet with the following requirements: (1) At the beginning of his last quarter he must have an index of 2.0 ("B" average) for every credit taken over his entire record as well as in the major field. Students who transfer credits earned elsewhere to this university must meet the scholastic index indicated on grades earned at Montana State University as well as on those transferred. (2) He must take an examina-

tion, oral or written, or both, as determined by the major department. (3) He must pass these examinations with a grade of A or B. (4) After these qualifications have been met, the candidate for honors must then receive the recommendations of his major department and of the faculty of Montana State University.

Registration

Not later than the junior year, every student must choose a major department or school. Regular students are required to follow a curriculum so that they will normally complete all the required courses and restricted electives by the end of their junior year. A student's registration is subject to the approval of an appointed faculty adviser until choice of a major department or school has been made; after this choice, the head of the department or school selected becomes the adviser.

Independent Work. Credit is allowed superior students of junior and senior standing for independent work in topics or problems chosen by themselves with the approval of the departments concerned and with the supervision of instructors. Such work must be registered for at the beginning of a quarter. The student cannot obtain a larger number of credits than he is registered for, but a smaller number may be completed and credit obtained with the instructor's approval.

Rules Regarding Registration. Students in all divisions of Montana State University, except those registered in an approved curriculum shown in a Division or School, must follow the regulations outlined in the following table:

| Classification of Student | Number of Courses Allowed* | Restricted Elective Requirement (See page 25) | Maximum Credit** |
|---------------------------|----------------------------|--|------------------|
| | | In addition to Required Phys. Ed. and Mil. Sci. | |
| Freshmen | 3 | 2 courses from 2 different groups | 15+2 Cr.† |
| Sophomores | 4 | 1 course | 16+1 Cr.† |
| Juniors | no limit | 1 course until requirements are completed | 16 |
| Seniors | no limit | 1 course until requirements are completed | 16 |

*Exclusive of the required physical education and military science and optional applied music.

**Juniors or seniors of distinctive ability may be permitted by their adviser to register for 18 credits. Pre-collegiate courses in English Composition and Mathematics which carry no credit, count toward maximum load according to the number of class hours per week.

†These 2 credits may be in applied or ensemble music, or in applied acting and stagecraft, or in a combination of these courses, and are permitted only when the student maintained a C average during the previous quarter in residence. Note that in the sophomore year only one credit in the applied courses listed above may be permitted in addition to the regular 16 credits.

Changes of Enrollment. Applications for changes in enrollment must be made by the student on proper forms and filed at the Registrar's Office.

During the first four weeks of the quarter a student may change his enrollment with the written approval of his adviser and of the instructors concerned. After the fourth week he must, in addition to the above, obtain the approval of the Chairman of Advisers. (See information regarding Scholarship Grades on page 34 and regarding Fees on page 36).

Repetition of Course. When a student completes a course in which he has previously received credit, the credit and the grade first re-

ceived are automatically cancelled when the second grade is recorded, even if the second grade is lower.

However, a student shall not register for credit in a course nor for any portion of a course while he is registered for or after he has received a passing grade (complete or incomplete) in: (1) a subsequent quarter's work in this same course (except that in a continuous course a student may repeat the entire course); (2) a course for which this course is a prerequisite.

Duplication of Courses. Responsibility for loss of credit because of duplication of courses rests with the student.

Veteran Registration. Veteran students are subject to the same rules as other students with the following exceptions:

(1) Veterans may register for preparatory or refresher work in which they may or may not have been previously registered by designating their registration as such by placing an "R" after the number of credit hours for the course to be so taken. No credit is received for such registration and grades reported do not become a part of the student's University scholastic record. Such registration may be changed to regular registration for credit at any time before the sixth week of the quarter by filing a change of enrollment card in the Registrar's Office.

(2) Veterans subsistence payments from the Veterans Administration are based on the number of hours of work registered for with a minimum of 12 credit hours for full subsistence. Sub-collegiate courses carrying no credit and registration for preparatory or refresher work without credit will count toward total registration load for this purpose according to the number of class hours per week. Registration as a "Listener" is without credit and does not count as a part of registration load.

Freshman Week

The first week of the autumn quarter is set aside exclusively for freshmen. They register during that week and are given the opportunity to become acquainted with the ways of university life; everything practicable is done to prepare the freshman for his college course. No regular classes are held.

Freshman Week grew out of the need of making the transition from high school to college as smooth as possible, and the desirability of giving the freshman an idea of the proper attitude to be taken toward his college work. This is accomplished by giving the freshman time to become acquainted with the campus and the proper use of equipment before instruction begins. Methods and practice of college study are explained in order that, from the beginning, the student may obtain more from his courses. Counseling and guidance services are provided for the assistance of students in determining courses of study and fields of specialization.

Scholarship and Conduct

The University requires all its students to conform to the usual standards of society and law-abiding citizenship, and to manifest a serious purpose by maintaining satisfactory standing in the courses which they undertake. No student is permitted to continue his connection with the University who shows persistent unwillingness or inability to comply with these requirements.

The Student Handbook, which is published for the guidance of students, is an official memorandum of requirements. "*The student is held responsible for a knowledge of its contents.*"

Student Personnel Administration

The University has established the Office of Special Student Personnel Services, coordinating under one administrative unit the counseling and guidance center, student housing, student employment, admissions and registration, veterans' advisement, student health service, student loans, and related student personnel functions. This program is being developed to provide the most modern and effective personnel procedures and techniques to facilitate and enrich each student's adjustment to his university work and life.

Deans of Men and Women

The deans have general supervision and, subject to the rules of the faculty, final authority over scholarship honors and deficiencies, student affairs, the conduct, manner of living, and various other matters pertaining to the welfare of students. They are always ready to render any help in their power to any student, either in educational or personal matters. They work through instructors and advisers in scholarship matters, but in personal affairs they are always accessible to the student who desires conference or counsel.

Veterans in the University

In order to facilitate most effectively the resumption of civilian student life by returning veterans, an office of Veterans Education has been instituted at Montana State University. The returning veteran, man or woman, should make initial contact with this office, the purpose of which is to furnish aid in problems of registration, housing, adjustment of credits, relations with the Veterans' Bureau, and counseling.

Counseling and Guidance

A counseling and guidance service has been established as a regular part of the University's program. The Counseling and Guidance Center is staffed by two full-time professional counselors and a psychometrist. The function of this service is to enhance and coordinate the contributions of the various agencies on the campus to the end that students receive effective assistance in selecting vocational objectives and programs of study and in meeting problems of personal adjustment.

Advisers

Upon registration at Montana State University, each student is assigned to a faculty adviser. The assignment is made on the basis of the student's probable field of major endeavor. The adviser assists the student in the selection and arrangement of his course of study, and acts in an advisory capacity only; his approval of a student's registration does not legalize a change in faculty rules. In the professional schools the deans act as advisers of the students. In the College of Arts and Sciences, after the student has selected a major department (at the beginning of his junior year), the chairman of that department regularly becomes his adviser throughout his university work. The adviser is always ready to counsel with the student in any matter, whether or not directly connected with his work in the institution. The University rule requires that the student shall consult his adviser at each registration period, but consultation should be more frequent. The adviser is consulted by the administrative authorities of the University in matters of discipline affecting a student under his supervision.

Social Functions of the University

The approval of the Dean of Women is obtained for all social functions of student organizations at which women are present. The Dean of Women sees that approved chaperons are provided and schedules these functions for Friday and Saturday evenings only.

Women in the University

The social welfare of all women students is under the guidance of the Dean of Women. Scholarship deficiencies of women students receive the personal attention of the Dean of Women.

Housing facilities for women will be provided in dormitories operated by the University and under the supervision of trained social directors selected by the University. This enables the Dean of Women and the social directors to give that personal attention to the individual girl which has always characterized the dormitory plan. In addition to these dormitories, there are seven sororities and one cooperative house.

All women students under twenty-one years of age not residents of Missoula and not working in private homes for board and room are required to live in the dormitories or sorority houses.

The sorority houses, in which many upperclass women reside, are under the immediate social supervision of housemothers whose appointment is made with the approval of the Dean of Women. The private homes in which upperclass girls obtain rooms must be approved.

All women in the University are members of the Associated Women Students, an organization which has general direction of matters pertaining to student life not under the direct supervision of the faculty. This Association also has charge of many of the campus activities carried on by the women students, including the Counselor System, the May Fête, the Co-ed Prom, parties to enable students to become better acquainted, awards for scholarship, and a loan fund.

Student Marriages

Any marriage, either party to which is a student of Montana State University, must be publicly announced. For this purpose notice of the marriage must be promptly filed with the Registrar. Any attempt to keep the fact of the marriage secret will result in indefinite suspension effective from the date of the marriage.

At each registration period students must indicate on the registration forms whether they are married or single. Falsification or willful suppression of any information called for on the blanks will be ground for cancellation of registration.

Attendance

Work which a student has missed through absence must be made up as his instructors direct.

All students compelled to be absent from Missoula should report their intended absence in advance to the Dean of Men, to the Dean of Women, or to the Registrar.

Absences incurred when a student is on assigned departmental activity or representing the University in extra-curricular activities will be reported by those in charge of the activity.

Eligibility Rules

Montana State University is a member of the Pacific Coast Intercollegiate Athletic Conference, and its rules, as approved by the Faculty, govern all intercollegiate athletic contests.

Scholarship Grades

Grades are given at Montana State University according to the following system of marking:

A—Work of the best grade; B—work better than average; C—average work; +—pass without defining grade D—work below average, but of barely passing grade; E—condition; F—failure.

If all the work in a course has not been done and there is sufficient reason for this, the grade I, which carries with it one of the four passing grades, is given. This incomplete work must be completed not later than one calendar year after the incomplete grade was assigned. See also page 28.

In continuous courses, if a grade of F is given, the student's connection with the course is severed. All other grades must be followed by the letter "n," indicating that the course is a continuous one and that the completion of the quarter's work carries no credit toward graduation until the remaining quarters of the course are completed. The grade of any quarter of a continuous course shall be final, except in thesis courses. In this case the letter "n," not accompanied by a grade, is assigned at the end of each quarter to indicate that the student is entitled to continue in the course; upon completing the course a grade is given which applies to the whole course.

A student may withdraw from a course in which he has registered: (1) during the first four weeks of a quarter, with the consent of his adviser and the instructors concerned; (2) during the period from the fourth through the ninth week, with the consent of adviser and instructor and the permission of the chairman of the Board of Advisers. In these cases the student is given a grade W, which carries no credit; if a student withdraws for unsatisfactory scholarship a grade of F may be assigned. After the ninth week the student who withdraws receives a grade, usually incomplete. All withdrawals must be formal and must be recorded by the student with the Registrar.

Although grades are reported for refresher work done by veterans (courses designated by "R" after number of credits), these grades have no bearing on the student's scholastic record in the University.

Grade Points

Each student receives the following number of grade points for each quarter credit for which he has been registered and for which he has received a grade: 3 grade points for each credit of grade A; 2 grade points for each credit of grade B; 1 grade point for each credit of grade C; 1 grade point for each credit of grade "plus"; 0 grade points for each credit of D or E; 1 grade point is deducted from his total for each credit of grade F. Grade points are not computed on grades received by veterans for refresher work (courses designated "R" after the number of credits). See grade point requirements for graduation, page 28.

Financial Obligations

Students who owe bills to the University for fees, fines, board and room in the residence halls, and other charges are not permitted to register for the succeeding quarter, secure transcript of record, or

obtain diplomas until the obligation is paid or satisfactorily adjusted. Similar action is taken where students owe bills to student organizations whose books are kept in the business offices of Montana State University, including charges for board and room in fraternity and sorority houses.

Student Fees

The following is a detailed schedule of fees authorized for the college year 1946-47 in all schools and departments except where otherwise specified.

| All students registered for seven or more credits: | Per Quarter | |
|--|--------------------|--|
| Registration | \$ 5.00 | Waived to holders of Montana high school and University honor scholarships. |
| Incidental (for laboratory supplies in all courses, locker fees, gymnasium towel service, diploma, etc.) | 15.00 | Waived to holders of Montana high school and University honor scholarships. |
| Building | 5.00 | |
| Student Union Building | 1.67 | |
| Student Activity | 7.50 | Optional to graduate students and to students registered for less than seven credits. |
| For support of activities sponsored by the Associated Students of Montana State University. | | |
| Health Service (see page 40) | 4.00 | Required of all students enrolled for class work. |
| | <hr/> \$38.17 | |
| General Deposit (charges for loss, breakage, and fines deducted) | 10.00 | Paid once each year and unused portion refunded. |
| Total, first quarter in attendance (other quarters, \$38.17) | <hr/> \$48.17 | |
| Majors in School of Music pay tuition additional | \$25.00 | |
| Non-residents (out-of-state) pay additional | 25.00 | If registered for less than 12 credits, \$2.00 per credit with minimum of \$10.00 per quarter. See special statement furnished on request. |

War Service Fee Exemptions. The registration and incidental fees are waived for honorably discharged persons who served with the United States armed forces in any of its wars and who were bona fide residents of Montana at the time of their entry into the armed forces. This is in accordance with an act of the Legislature of 1943 as amended by the Legislature of 1945. These exemptions are not available to students who are eligible to qualify for benefits under Federal laws.

Limited Registrants (students registered for less than seven credits): Registration Fee \$5.00; Incidental Fee \$7.50; General Deposit \$5.00; Building Fee \$2.50; Student Union Building \$1.00; Health Service \$4.00; Student Activity, \$7.50 (optional). Non-residents pay \$2.00 per credit with minimum of \$10.00. "Listeners" (students who enroll for courses without credit) pay the same fees as students enrolled for less than seven credits. Applied music courses and other courses for which there are special fees are not included when determining the number of credits for which a student is registered.

Special Attendance Fee, payable by adults not in regular attendance the preceding quarter, and who are not registered for credit and do not participate in class work. Each course (per quarter), \$2.00.

Graduate Students pay the same fees as undergraduate students, except that graduate students whose program requires expensive equipment, laboratory supplies and additional books may be required to pay a graduate laboratory-incidental fee not to exceed \$25.00 per quarter. The student activity fee is optional for graduate students.

Fees for Special Purposes:

Late Registration, payable by students who complete registration after the prescribed registration days of any quarter; for each college day, \$1.00, not exceeding a total of \$5.00 (not charged students registered for less than seven credits).

Change of Enrollment, payable for each change of enrollment card filed after the first week of the quarter, \$1.00; after the second week, \$2.00.

Special Examination, for each special examination, \$2.00; maximum, \$5.00 for any one quarter.

Removal of Incompletes or Conditions (not due to illness or fault of institution) \$2.00.

Transcript of Record (first transcript is free) \$1.00.

Student Handbooks (first handbook is free), \$1.00.

For fees charged for courses in School of Music, see page 131; in Correspondence Study, page 83; in Summer Session, page 146,

Refunds:

All fees are refunded to students who withdraw during the period of registration and before beginning of classes, in which case registration is cancelled. The Registration and Student Union Building fees are not refunded except when registration is cancelled. The Incidental, Building and Student Activity Fees are refunded to students withdrawing during the first week of classes and fifty per cent of these fees are refunded to students withdrawing after the first week of classes but prior to the close of the third week of classes. The Health Service fee is refunded during the first week of classes except to those who have had a physical examination or received medical service. Refunds in courses in Music and other courses for which there are special fees are based upon service rendered or supplies furnished. Refunds are calculated from date of application for refund and not from date of last attendance at classes except in cases of illness. No refunds are made if application for refund is delayed beyond close of quarter in attendance.

Payment of Fees by check in exact amount of bill is preferable. The University does not accept non-bankable paper in payment of bills. Personal checks are not cashed except in payment of University bills.

Expenses and Living Accommodations

The Residence Halls

Montana State University has four modern residence halls located on the campus—Corbin Hall, North Hall, South Hall and New Hall—which will be used as needed for housing college students.

All freshman women students whose homes are not in Missoula are required to live in the University residence halls, a requirement which may be waived by the Dean of Women for certain special reasons. Upperclass women students under twenty-one years of age are required to live in the University residence halls, cooperative house or sorority house unless expressly excused by the Dean of Women to live in approved homes. Men students whose homes are not in Missoula will be cared for in the residence halls as facilities permit in order of application. Married women students and all students carrying less than 10 quarter credits of work must have special permission from the Dean of Women or Dean of Men to live in the residence halls. All occupants of the halls are required to board in the halls, and board charges continue until students move out of halls.

The social, moral, and educational welfare of the residents of the halls is under the general supervision of the Deans of Men and Women. Social directors, who give personal attention to the needs of each student, reside in each hall. The students who live in the halls are organized into clubs and assist in the management of social and general interests. In the construction and arrangements of the residence halls, and in their management, the most highly recommended and successful means of attaining a happy, healthful, inspiring, industrious atmosphere have been considered.

The health of the residents of the halls is looked after by the University Health Service.

The management of the halls is in charge of the Director of Residence Halls.

The four residence halls are three-story fireproof brick buildings, steamheated. Each student room has a lavatory with hot and cold running water, a center light and lavatory light, floor plug for study lamp, clothes closet or wardrobes; each room is furnished with a dresser, study table, chairs, single beds size 36" x 76", and wastebasket. Each bed is supplied with mattress, bed pad, pillow, sheets, pillow cases, and one woolen blanket; face and turkish towels and marquisette window curtains are also furnished and the laundering of the above is cared for by the residence halls without extra charge to the students. Each hall has a students' laundry and trunk room.

Students should furnish a day cover or spread for the bed, dresser scarf, and wash cloths. Also desirable are a study lamp and a small floor rug.

Rates

The following rates apply to the four residence halls. The University reserves the right to raise or lower the rates with reasonable notice.

Double rooms, \$36.00 per quarter for each occupant.

Single rooms, \$51.00 per quarter.

Board by the month, \$33.00.

Club fee. A fee not to exceed \$1 per quarter may be assessed the residents of each hall. This fund is expended under the direction of the club officers for social activities.

Application for admission to the halls must be accompanied by a deposit of \$10.00; the application must be made upon a form furnished by Montana State University. Dormitory circular and room reservation form may be obtained by writing to the Registrar, Montana State University.

Additional Living Accommodations

The University Housing Office has been established to supervise and assist in finding adequate off-campus housing for students.

Upperclass students may obtain satisfactory rooms in private homes or in rooming houses near the campus at rates varying from \$10.00 to \$15.00 a month; for single rooms, from \$12.00 to \$18.00. Board may be obtained at boarding houses at rates varying from \$30.00 to \$35.00.

Student rooms must be approved by the University. A list of approved rooms in private residence may be obtained on application to the University Housing Office. Arrangements for reservation of rooms in private residence must be made directly with the landlady.

Women's Cooperative House. Women students who wish to reduce their living expenses and participate in a cooperative living experience may live in the Women's Cooperative House at 601 Daly Avenue where they share in the work and expenses of the house. The group takes part in campus activities and has a housemother who works with the office of the Dean of Women.

Expenses

Average expenses of students for the college year are estimated as follows:

| | |
|--|-----------------------------|
| See Note below regarding clothing and incidentals. | |
| Books and Equipment | \$ 25.00 to \$ 45.00 |
| Fees (see note) | 54.50 to 114.50 |
| Room rent for one (two in a room) | 108.00 to 153.00 |
| Board | 275.00 to 325.00 |
| Cleaning and Laundry | 15.00 to 40.00 |
| Total | \$477.50 to \$677.50 |

Note: The minimum expense of \$54.50 for fees is applicable only to holders of high school honor and State University scholarships. For additional fees for music majors, see page 131. Students not residents of the State of Montana require \$75 additional for payment of the non-resident fee.

The above table includes only the necessary expenses. Other expenses should be provided for, including clothing, \$100 to \$200, and incidentals about \$10 to \$15 per month. The amount allotted for clothing and incidentals is similar to expenditures for those purposes at home. If a single room is desired a minimum of \$50 additional should be provided.

For information about earning expenses see page 39; student loans, page 39; scholarships and prizes, pages 41-44; for railway fare refund, see below.

Railway Fare Refund

In accordance with the provisions of Chapter 41 of the Session Laws of 1925, enacted by the Nineteenth Legislative Assembly, and under regulations established by the State Board of Education, railroad fare in excess of fifteen dollars actually paid by any student for a round trip by the most direct route available between his Montana

home and Montana State University once each year, will be refunded. The amount of the refund will be based upon the railroad or bus fare over the shortest route and at the lowest rate. Students must present receipts for the fare thus paid.

In order to be entitled to the refund students must satisfactorily carry a normal amount of work, and must be in attendance either throughout the college year or through the summer quarter.

Claims for refunds must be presented within thirty days after the close of the term in which the student was last in attendance.

General University Student Loan Funds

The Montana Bankers Association Student Loan Fund and the Edward C. Elliott Loan Fund are available for students in the junior and senior classes of any of the institutions of the University of Montana who are unable to continue their studies without financial aid. Such students must be recommended as to character and scholarship by the dean or director of the department in which the applicant's major work is done. The loan to any one student is limited to two hundred dollars during his course, and not more than one hundred dollars in any year. Loans must be repaid within one year after the borrower's graduation. Loans bear two percent interest to maturity and six per cent thereafter.

The Grand Commandery of Knights Templar of Montana has established a loan fund which is available under similar conditions. Loans from this fund bear five per cent interest and are payable in specified installments, one, two, three, and four years after the borrower's graduation.

University women may borrow under similar terms from the loan fund founded in 1922 by the Missoula branch of the American Association of University Women and from the loan fund of the Associated Women Students.

Application blanks and a statement of detailed regulations governing these loans may be obtained from the Controller.

Opportunities for Earning One's Way Through College

Although many students earn all or a part of their expenses while in attendance at Montana State University, the young man or young woman who is confronted with the problem of working for self-support while attending college should realize that there are certain "musts" which cannot be disregarded in making his plans: (1) reasonably good health, (2) industry and reliability, (3) a carefully worked out schedule of employment, class, study, and recreation hours, (4) willingness to give time from activities and amusements if necessary to carry out the required employment and education program. The necessary effort and sacrifice can be made only when there is an earnest desire on the part of the student for higher education. Self-supporting students enjoy the highest respect and regard both of their fellow students and of the faculty.

It is inadvisable for students to enter college with less than from \$100 to \$200 to meet immediate living expenses, fees, cost of books, etc., at the beginning of the school year.

Some business houses in Missoula employ students as clerks, janitors, stenographers, bookkeepers, waiters, dishwashers, porters, bell boys, automobile mechanics, musicians, clothes pressers, solicitors and collectors. There are calls for students to do "odd jobs" in private homes such as garden work, window washing, furnace tending, hand-

ling coal and wood, housework, care of children, and general clean-up work. There are some jobs at the University such as janitor service, work in the Residence Halls, stenography, and for upperclass students, employment as laboratory and library assistants.

While students are constantly demonstrating the fact that they can earn their entire way, the University recommends against this for freshmen. When a first year student attempts to earn all his expenses and to do his best school work in a new environment at the same time it is a big undertaking, and should it prove to be too big, what might have been an excellent educational career may be cut off. For this reason it is advisable that students who have limited funds for a college education use more of their resources during their freshman year and plan to earn increasing amounts as they become more and more familiar with University life and work.

It is impossible for the University to give students any definite assurance of employment in **advance of their arrival and personal application**. Upon arriving at the University, students should apply to the Student Housing and Employment Office, which office will welcome inquiries about work for self-support. This application should be made as early as possible during Freshman Week.

Students' Health Service

The University Student Health Service is maintained in order to safeguard the health of the students and to furnish competent medical service and nursing care to those who become ill. The privileges of the Health Service are available to all students who pay the required fee at the time of registration for each quarter.

Facilities and Services Available Include:

- (1) Office and dispensary service by physician and nurses.
- (2) House calls by physicians and nurses in case of **emergencies or serious illness**.
- (3) Medicines dispensed at the Health Service and all prescriptions filled by the University Pharmacy.
- (4) All office, dispensary, and physiotherapy treatments.
- (5) Physical examinations on all matriculating students. These examinations are required.
- (6) Mantoux TB test for all students. A chest X-ray will be taken on all positive reactors.
- (7) Immunizations for: smallpox, typhoid fever, diphtheria, tetanus, and Rocky Mountain spotted fever.
- (8) Fees of Missoula physicians and surgeons only when previously **authorized** by the Health Service, and not exceeding \$50.
- (9) Seven day's hospitalization per quarter in ward or semi-private room up to \$4.00 per day when hospitalization is previously authorized by the Health Service.
- (10) Hospital medicants and laboratory work up to \$10.00 per hospitalization.
- (11) All medical and surgical diagnosis.
- (12) All laboratory work deemed necessary by the University physician.
- (13) All X-ray plates authorized by the Health Service.
- (14) Health certifications.

NO ALLOWANCE OR PAYMENTS ARE MADE BY THE STUDENTS' HEALTH SERVICE FOR:

- (1) Eye refractions and glasses.
- (2) Dental services and dental X-rays.
- (3) Special nurses.
- (4) Injuries occurring through accidents off the campus.
- (5) Chronic illnesses and hospitalizations for same. Treatment of chronic illness.
- (6) Allergy and obstetrical cases.
- (7) Elective surgery.
- (8) Unauthorized hospitalizations, and unauthorized physician and surgeon fees.

The privileges of the Health Service are available only during the quarter for which the student is registered and has paid the required fee. The Health Service assumes no responsibility between quarters or during vacations. The Health Service is maintained on a self-supporting basis by a fee of \$4.00 per quarter, charged all students enrolled for class work.

Scholarships and Prizes

The Deans of Men and Women in conference with the President are authorized to administer all matters connected with prizes and scholarships, subject to the condition of gift and any actions by the faculty. Where the awarding of a prize is conditional upon performance in, or in relation to the work of a department of the University, the award is made by the department concerned. Those that are established at present are stated as follows:

High School Honor Scholarships. The principal of each fully accredited high school in the state may name from each year's graduating class from one to four members, depending on the size of the class, to be recipients of high school honor scholarships. These scholarships exempt the holders from the payment of the registration fee, and the incidental fee, described on page 35, during their freshman year. Blanks for the nomination of scholars, with detailed statement of conditions, are furnished to principals from the office of the Chancellor of the University of Montana at Helena.

Music School Foundation Scholarships. The Missoula Kiwanis Club Music Scholarship, the Missoula Rotary Club Music Scholarship, KGVO Radio Station Music Scholarship, and the Heft Music Shop Music Scholarship of \$75 each (covering music tuition for one year) will be awarded to a new student by the faculty of the School of Music on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to Dean of the School of Music not later than July 1, 1946.

The American Foundation of Pharmacy Education. This foundation is providing the sum of \$400 to be used as scholarships for high school graduates of exceptional ability and aptitude. These scholarships will cover fees for three full quarters for students maintaining a satisfactory average in their studies. Students should apply to the Dean of the School of Pharmacy, Montana State University, for information and application forms not later than September 1, 1946.

The Aber Memorial Oratorical Prizes. A fund of \$1,000 was set

aside by the late Professor William M. Aber for the establishment of the Aber Memorial Oratorical prizes. Prizes are given to the winners of first, second, and third places, payable from the interest on this fund.

Alpha Lambda Delta Scholarship Award. The national scholarship honorary organization awards a book annually to the member of Alpha Lambda Delta in that year's graduating class who has maintained the highest scholarship average throughout her college work.

American Association of University Women. The Butte Branch of the American Association of University Women maintains five loan scholarships at the University, as follows: Claribel Leggat Couse Scholarship, Eleanor Humphrey Smith Scholarship, Rosemary MacGinnis Creden Scholarship, Natalie Lahr Dwight Scholarship, and the Jane Hutchens Moore Scholarship.

One scholarship each year is offered to a Butte high school girl graduate. Candidates for the scholarships must have outstanding grades in the high school and must receive the vote of two-thirds of the club's active membership. These scholarships are on the loan plan, \$300 being allowed each year to each recipient.

American Legion Military Award. The Hell Gate Post No. 27 of the American Legion awards a medal at the end of each regular quarter to a student of good scholarship and conduct who excels in military science and tactics.

The Bennett Essay Prize. This prize, the annual proceeds from a \$500 endowment, is awarded upon recommendation of the Department of History and Political Science for the best essay by any regular undergraduate student of the Montana State University, on some topic pertaining to good government. No prize is awarded in case the judges decide that no essay submitted is good enough to receive recognition.

The Bonner Scholarship. This scholarship, payable from the income of an endowment, was established by Mrs. E. L. Bonner. It is awarded to a student ranking among the highest in scholarship at the end of his freshman year, to be held by him for three years unless forfeited.

Delta Kappa Gamma. A cash award is made annually by the local chapter of Delta Kappa Gamma, national honor society for women in Education, to a junior woman of good scholarship who is preparing to be a teacher.

The Duniway Scholarship Books. A fund of \$400, established by former President C. A. Duniway, provides standard books, within various fields of knowledge, to be awarded annually to students distinguishing themselves by scholarship in the several departments of the University.

Elks' Scholarships. Two scholarships are offered by the B.P.O.E. One annual scholarship of \$150 is given by the Hellgate Lodge No. 383 to some freshman student enrolled at Montana State University. The selection of the recipient is to be made by the Deans' Conference.

A second Elks' scholarship, which ranges from \$100 to \$600, is given annually following a nation wide contest. Any student in the graduating class of a high school within the jurisdiction of the Order, may enter the contest. Information concerning the details of application may be obtained from Dean J. E. Miller, Montana State University.

Faculty Women's Junior Scholarship Prize. A cash prize is given annually to a junior woman of excellent scholarship record.

The Gannaway Prize in Rural Journalism. This prize of \$25 is awarded annually to the journalism major who distinguishes himself

in the course in Rural Journalism. The prize was established by Mrs. Edna B. Gannaway, publisher of the Camas Hot Springs Exchange.

The Grizzly Cup. This cup is awarded to the athlete of good scholastic record who has been outstanding in service to Montana State University. The award is withheld in case no student meets the qualifications.

The Annie Lewis Joyce Memorial Prize. This prize, the annual proceeds from a \$200 endowment, is awarded upon recommendation of the English Department.

W. K. Kellogg Foundation Scholarships. Amounts up to \$300 may be awarded to Medical Technology students who have maintained a scholarship index of more than 2.25 during their regular college course. The grant must be used to defray a part of the expenses incurred during the hospital training. Recipients are selected by an administrative committee. The award is withheld in case no student meets the general qualifications set by the committee.

Justin Miller Prize in Law. A \$100 Savings Bond is awarded for the best comment each year in the Montana Law Review. The recipient is selected by vote of the faculty of the School of Law.

The Montana State Press Association Scholarship in Journalism. This scholarship, amounting to \$100, is awarded to the journalism major entering the senior year, on the basis of outstanding scholarship and achievement in journalism. It was established by the Montana State Press Association.

The Mosby-KGVO Scholarship in Radio Journalism. This scholarship of \$100 is awarded to the Journalism major evidencing ability, initiative, and special interest in the field of radio journalism. It was established by Mr. A. J. Mosby, owner of station KGVO in Missoula.

Music Scholarships. The State Board of Education approved the establishment of six music scholarships of \$75 each (the cost of music tuition for one year). These are to be awarded annually to students of sophomore, junior, or senior standing on the basis of their past record in the School of Music at Montana State University and the faculty's estimate of their future success in music. These recipients may be required to perform certain duties, such as organizing and coaching small ensembles or similar work at the request of the faculty. In addition, the State Board of Education has established six music scholarships for the Summer Session, 1946, of \$25 each (the cost of music tuition for the summer quarter). See also summer session bulletin.

The 1904 Class Prize. This is a cash prize for scholarship payable from the interest on an endowment of \$400.

Pharmacy Prizes. The Kappa Psi Senior Scholarship prize is given by the Kappa Psi National Pharmacy fraternity annually to one of its members, provided that a member of Kappa Psi makes the highest general average among all of the pharmacy students in all pharmacy classes.

The Lehn and Fink gold medal is awarded annually to a member of the graduating class showing satisfactory scholarship and promise in pharmacy courses.

Merck and Company, chemical manufacturers, give an annual award of three scientific books to some student who is outstanding in scholarship.

Phi Sigma Award. A certificate of excellence is awarded annually by the national honorary biological organization to a graduating senior

who has been the outstanding student in the study of biological science and its related fields.

The Pi Mu Epsilon Prize. This prize is given in the Department of Mathematics and the Department of Physics. It is of the same nature as the Duniway prize, but is not awarded in the same year that the Duniway prize is allotted to these two departments. It is given by the local chapter of Pi Mu Epsilon, honorary mathematics fraternity.

The Rhodes Scholarship. Men who have completed their sophomore year at Montana State University, and are between 19 and 25 years of age, are eligible to compete for the Cecil Rhodes Scholarship, tenable for three years at Oxford University, England, with a stipend of four hundred pounds each year. Dean J. E. Miller, Montana State University, Missoula, is the University representative for the Rhodes Scholarship.

The Ryman Fellowship in Economics. This fellowship was founded in 1927 by the late J. H. T. Ryman, Esq., of Missoula, by a bequest of \$10,000, the income of which is to be awarded every fourth even year (first awarded in 1930) to a student of that year's graduating class who has shown distinctive ability and promise in Economics. The purpose of the fellowship is to enable such a student to pursue study in some graduate school of recognized standing leading to the degree of Doctor of Philosophy.

Sigma Delta Chi Award. Certificates of recognition and scholarship keys are awarded annually by the national professional journalistic fraternity to the highest ten per cent of the graduating class in journalism.

The David B. Smith Memorial Prize. A cash prize is awarded annually to the student doing the best work in the Department of Psychology during the year.

State Federation of Women's Clubs Scholarships. The Montana Federation of Women's Clubs assumes the payment of expenses for board, room rent, and necessary books by a gift for the first year and funds provided on the loan basis for the remaining three years.

State University Scholarships. Montana State University is authorized to award to five per cent of the students in regular attendance above the freshman year, scholarships exempting the holders from payment of the registration and incidental fees during the three quarters of the following college year. See page 35. These scholarships are to be awarded on or about July 1 of each year to students who, during the preceding year, attended all three quarters and made a scholastic index of 2.0 on a minimum of 40 credits. The awards are made on the basis of ability, character, and promise.

The Warden Scholarship in Journalism. The sum of \$100 is awarded to the journalism major entering the sophomore year on the basis of improvement and scholarship in the freshman year in journalism. It was established by Mr. O. S. Warden, publisher of the Great Falls Tribune and Great Falls Leader.

Activities

Athletics

All athletic activities at Montana State University are under the control and supervision of the Faculty Athletic Committee. Athletic eligibility, schedules of competition, and relationship with other institutions are subject to the approval of the Faculty Athletic Committee.

The details of management of intercollegiate athletics are handled by the athletic manager and the coaches, subject to the approval of the Associated Students Athletic Board, which consists of two members of the faculty, three members of the Central Board of the Associated Students, and two alumni members.

The University has two gymnasiums, one for women and one for men. The men's gymnasium floor is 75x140 feet in size with separate rooms for boxing, wrestling, and theory classes. The first floor is given up to administrative offices, locker rooms, varsity teams' rooms, and training rooms. A wing of the building contains the shower rooms and swimming pool.

The women's gymnasium is equipped with dressing rooms, shower rooms, rest rooms, offices, class rooms, and has a gymnasium floor 45x90 feet in size.

To the north of the men's gymnasium is the Dornblaser athletic field, which was presented to the University by the Alumni Association. A standard quarter-mile cinder track encloses the football field and pits for pole-vaulting and jumping. The track has a 220-yard straight-away, 35 feet wide. The bleachers, extending nearly the full length of the field, have a seating capacity of 8,500. Ten concrete tennis courts have been constructed north of the women's gymnasium. To the east of the tennis courts is a women's athletic field for hockey, association football, and baseball. North of the library is the intramural football field.

Annual Interscholastic Games

For forty years Montana State University has held an annual interscholastic invitational meet for track and field contests, golf and tennis tournaments, a declamatory contest, Little Theater Festival, interscholastic debate, and meetings of the Interscholastic Editorial Association.

Intercollegiate Debate

Montana State University engages in debate with the leading universities in the Northwest and occasionally with eastern universities. In addition to the regular debates, teams from Montana State University make a tour of the state each year. The activity of debate at the University affords the finest opportunity for students in public address to combine academic, class, and practical experience.

Publications

The Associated Students of Montana State University publish a newspaper, *The Montana Kaimin*. The paper has become a permanent factor in campus life.

The Sentinel is a year book published by the Associated Students of the University. It contains a valuable record of the activities of each year.

Societies

The entire student body is organized into one society known as the Associated Students of Montana State University. This organization, through appropriate committees and officers, has charge of matters of general concern, such as athletics, oratory, debate, and entertainments.

The Associated Women students is an organization made up of all women students in the University for the purpose of regulating matters pertaining to the student life of its members. The Associated Men Students is a similar organization for men.

The University Inter-Church Club and various church clubs and associations carry on work for the religious and social life of the University.

There are three musical organizations—the University Women's Chorus; the University Symphony Orchestra; and the University Band. These organizations provide music for university events during the year, and furnish an opportunity for all students who have musical talent to cultivate it as well as to participate in the social pleasures pertaining to such organizations.

The "M" Club is an organization of all Montana State University men who have won a letter in any branch of athletics.

The Montana Masquers is the University dramatics organization, open to students who have distinguished themselves in dramatics in any capacity such as acting, stage managing, costuming, designing, etc. A series of plays is given throughout the year in Missoula, and occasionally a tour is made of the state.

Penetralia Chapter of Mortar Board is a national honorary organization for senior women devoted to service and promoting the best interests of the University.

Silent Sentinel is a local honorary organization for senior men chosen for their service and leadership in campus citizenship.

Bear Paw Chapter of Intercollegiate Knights is a national honorary for sophomore men who have evidenced loyalty and a desire to serve the University.

Tanan-of-Spur, as a national honorary, recognizes outstanding sophomore women who have maintained high scholarship, leadership, character, and service.

The Women's Athletic Association is an organization devoted to the development of interest in the various sports for women.

The "M" Club (Women) is an athletic honor society for women.

Kappa Tau is a local honorary for seniors who have maintained outstanding scholarship records throughout their college work.

Alpha Lambda Delta is a national honorary for freshmen women who have maintained high scholarship.

The various departments and schools in the University have professional clubs and honorary organizations for their own students.

NOTICE

The University reserves the right to change the rules regulating admission to, instruction in, and graduation from the University and its various divisions and any other regulations affecting the student body. Such regulations shall go into force whenever the proper authorities may determine, and shall apply not only to prospective students but also to those who may, at such time, be matriculated in the University. The University also reserves the right to withdraw courses or change fees at any time.

Organization of Instruction

COLLEGE OF ARTS AND SCIENCES (page 48).

Division of Biological Sciences

Medical Technology (page 117).

Nursing Education (page 132).

Wild Life Technology
(page 143).

Bacteriology and Hygiene
(page 52).

Botany (page 53).

Health and Physical Educa-
tion (page 97).

Psychology and Philosophy
(page 141).

Zoology (page 144).

Division of Humanities

Classical Languages (page 63).

English and Speech and
Drama (page 76).

Fine Arts (page 84).

Modern Languages: French,
German, Spanish (page 120).

GRADUATE SCHOOL (page 93).

DIVISION OF EXTENSION AND PUBLIC SERVICE (page 81).

SCHOOL OF BUSINESS ADMINISTRATION (page 55).

SCHOOL OF EDUCATION (page 69).

SCHOOL OF FORESTRY (page 85).

SCHOOL OF JOURNALISM (page 104).

SCHOOL OF LAW (page 110).

SCHOOL OF MUSIC (page 124).

SCHOOL OF PHARMACY (page 133).

MILITARY SCIENCE AND TACTICS (page 118).

SUMMER SESSION (page 146).

AFFILIATED SCHOOL OF RELIGION (page 142).

Course Numbering System

Note—In the following outline of courses, the length of a course and the quarter or quarters in which it is given are indicated immediately after its title. Courses numbered from 1 to 99 are offered for undergraduate credit only; those numbered from 100 to 199 are offered for credit to undergraduates of junior and senior standing and to graduates; those numbered from 200 to 299 are offered for graduate credit only. In the courses designated "continuous" the student may receive credit only upon the completion of the entire course. In courses numbered a, b, c, credits may be granted upon completion of a quarter's work. In continuous courses or in courses numbered a, b, c, the first quarter of a course is prerequisite to the second quarter and the second quarter is prerequisite to the third quarter, unless otherwise indicated. This outline is as nearly complete as it can be made and it affords the students information which is necessary in arranging his course. When the student has decided upon his major course, he is expected to follow closely the work which is outlined as the required course in that line of study or research.

The University reserves the right to withdraw any course for which fewer than five students are enrolled before the opening of the course. Such courses may be given only in special cases and with the written approval of the President.

College of Arts and Sciences

The College of Arts and Sciences offers the student a liberal education and special training in some chosen field of work.

Requirements for Admission

The regular University requirements for admission apply to the College of Arts and Sciences. See pages 20-24.

Requirements for Graduation

Candidates for the Bachelor of Arts degree must meet the following requirements:

The general University requirements for graduation, pages 24-30, including 93 credits in the College of Arts and Sciences. Special requirements in the Division of which the major department is a member, and the major requirements of the department from which the degree is to be granted must also be met.

Divisional Requirements for Graduation

Division of Biological Sciences. See requirements for **Medical Technology** major on page 117.

See requirements for **Wildlife Technology** major on page 143.

Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

Freshman Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|---|------------------------------|------------------------------|------------------------------|
| Botany 11ab, 12 or Zoology 14ab, and 12..... | 5 | 5 | 5 |
| Chemistry 11abc or 13abc | 5 | 5 | 5 |
| English 11ab and Psychology 11 or elective..... | 5 | 5 | 5 |
| Physical Education 11abc | 1 | 1 | 1 |
| Military Science 11abc (Men) | 1 | 1 | 1 |
| | 16-17 | 16-17 | 14-15 |

Note: Botany majors take Botany 11ab, 12; others take Zoology 14ab, and 24. Bacteriology majors take Mathematics 13; Psychology majors substitute Modern Language for Chemistry; Physical Education majors take Zoology 14ab and Chemistry. Other students may substitute Mathematics or Modern Language for Chemistry.

Sophomore Year

| | | | |
|---|-------|-------|-------|
| Botany 11ab, 12 or Zoology 14ab, 12, 23 or 24.... | 5 | 5 | 3-5 |
| Social Science 11abc or Humanities 15abc or Elective | 5 | 5 | 5 |
| *Foreign Language or Elective | 4-5 | 4-5 | 4-5 |
| Physical Education 12abc | 1 | 1 | 1 |
| Military Science 12abc (Men) | 1 | 1 | 1 |
| | 15-17 | 15-17 | 15-17 |

Note: Course selected dependent upon major department requirements and course taken in freshman year. Bacteriology majors substitute Chemistry 101ab, 17 for Botany or Zoology and Physics 20abc for Social Science or Humanities. Physical Education majors take Botany 11a, Zoology 24 and Physical Education 20ab. Psychology majors substitute Psychology 12, Sociology 16, and Mathematics 25 for Botany or Zoology.

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 63 and 120.

Division of the Humanities. Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

Freshman Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Humanities 15abc or Social Science 11abc or | | | |
| Biological Science 13abc | 5 | 5 | 5 |
| English 11ab and elective or English 12abc | 3-5 | 3-5 | 3-5 |
| *Foreign Language | 5 | 5 | 5 |
| Physical Education 11abc | 1 | 1 | 1 |
| Military Science 11abc (Men) | 1 | 1 | 1 |
| | <hr/> 14-17 | <hr/> 14-17 | <hr/> 14-17 |

Sophomore Year

| | | | |
|--|-------------|-------------|-------------|
| Biological Science 13abc, Social Science 11abc, or Humanities 15abc | 5 | 5 | 5 |
| *Foreign Language and Psychology 11..... | 4-5 | 4-5 | 4-5 |
| Electives | 5 | 5 | 5 |
| Physical Education 12abc | 1 | 1 | 1 |
| Military Science 12abc (Men) | 1 | 1 | 1 |
| | <hr/> 15-17 | <hr/> 15-17 | <hr/> 15-17 |

Note: Majors in English or in Speech and Drama should complete English 25abc instead of Humanities 15abc and English 11ab or 12abc. Speech and Drama majors complete English 15 (1 or 2 cr), 16 (1 or 2 cr.), and 20. In the sophomore year English majors select two quarters of English 59abc, and either 30a or 30b; Speech majors take 21, 42, and 45a; Drama majors take 22abc.

Division of Physical Sciences. Candidates for the Degree of Bachelor of Arts in this division should complete the following curriculum during the freshman and sophomore years:

Freshman Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| English 11ab and restricted elective | 5 | 5 | 5 |
| Chemistry 11abc or 13abc | 5 | 5 | 5 |
| *Mathematics | 1 | 1 | 1 |
| Physical Education 11abc | 1 | 1 | 1 |
| Military Science 11abc (Men) | 1 | 1 | 1 |
| | <hr/> 16-17 | <hr/> 16-17 | <hr/> 16-17 |

Sophomore Year

| | | | |
|------------------------------------|-------------|-------------|-------------|
| Physics 20abc | 5 | 5 | 5 |
| *Modern Language | 5 | 5 | 5 |
| Restricted elective | 5 | 5 | 5 |
| Physical Education 12abc | 1 | 1 | 1 |
| Military Science 12abc (Men) | 1 | 1 | 1 |
| | <hr/> 16-17 | <hr/> 16-17 | <hr/> 16-17 |

Note: Students intending to major in Home Economics should replace Mathematics with Home Economics 17abc in the freshman year and in the sophomore year, should replace Physics 20abc with Humanities. An interchange between chemistry and foreign language is also permissible. Students intending to major in Geology should replace Physics 20abc in the sophomore year with Geology 11ab and an elective.

Freshmen who plan to major in Physics and who enter with 2 units of high school mathematics should elect Mathematics 21 in the spring quarter. Sophomores who plan to major in Physics and who do not desire a teaching certificate should elect Mathematics 22, 23 and 107a instead of Modern Language. Those seeking a teaching certificate should elect Mathematics 22, 23 and Psychology 11 instead of Modern Language.

*Course entered dependent upon high school preparation. See Department of Classical and Modern Languages, pages 63 and 120, and Department of Mathematics, page 115.

Division of Social Sciences. Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Freshman Year | | | |
| Humanities 15abc or Biological Science 13abc or *Foreign Language | 5 | 5 | 5 |
| Social Science 11abc | 5 | 5 | 5 |
| English 11ab and Psychology | 5 | 5 | 5 |
| Physical Education 11abc | 1 | 1 | 1 |
| Military Science 11abc (Men) | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |
| Sophomore Year | | | |
| Biological Science 13abc, Humanities 15abc or English Literature | 4-5 | 4-5 | 4-5 |
| Economics 14ab or History 21abc | 4 | 4 | 4 |
| *Foreign Language or Elective | 5-7 | 5-7 | 5-7 |
| Physical Education 12abc | 1 | 1 | 1 |
| Military Science 12abc (Men) | 1 | 1 | 1 |
| | 15-18 | 15-18 | 15-18 |

Note: Economics majors should complete Economics 14; History majors, History 21abc. Electives in sophomore year; Economics majors, Economics 16, 17, 19; History majors, History 13abc or 29, 33, 34, 35. See pages 57 and 59 for suggested curricula for freshmen and sophomores who plan to major in Business Administration.

DIVISION OF BIOLOGICAL SCIENCES

PROFESSOR J. W. SEVERY, CHAIRMAN.

It is advisable for students interested in majoring in any department of this Division to include in their high school preparation as many courses as possible in mathematics, physics, and chemistry, as well as work in either French or German.

Requirements for a Bachelor of Arts Degree with a major in Biology: A minimum of 45 credits including Elementary Bacteriology (Bact 19), General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Evolution (Bot 126); Elementary Zoology (Zool 14ab), Field Zoology (Zool 12) (3 cr.), Human Physiology (Zool 24), Biological Literature (Zool 129) (2 cr).

See also requirements for certification to teach listed on page 70.

The Biological Station

PROFESSOR GORDON B. CASTLE, DIRECTOR.

Through an act of Congress when the Flathead Indian Reservation was thrown open for settlement, Montana State University received a grant of 160 acres of land for use as a Biological Station. This land is in three tracts at Flathead Lake, 89 acres at Yellow Bay, 36 acres on Bull (Idylwild) Island, and 34 acres on Wild Horse Island. At Yellow Bay a brick laboratory building, a log house for a dining room, a boat house, and a kitchen were erected. Sleeping quarters were in tents. The adjacent region is largely a virgin forest.

The station was maintained and operated as a center for field and laboratory instruction and research in biology for many years. Owing to lack of funds it has not been opened for these purposes for the past

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 63 and 120.

several years. During the school year, however, especially in the autumn and spring quarters, the station is used by classes in ornithology, mammalogy, ecology, and entomology for field studies supplementing the regular class work on the campus at Missoula.

For "Pre-Medical course" see page 139.

The following course is offered as a general introduction to the field of the Biological Sciences.

13abc. Introduction to Biological Science. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students who have earned 7 or more college credits in laboratory may not receive credit for 13a; those who have earned 7 or more college credits in laboratory zoology may not receive credit for 13b. (a) An introduction to basic cellular morphology, classification, and possible evolution of the plant phyla; structure and physiology of seed plants; ecological factors and succession. (b) Comparative Morphology and physiology of the principal animal phyla, with emphasis upon man; ecological relationships. (c) Principles of heredity and eugenics; history and theory of evolution; evidences for evolution from all fields of biology; modern concepts of mechanism of evolution. Given conjointly by the departments of Botany and Zoology. Mr. Castle. Mr. Severy. Mr. Wright.

100. Conservation of Natural and Human Resources in Montana. 1 Q. Spring. Summer. 3 cr. Prerequisite, junior standing and consent of instructor. The social need for improved conservation practices. A critical survey of climate, physiography, mineral resources, soil and water, as related to plant and animal production and human welfare, and the development of principles underlying improved management of the natural resources. A survey of human and cultural resources. A consideration of methods of social implementation of desired practices. Presented conjointly by Divisions of Biological, Physical and Social Sciences. This is primarily a teacher training course. Mr. Severy and staff.

DIVISION OF THE HUMANITIES

PROFESSOR HAROLD G. MERRIAM, CHAIRMAN.

The following course is offered as a general survey of the field of the Humanities.

15abc. Introduction to the Humanities. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter any quarter. Students who have completed 8 or more college credits in literature may not receive credit in this course. Acquaintance with art and literature through the centuries from the Greeks to Americans, with the primary aims of understanding and appreciation. Offered conjointly by the Departments of English, Fine Arts, and Modern and Classical Languages. Mr. Arnold. Mr. Clark. Mrs. Epron. Mr. Freeman. Mr. Merriam.

Freshmen who expect to do major work in English or in Speech and Drama should register for Literature and Composition (Eng. 25 abc) instead of for Introduction to the Humanities (General 15abc).

DIVISION OF PHYSICAL SCIENCES

PROFESSOR GARVIN D. SHALLENBERGER, CHAIRMAN.

The following course is offered as a general survey of the field of Physical Sciences.

17abc. Introduction to Physical Sciences. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Students who have 8 or more college credits in chemistry or physics may not receive credit in this course. Consideration is given to astronomical phenomena and concepts; chemical changes and their uses; geological features and processes; the various theories of matter and energy as well as the laws and principles that describe their behavior and application. Given conjointly by the Departments of Chemistry, Mathematics, and Physics. Not given in 1946-47.

DIVISION OF SOCIAL SCIENCES

PROFESSOR J. EARLL MILLER, CHAIRMAN.

The following course is offered as an introduction to the field of Social Sciences.

11abc. Introduction to Social Sciences. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Open to freshmen and sophomores only. Students may enter any quarter. The background and development of political, social, and economic institutions that influence modern life. Special emphasis given present day problems. Divisional staff.

Bacteriology and Hygiene

PROFESSOR DONALD M. HETLER, CHAIRMAN.

Major Requirements: 40 or more credits including the following courses: General Bacteriology (Bact 117), Immunology (Bact 118), Pathogenic Bacteriology (Bact 119), Diagnostic Bacteriology (Bact 121, Hematology (Bact 125), Advanced Bacteriology (Bact 131), and 3 credits of Bacteriological Journals (Bact 129). Five credits of Biological Science 13abc and 5 credits of either botany or zoology laboratory or equivalent may be counted in partial fulfillment of this credit requirement. The following courses must be completed: Inorganic Chemistry and Qualitative Analysis (Chem 13), Quantitative Analysis (Chem 17), The Carbon Compounds (Chem 101); General Physics (Phys 20abc). In addition, major students must have a reading knowledge of a modern foreign language.

Senior examinations will not be given except to candidates for honors.

For Undergraduates

19. Elementary Bacteriology. 1 Q. Autumn, Summer. 5 cr. Open to all students, but may not be applied toward a major in Bacteriology. Designed for nursing, pharmacy, home economics, and sociology students. Fundamentals of general bacteriology, pathogenic bacteriology, and immunology.

26. General Hygiene. 1 Q. Winter, Summer. 3 cr. Open to all students. An informational course dealing with the subject as related to the individual, the community, and the state. Bacterial and protozoan diseases, food, exercise, sleep, ventilation, drainage, disinfectants, quarantine, and public health. Not a laboratory course.

For Undergraduates and Graduates

117. General Bacteriology. 1 Q. Autumn. 5 cr. Prerequisite, Chemistry 101 and Physics 20abc or equivalent. Laboratory technique; physiology of bacteria and effect of environmental factors on bacteria; microbiology of soil, water, milk, and other foods; microbiology in industry. Introduction to the study of pathogenic bacteria, infectious diseases, and immunity. Students who have taken Bacteriology 19 may not receive full credit for this work. This is a duplication of the course formerly numbered 119a.

118. Immunology. 1 Q. Winter. 5 cr. Prerequisite, course 117. General principles of immunity, and laboratory work in serology, animal experimentation, and clinical diagnosis. This is a duplication of the course formerly numbered 120.

119. Pathogenic Bacteriology. 1 Q. Spring. 5 cr. Prerequisite, course 118. The characteristics of microorganisms and their relation to the etiology, prophylaxis, and control of infectious diseases. This is a duplication of the course formerly numbered 119b.

121. Diagnostic Bacteriology. 1 Q. Spring. 5 cr. Prerequisite, course 119 or concurrent registration. Laboratory work embraces the standard diagnostic methods used in hospitals and public health laboratories.

122. Bacteriology of Foods and Water. 1 Q. Winter. 5 cr. Prerequisite, Bacteriology 19 or 117. Standard methods of water analysis. Examination of milk, oysters, meat, canned foods, etc. Laboratory.

125. Hematology. 1 Q. Autumn or winter. 5 cr. Prerequisites, junior standing and Bacteriology 119. An intensive study of the blood in health and disease.

126. Sanitation and Public Health. 1 Q. Spring. 5 cr. Prerequisite, junior standing, and course 19 or 117. Sanitation and disease prevention with relation to the community. Surveys, reports. Not given in 1945-46.

129. Bacteriological Journals. 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Prerequisite, senior standing and 15 credits in bacteriology. Study of current bacteriological and public health literature.

131. Advanced Bacteriology. 1 to 3 Q. Autumn, winter, spring. 2-5 cr. each quarter. Prerequisite, consent of instructor and course 118. The results of modern experimental bacteriology and hygiene. Each student may be assigned individual work in advanced technique.

For Graduates

200. Advanced Bacteriological Problems. 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, course 131 or equivalent and consent of instructor. Opportunity is given graduate students to pursue original or assigned investigations individually.

Botany

PROFESSORS J. W. SEVERY (CHAIRMAN), CHARLES W. WATERS; ASSOCIATE PROFESSORS: REUBEN A. DIETERT, JOSEPH KRAMER; INSTRUCTOR LEROY H. HARVEY.

Major Requirements: 50 or more credits including General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Plant Anatomy (Bot 21), Plant Physiology (Bot 22), Evolution (Bot 126), 3 credits of Biological Literature (Bot 129) and Plant Ecology (Botany 51). Genetics (Zool 125) may be applied in partial fulfillment of this credit requirement. The following courses must be completed: Elementary Zoology (Zool 14ab), Genetics (Zool 125), and General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13). Additional courses may be elected from the following: Morphology of the Thallophytes (Bot 141), Morphology of the Bryophytes & Pteridophytes (Bot 142), Morphology of the Spermatophytes (Bot 143), Systematic Botany (Bot 161ab), Mycology (Bot 165), Microtechnique (Bot 168), Introduction to Biological Science (General 13c).

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

General Information. The region is rich in opportunity for research in ecology, pathology, systematic botany, and other branches of the science. Graduate work in these subjects leading to the degree of Master of Arts is offered.

For Undergraduates

10a. Forestry Botany. 1 Q. Autumn. Winter. 5 cr. No prerequisite. An introduction to the anatomy and physiology of the higher plants. Mr. Diettert. Mr. Kramer.

10b. Forestry Botany. 1 Q. Spring. 5 cr. No prerequisite. Outlines of the morphology and classification of the plant groups with particular emphasis upon the identification of the flowering plants of the local area; drill in the use of a manual. **Note:** The 10ab sequence is primarily for majors in forestry and wildlife technology. Mr. Diettert. Mr. Harvey.

11a. General Botany. 1 Q. Autumn. Summer. 5 cr. No prerequisite. A presentation of the general principles of the anatomy and physiology of the flowering plants. Mr. Diettert.

11b. General Botany. 1 Q. Winter. Summer. 5 cr. No prerequisite. A broad outline of the classification of the plant kingdom; tracing of the possible stages in the evolution and development of the vegetative and reproductive structures of plants. Mr. Diettert.

12. Classification of Spring Flora. 1 Q. Spring. 3 cr. Prerequisite, Biological Science 13ab or Botany 10ab or 11ab. A laboratory and field introduction to the classification of the higher plants as exemplified in the spring flora. Students who have completed former courses Botany 11c or 12b may not receive credit in this course.

13. Pharmaceutical Botany. 1 Q. Winter. 5 cr. No prerequisite. Anatomy and physiology of plants, with particular emphasis upon origin and structure of organs and tissues. Growth and related phenomena. Outlines of plant classification with particular reference to drug producing plants.

S14. Economic Botany. 1 Q. Summer. 2½ cr. No prerequisite. Plants from the standpoint of their uses and products; their geographic distribution; the methods of culture and utilization of those plants of chief economic importance. This course may not be applied toward the restricted elective requirements in laboratory science. Not given summer, 1946.

21. Plant Anatomy. 1 Q. Autumn. 5 cr. Prerequisite, Botany 10ab or 11ab and 12. Detailed study of origin of organs and tissues of plants and a comprehensive survey of the anatomy of the higher plants. Mr. Kramer.

22. Plant Physiology. 1 Q. Winter. 5 cr. Prerequisite, Botany 10ab or 11ab and Chemistry 11 or 13. The functions of the living plant and an attempt to interpret functions in terms of chemical and physical reactions. Laboratory observations of the various processes of plants under controlled conditions. Mr. Diettert. Mr. Severy.

51. Plant Ecology. 1 Q. Spring. 5 cr. Prerequisite, Botany 12 and 22. The relation of vegetation to the factors of the environment; the influence of environmental factors upon the distribution of plants; the problems of plant succession; plant geography. Mr. Kramer.

S61. An Introduction to Systematic Botany. 1 Q. Summer. 4 cr. Open to all students. The classification of flowering plants and a survey of the origin and relationships of the higher plants. Plant identification; use of a manual; methods of collecting, preserving, and mounting plants. The work deals with the summer flora of Western Montana. Mr. Severy.

For Undergraduates and Graduates

125. Forest Pathology. 1 Q. Spring. 5 cr. Prerequisite, junior standing and Botany 51. The agencies of disease and decay of trees and structural timbers. Problems of government forests. Students who have completed the former course Botany 31 may not receive credit in this course. Mr. Waters.

126. Evolution. 1 Q. Winter. 3 cr. Prerequisite, Botany 10ab or 11ab, 12 and Zoology 10 or 14ab, 12. The theories of evolution from the historical point of view; the nature of evolutionary processes, the evidence for evolution, and the factors of evolution. Not a laboratory course. Mr. Severy.

129. Biological Literature. See Zoology.

***141. Morphology of the Thallophytes.** 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Botany 10ab, or 11ab, and 12. A systematic study of the morphology and life histories of representative Thallophytes. Mr. Harvey.

***142. Morphology of the Bryophytes and Pteridophytes.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and Botany 10ab, or 11ab, and 12. Comparative morphology of the Bryophytes and Pteridophytes.

***143. Morphology of the Spermatophytes.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and Botany 10ab, or 11ab, and 12. Morphology and life histories of representatives of the major groups of Gymnosperms and Angiosperms. Mr. Diettert.

152. Advanced Physiology and Ecology. 1 to 3 Q. Winter, spring. 3-5 cr. Prerequisite, Botany 22 or 51. Intensive study in advanced phases of plant physiology or plant ecology, with emphasis upon special methods and techniques used in investigation. Mr. Kramer. Mr. Severy.

161a. Systematic Botany. 1 Q. Autumn. Winter. 5 cr. Prerequisite, junior standing and Botany 10ab, or 11ab, and 12. Classification of the flowering plants; Monocots, with special emphasis on the grasses; elements of nomenclature; methods of collecting, preserving, and mounting plants. Not offered autumn 1946. Mr. Harvey.

161b. Systematic Botany. 1 Q. Spring. 5 cr. Prerequisite, junior standing and Botany 10ab, or 11ab, and 12. Classification of the flowering plants; Dicots, especially forage and browse plants of Western ranges. A field trip may be required.

*Class work will not be given unless demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.

162. Advanced Taxonomy. 1 Q. Autumn. 3-5 cr. Prerequisite, Botany 161ab. A continued study of the classification of vascular plants, with additional practice in the determination of the more critical groups. Mr. Harvey.

165. Mycology. 1 Q. Autumn. 5 cr. Prerequisite, Botany 141 for Botany majors; Botany 125 for Forestry majors. The classification and relationships of the fungi, with training in their collection and preservation. Mr. Diettert.

168. Microtechnique. 1 Q. Any quarter, but preferably in the spring. 2-5 cr. Course may be repeated during a succeeding quarter to a maximum of 5 credits. Prerequisite, Botany 21. Methods of preparing microscopic slides; instruction in the paraffin method, venetian turpentine method, celloidin method, and the glycerine method. Mr. Diettert. Mr. Harvey. Mr. Kramer.

For Graduates

200. Advanced Botanical Problems. 1 to 3 Q. Any quarter. Credit variable. The department is prepared to arrange for properly qualified graduate students courses in plant anatomy, ecology, morphology, physiology, or taxonomy. Botany staff.

School of Business Administration

PROFESSORS THEODORE H. SMITH (DEAN), ROY J. W. ELY, DONALD J. EMBLEM, ROBERT C. LINE; ASSOCIATE PROFESSOR BRENDA FARRELL WILSON; ASSISTANT PROFESSOR CLEO CROW.

Requirements for Admission

The course in business requires a solid foundation in non-technical subjects. In addition to the University requirements for general admission, (see pages 20 to 24), a student must have completed two years of approved college preparation. It is recommended that the student follow closely the curriculum for the first two years as outlined on page 57 or 59. Regulations regarding the admission of special students may be found on page 23.

Juniors in Business Administration are required to select one of the following major fields of study, and should consult with the major adviser in accounting, marketing, secretarial science, or with the dean of the School of Business: General Business; Accounting; Marketing (Advertising, Retailing and Merchandising, and Sales Management); Combination Business and Pre-Law; Secretarial Training; Commercial Teaching. (See pages 57-59 for suggested curricula in these fields.)

Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Business Administration must meet the following requirements:

(1) The general University requirements as outlined on pages 24 to 30, except in foreign languages.

(2) Principles of Economics (Econ 14ab), General Psychology (Psych 11), Elementary Accounting (Bus Ad 11ab), Business Law (Bus Ad 41ab), Corporation Finance (Bus Ad 133), and Marketing (Bus Ad 151).

(3) 75 or more credits in courses in Business Administration and Economics. A maximum of 25 credits in courses in Economics may be included in this minimum requirement.

It is strongly recommended that candidates for the degree take the following:

Introductory Business Mathematics (Math. 18), Elementary Mathematics of Investments (Math. 19), and Statistics (Math. 25).

In addition to the above requirements, each student should be able to typewrite a minimum rate of 35 words a minute. It is advisable for students to be able to write shorthand.

Senior examinations will not be given except to candidates for honors.

Preparation for C. P. A. Examinations

The laws of the State of Montana provide for the certification of public accountants. The certificate for public accountancy is awarded by the University to those who satisfactorily pass an examination prepared and administered by the American Institute of Accountants. Students who have successfully passed the courses outlined in the Accounting Curriculum, pages 57 and 58 should be able to meet the C. P. A. requirements for a certificate. One year's residence in Montana is prerequisite for admission to the examination for a Montana certificate.

Business Research

A Bureau of Business Research conducts studies of business problems in Montana and disseminates this information to the business men of the state.

Cooperating Schools

School of Law. The School of Business Administration cooperates with the School of Law so that it is possible to obtain in six years both the degrees of Bachelor of Arts in Business Administration and the Bachelor of Laws. This may be accomplished by completing the courses required of all graduates from the University (pages 26-28) and the courses required for a major in Business Administration by the end of the third year and then utilizing the first year in the Law School to complete the work for the Bachelor of Arts degree in Business Administration. Satisfactory completion of the remaining two years in the School of Law entitles the student to the Bachelor of Laws degree.

School of Journalism. Students who wish to specialize in marketing should complete the following Journalism courses: Advertising Layout and Copy (43), and Retail Store Advertising (44).

School of Education. Students who plan to teach commercial subjects in high school may qualify for a Secondary State Certificate by meeting certification requirements listed on page 70. Courses that may be taken during the junior and senior years are suggested on page 59.

Suggested Curricula

Students who plan to major in Business Administration will find that the suggested curriculum for the first two years as tabulated below is a good preparation for advanced work. For the junior and senior years, the student should follow one of the curricula that follows the one suggested for pre-business.

Pre-Business**Freshman Year**

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Gen. 15abc, Humanities or Gen. 13abc, Biological Science | 5 | 5 | 5 |
| Eng. 11ab, Language in Action | 5 | 5 | .. |
| Psych. 11, General Psychology or Bus. Ad. 10, Introduction to Business | .. | .. | 5 |
| *Bus. Ad. 20abc, beginning Typewriting | 1 | 1 | 1 |
| **Math. 18, Business Mathematics; Math. 19, Mathematics of Investments; Math. 25, Statistics | 5 | 5 | 5 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men)..... | 1 | 1 | 1 |
| | 17-18 | 17-18 | 17-18 |

Sophomore Year

| | | | |
|---|--------------|--------------|--------------|
| Gen. 13abc, Biological Science or Gen. 15abc, Humanities | 5 | 5 | 5 |
| Bus. Ad. 11ab, Elementary Accounting | 5 | 5 | .. |
| Bus. Ad. 14, Analysis of Financial Statements | .. | .. | 4 |
| Bus. Ad. 21abc, Advanced Typewriting | 1 | 1 | 1 |
| Econ. 14ab, Principles of Economics | 4 | 4 | .. |
| Psych. 11, General Psychology or Bus. Ad. 10, Introduction to Business | .. | .. | 5 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men)..... | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |

General Business**Junior Year**

| | | | |
|---|----|----|----|
| Bus. Ad. 151, Marketing; Bus. Ad. 157, Salesmanship | 5 | .. | 3 |
| Bus. Ad. 41ab, Business Law | .. | 3 | 3 |
| Bus. Ad. 133, Corporation Finance | 5 | .. | .. |
| Bus. Ad. 152, Foreign Trade; Bus. Ad. 124, Insurance | .. | 4 | 3 |
| Econ. 101ab, Money and Banking | 4 | 4 | .. |
| Electives | 3 | 5 | 7 |
| | 17 | 16 | 16 |

Senior Year

| | | | |
|---|-------|-------|-------|
| Econ. 103, Public Utilities; Bus. Ad. 129, Busi- ness Organization and Management..... | 4 | 5 | .. |
| Bus. Ad. 156, Business Cycles | .. | .. | 4 |
| Bus. Ad. 154, Investments | .. | .. | 3 |
| Econ. 104ab, Public Finance | .. | 4 | 4 |
| Econ. 113b, Labor Economics | .. | 3 | .. |
| Hist. 17, American Government and Politics..... | 4 | .. | .. |
| Hist. 116, Government Regulation of Business.... | .. | .. | 4 |
| Bus. Ad. 191, Business Ad. Seminar..... | 1-3 | 1-3 | 1-3 |
| Electives | 6 | 2 | .. |
| | 15-17 | 15-17 | 16-18 |

Accounting**Junior Year**

| | | | |
|--|----|----|----|
| Bus. Ad. 151, Marketing | 5 | .. | .. |
| Bus. Ad. 41ab, Business Law | .. | 3 | 3 |
| Bus. Ad. 133, Corporation Finance | 5 | .. | .. |
| Bus. Ad. 113ab, Advanced Accounting | 4 | 4 | .. |
| Bus. Ad. 114, Cost Accounting | .. | .. | 4 |
| Bus. Ad. 25a, Office Machines Practice | 2 | .. | .. |
| Electives | .. | 10 | 10 |
| | 16 | 17 | 17 |

*Course entered dependent upon high school preparation.

**Students who present 1½ entrance units in algebra may not register for Mathematics 18 for credit.

Senior Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|---|------------------------------|------------------------------|------------------------------|
| Bus. Ad. 115ab, Auditing; Bus. Ad. 145, Income Tax | 4 | 4 | 4 |
| Bus. Ad. 146ab, Accounting Systems; Bus. Ad. 149, C. P. A. Problems | 4 | 4 | 4 |
| Bus. Ad. 191, Business Administration Seminar..... | 1-3 7-5 | 1-3 7-5 | 1-3 7-5 |
| Electives | | | |
| | 16 | 16 | 16 |

Marketing

Junior Year

| | | | |
|---|----|----|----|
| Bus. Ad. 151, Marketing; Bus. Ad. 157, Salesmanship | 5 | .. | 3 |
| Bus. Ad. 133, Corporation Finance; Bus. Ad. 41ab, Business Law | 5 | 3 | 3 |
| Eng. 20, Principles of Speech | .. | 5 | .. |
| Bus. Ad. 113ab, Advanced Accounting; Bus. Ad. 124, Insurance | 4 | 4 | 3 |
| Bus. Ad. 40ab, Principles of Advertising; Journ. 44, Retail Store Advertising | 3 | 3 | 3 |
| Electives | .. | 2 | 4 |
| | 17 | 17 | 16 |

Senior Year

| | | | |
|--|------|-------|-----|
| Bus. Ad. 129, Business Organization and Management | .. | 5 | .. |
| Bus. Ad. 156, Business Cycles | .. | .. | 4 |
| Bus. Ad. 159, Retail Stores | .. | 3 | .. |
| Bus. Ad. 160ab, Retail Store Management | .. | 4 | 4 |
| Bus. Ad. 132, Credits and Collections | 3 | .. | .. |
| Bus. Ad. 191, Business Administration Seminar..... | 1-3 | 1-3 | 1-3 |
| Electives | 9-11 | 3-4 | 5-7 |
| | 15 | 16-17 | 16 |

Combination Business-Law Curriculum

Junior Year

| | | | |
|--|----|----|----|
| Bus. Ad. 151, Marketing | 5 | .. | .. |
| Econ. 101ab, Money and Banking | 4 | 4 | .. |
| Bus. Ad. 133, Corporation Finance; Bus. Ad. 129, Business Organization and Management..... | 5 | 5 | .. |
| Econ. 103, Public Utilities; Econ. 102, Transportation | 4 | .. | 4 |
| Econ. 104ab, Public Finance | .. | 4 | 4 |
| Bus. Ad. 154, Investments | .. | .. | 3 |
| Econ. 113b, Labor Problems | .. | 3 | .. |
| Electives | .. | .. | 6 |
| | 18 | 16 | 17 |

Senior Year (First Year Law)*

| | | | |
|----------------------------------|----|----|----|
| Civil Procedure | 3 | 3 | 3 |
| Contracts | 3 | 3 | 3 |
| Property | 3 | 3 | 3 |
| Criminal Law and Procedure | 2 | 2 | 2 |
| Torts | 3 | 3 | 3 |
| | 14 | 14 | 14 |

*Refer to page 113 for description of law courses.

Secretarial Training and Commercial Teaching

Pre-Business Administration students who wish to secure secretarial training for immediate use, and those who wish to prepare for commercial teaching during the junior and senior years, may complete courses suggested in freshman and sophomore years while satisfying general university requirements. Candidates for degrees in Business Administration wishing to prepare for office positions should complete the secretarial courses during the junior and senior years, and in the freshman and sophomore years substitute general or survey courses for the secretarial offerings. Candidates for teaching certificates may substitute required courses in Education and Methods of Teaching Shorthand (Ed. 142) and Methods of Teaching Typewriting (Ed. 143) for Civil Service Training (B.A. 28), Secretarial Practice (B.A. 100), or Advanced Stenography, (B.A. 23b).

Freshman Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Eng. 11ab, Language in Action | 5 | 5 | -- |
| Psych. 11, General Psychology | -- | -- | 5 |
| *Math. 18, Business Mathematics; Math. 19, Mathematics of Investments; Math. 25 Statistics or Gen. 13abc, Biological Science.... | 5 | 5 | 5 |
| *Bus. Ad. 22abc, Beginning Stenography | 4 | 4 | 4 |
| *Bus. Ad. 20abc, Beginning Typewriting | 1 | 1 | 1 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | <hr/> 16-17 | <hr/> 16-17 | <hr/> 16-17 |

Sophomore Year

| | | | |
|---|-------------|-------------|-------------|
| Econ. 14ab, Principles of Economics | 4 | 4 | -- |
| Bus. Ad. 11ab, Elementary Accounting | 5 | 5 | -- |
| Bus. Ad. 10, Introduction to Business | -- | -- | 5 |
| Bus. Ad. 15, Office Management | -- | 3 | -- |
| Bus. Ad. 28, Civil Service Training | 4 | -- | -- |
| Bus. Ad. 23ab, Advanced Stenography | -- | 4 | 4 |
| Bus. Ad. 25ab, Office Machines Practice | 2 | -- | 2 |
| Bus. Ad. 21abc, Advanced Typewriting | 1 | 1 | 1 |
| Psych. 32, Business Psychology or Gen. 15c, Humanities | -- | -- | 5 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | <hr/> 17-18 | <hr/> 18-19 | <hr/> 18-19 |

Junior Year

| | | | |
|---|-------------|-------------|-------------|
| Bus. Ad. 151, Marketing | 5 | -- | -- |
| Bus. Ad. 28, Civil Service Training | 4 | -- | -- |
| Bus. Ad. 23a, Advanced Stenography and Educ. 142, Methods of Teaching Shorthand or Bus. Ad. 157, Salesmanship | -- | 4 | 3 |
| Bus. Ad. 41ab, Business Law | -- | 3 | 3 |
| Educ. 25a, Educational Psychology or Elective.... | 4 | -- | -- |
| Bus. Ad. 159, Retail Stores or Educ. 25b, Prin- ciples of Education | -- | 3-4 | -- |
| Bus. Ad. 124, Insurance or Educ. 25c, Secondary School Teaching Procedures | -- | -- | 3-4 |
| Electives or minor subjects | 3-4 | 5-6 | 5-6 |
| | <hr/> 16-17 | <hr/> 16-17 | <hr/> 16-17 |

*Course entered dependent upon high school preparation. Students who present $1\frac{1}{2}$ entrance units in Algebra may not register for Math. 18 for credit.

Senior Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|---|------------------------------|------------------------------|------------------------------|
| Bus. Ad. 133, Corporation Finance | 5 | -- | -- |
| Bus. Ad. 23b, Advanced Stenography or Educ. 143, Methods of Teaching Typewriting | -- | -- | 3-4 |
| Educ. 26ab, Observation and Teaching or Electives | -- | 5 | 4 |
| Bus. Ad. 100, Secretarial Practice or Elective in Minor Field | 4 | 1 | 1 |
| Bus. Ad. 21abc, Advanced Typewriting | 1 | -- | -- |
| Electives or minor subjects | 6-7 | 10-11 | 8 |
| | 16-17 | 16-17 | 16-17 |

For Undergraduates

10. Introduction to Business. 1 Q. Spring. 5 cr. An orientation course touching briefly on the several fields of business.

11ab. Elementary Accounting. 2 Q. Autumn, winter. Spring, summer. Summer 1946, 11a. 5 cr. each quarter. Prerequisite sophomore standing. A student may be exempted from 11a upon passing a placement examination admitting him to 11b. Fundamental principles as applied to proprietorship, partnership, and corporations. Mr. Emblen.

14. Analysis of Financial Statements. 1 Q. Spring. 4 cr. Prerequisite, course 11b. Analysis and interpretation of financial statements. Mr. Emblen.

15. Office Management. 1 Q. Winter. 3 cr. Prerequisite, Business Administration 10 or sophomore standing.

***20abc. Beginning Typewriting.** 3 Q. Autumn, winter, spring. Summer 1946, 20a or b. 1 cr. each quarter. Keyboard drills, copy work, speed and accuracy drills, letters. Miss Crow. Mrs. Wilson.

***21abc. Advanced Typewriting.** 3 Q. Autumn, winter, spring. Summer 1946, 21a or b. 1 cr. each quarter. Prerequisite, minimum typing speed 35 net words a minute. Letter forms, speed and accuracy drills, corrective work, legal forms, rough draft, tabulation, transcription. Miss Crow. Mrs. Wilson.

***22abc. Stenography.** 3 Q. Autumn, winter, spring. Summer 1946, 22a or c. 4 cr. each quarter. Combined shorthand and transcription practice; principles and dictation, reading, speed work. Miss Crow. Mrs. Wilson.

***23ab. Advanced Stenography.** 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite for 23a, dictation speed of 80 words a minute in a five minute test; for 23b, dictation speed of 100 words a minute in a five minute test. Combined transcriptions and shorthand practice. Mrs. Wilson.

***25ab. Office Machines Practice.** 2 Q. Any Q. 2 cr. each quarter. No prerequisite for 25a; for 25b typing speed of 40 words per minute; 25a not required for 25b. (25a) Calculating, bookkeeping, posting machines and filing. (25b) Duplication Machines; ediphone and dictaphone. Miss Crow.

***28. Civil Service Training.** 1 Q. Autumn. 4 cr. Prerequisite, Business Administration 22c or 90 words a minute dictation speed. Civil Service type of dictation and typing; general tests; vocabulary building. Mrs. Wilson.

40ab. Principles of Advertising. 2 Q. Autumn, winter. 3 cr. each quarter. Summer 40a. Prerequisite, junior standing. Fundamentals of advertising theory and techniques with emphasis on the role of advertising, the product, the consumer, media, and the advertisement itself. A general background course in advertising offered jointly by the School of Journalism and the School of Business Administration. Mr. Dugan. Mr. Smith.

41ab. Business Law. 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. (41a) Introduction; Contracts; Sales. (41b) Agency; Negotiable Instruments; Partnerships; Corporations.

For Undergraduates and Graduates

100. Secretarial Practice. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 23a or equivalent and 25ab. An integrated course in theory and practice of secretarial skills. Mrs. Wilson.

*Not more than 15 credits earned in Business Administration 20, 21, 22, 23ab, and 28 may be applied toward graduation by students not majoring in Business Administration.

- 113ab. Advanced Accounting.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Business Administration 11b. (113a) Corporation accounting; theory of balance sheets; valuation of assets on the balance sheet; depreciation; profits; reserves; dividends; surplus. (113b) Sinking and other funds; income summaries; analysis of balance sheets; liquidations; consolidations; mergers and branch house accounting. Mr. Emblen.
- 114. Cost Accounting.** 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and Business Administration 11b. Elements of cost; principles and general methods of cost findings; direct and indirect costs; payroll and labor costs; compiling costs and cost data; control of cost records.
- 115ab. Auditing.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Business Administration 113ab. The general scope and purpose of auditing; the audit program; the analytical study of balance sheets and accounting records, with practical problems. The application of the theory of auditing to practical problems, the preparation of final reports, with full analysis in approved form for submission to clients. Mr. Emblen.
- 124. Insurance.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and Economics 14. Methods of meeting risk; fundamental principles of life, fire, marine, and other insurance. Mr. Line.
- 129. Principles of Organization and Management.** 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing and Economics 14. Mr. Smith.
- 131. Real Estate.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing and Economics 14. Factors that affect value of real estate; markets, title and real estate transfers. Mr. Line.
- 132. Credits and Collections.** 1 Q. Autumn. 3 cr. Prerequisite, junior standing and Economics 14. Credit organization; the credit department; the mercantile agencies; sources of credit information; securing and granting credit; collection methods. Mr. Line.
- 133. Corporation Finance.** 1 Q. Autumn. Summer. 5 cr. Prerequisite, junior standing and Economics 14. The position of corporate organization in modern business; the financial side of organization and promotion; the financial policy with reference to underwriting, capitalization; earnings; surplus; insolvency; receivership and reorganization. Problems and methods of social control. The financial organization of particular corporations. Mr. Ely.
- 142. Methods of Teaching Shorthand.** See Special Methods Courses in School of Education, page 75. Either this course or course 143 is required of students who wish to teach commercial subjects. Mrs. Wilson.
- 143. Methods of Teaching Typewriting.** See Special Methods Courses in School of Education, page 75. Either this course or course 142 is required of students who wish to teach commercial subjects. Mrs. Wilson.
- 145. Income Tax.** 1 Q. Spring. 4 cr. Prerequisite, Business Administration 113ab and 41. The accounting requirements of the law, the regulations, a digest of the law, with practical problems in the preparation of returns for individuals, partnerships, and corporations. Mr. Emblen.
- 146ab. Accounting Systems.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Business Administration 113ab. Accounting problems and types of accounting records of the more common classes of business and government. These classes include: banks, mercantile stores, mining companies, city and state governments, public utilities, contractors, transportation companies, agricultural enterprises, and hotels. Mr. Emblen.
- 149. C. P. A. Problems and Review.** 1 Q. Spring. 4 cr. Prerequisite, Business Administration 146. This course is designed primarily for students preparing to take the examinations for the certificate of Certified Public Accountant. It furnishes a comprehensive review of questions and problems in accounting, auditing and commercial law given by the American Institute of Accountants. Mr. Emblen.
- 150. Business Ethics.** 1 Q. Winter. 3 cr. Prerequisite, senior standing. Mr. Line.
- 151. Marketing.** 1 Q. Autumn. Summer. 5 cr. Prerequisite, junior standing and Economics 14. The prevailing methods of marketing as applied to manufactured products, industrial raw materials, agricultural products, and consumers' goods; functions of middlemen. Mr. Line.
- 152. Foreign Trade.** 1 Q. Winter. 4 cr. Prerequisite, Economics 14 and 101. Theories, principles and methods of international trade. Economic resources and products of the principal countries, their chief exports and imports.
- 154. Investments.** 1 Q. Spring. 3 cr. Prerequisite, Business Administration 133. Investment principles and plans; kinds of securities; tests of investment values; outline of financial analysis of industrial public utilities, railroad, financial, real estate, governmental, and foreign securities; the mechanics of investment. Mr. Ely.

156. Business Cycles. 1 Q. Spring. 4 cr. Prerequisite, Economics 101 or junior standing and Mathematics 25. Business cycles with special reference to their history, causes, duration, and effects; business forecasting is considered. Mr. Emblen.

157. Salesmanship. 1 Q. Spring. Summer. 3 cr. Prerequisite, Business Administration 151. Principles of personal selling and sales management. Mr. Line.

159. Retail Stores. 1 Q. Winter. 3 cr. Prerequisite, course 151. Pharmacy students, Pharmacy 27. Types of retail stores, location, buying, pricing, display, store selling, types of display advertising, and store costs. Mr. Line.

160ab. Retail Store Management. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Business Administration 151 or junior standing and consent of instructor. A special training course in the principles and practices of managing retail stores. Mr. Line.

191. Business Administration Seminar. 1 Q. Any Q. 1 to 3 cr. Prerequisite, senior standing. An intensive study of specific problems in Business Administration. Staff.

192. Retail Store Seminar. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, senior standing and consent of instructor. An intensive study of selected retail problems. Mr. Line.

For Graduates

200. Research in Business. Any Q. 1 to 5 cr. each quarter. May be repeated up to a maximum of 15 credits. Staff.

Chemistry

PROFESSORS WILLIAM G. BATEMAN, JOSEPH W. HOWARD, RICHARD H. JESSE (CHAIRMAN); ASSOCIATE PROFESSOR EARL LORY; INSTRUCTOR ROSS-LEENE HETLER.

Major Requirements: General Chemistry and Qualitative Analysis (Chem 11abc and 13c or Chem 13abc); Analytical Chemistry (Chem 15, 17 and 4 credits of 111); Organic Chemistry (Chem 101 and 102); Physical Chemistry (Chem 106); Advanced Chemistry, at least 5 credits from Chemistry 103, 109, 110, 150, 160, 170; Chemical Literature, 3 cr. (Chem 113). At the time of his graduation a major student in Chemistry must have acquired a reading knowledge of German and a working knowledge of English composition, college physics and mathematics through the calculus. Elementary mineralogy is also desirable.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

11. General Chemistry. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Summer 1946, 11c, 5 cr. Open to students who present no entrance units and no college credit in chemistry. Mr. Howard. Mr. Jesse. Mrs. Hetler. Mr. Lory.

13. Inorganic Chemistry and Qualitative Analysis. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Prerequisite, one year of high school chemistry. The fundamental laws of chemistry; properties and relations of the non-metallic and metallic elements; theory and methods of inorganic qualitative analysis. Students who have completed Chemistry 11 may not receive credit for 13ab but are eligible for credit in 13c. Mr. Bateman.

15. Advanced Qualitative Analysis. 1 Q. Winter. 5 cr. Prerequisite, Chemistry 13c. An extension of course 13c, including many of the less common elements. Mr. Bateman.

17. Quantitative Analysis. 1 Q. Spring. Summer. 5 cr. Prerequisite, Chemistry 13c. Introduction to quantitative gravimetric and volumetric methods. Mr. Jesse.

19. Organic Chemistry. 1 Q. Winter. Summer. 5 cr. Prerequisite, Chemistry 11 or 13. Brief survey of the field or organic chemistry. Intended primarily for students of home economics. Mr. Howard.

For Undergraduates and Graduates

101. The Carbon Compounds. 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, Chemistry 11 or 13. Students who have taken Chemistry 19 will not receive full credit for this course. A detailed, systematic study of organic chemistry. Intended for chemistry, pharmacy, and pre-medical students. Mr. Howard.

102. Organic Qualitative Analysis. 1 Q. Spring. 2 cr. Prerequisite, Chemistry 101. Systematic methods of identification of pure organic compounds and mixtures; general class reactions of organic chemistry. Mr. Howard.

103. Physiological Chemistry. 1 Q. Spring. 5 or 6 cr. Prerequisite, Chemistry 19 or 101. Chemistry of the human body; blood, bile, urine, feces, milk, etc. Mr. Bateman.

106. Physical Chemistry. 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, Chemistry 17, 101, Physics 20abc, and Mathematics 23. The prerequisite in organic chemistry may be waived at the discretion of the instructor for students majoring in other departments who present two quarters of calculus and additional courses in physics. The more important methods, results, and problems of theoretical chemistry. Mr. Jesse.

109. Inorganic Industrial Chemistry. 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. The chemistry of industrial and engineering materials and the discussion of technical chemical processes. Given in 1945-46. Mr. Howard.

110. Organic Industrial Chemistry. 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. Not given in 1945-46. Mr. Howard.

111. Technical Analysis. 1 Q. Autumn. Winter. Spring. Summer. 2-4 cr. Course may be taken two quarters for a total of not more than 4 credits. Prerequisite, Chemistry 17. Analysis of materials of commercial importance. The work is varied according to the needs of the individual. Mr. Howard. Mr. Jesse.

113abc. Journal Club. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Chemistry 17, 101, and a reading knowledge of German or French. Students may enter any quarter. Presentation and discussion of current journal literature by upperclassmen and the departmental staff. This course may be repeated for credit. Staff.

150. Advanced Inorganic Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 13 (or 11 and 13c), Chem. 17, Chem. 101 and 102. Lectures and laboratory. Not given in 1946-47.

160. Advanced Organic Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 101 and 102. Lectures and laboratory. Not given in 1946-47.

170. Advanced Physical Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 106. Lectures and laboratory. Not given in 1946-47.

For Graduates

200. Advanced Courses and Research. The Department is prepared to arrange for properly qualified students courses in inorganic, analytical, organic, physical, industrial chemistry, or in bio-chemistry. Staff.

Classical Languages

PROFESSOR WESLEY P. CLARK (CHAIRMAN); INSTRUCTOR MARGUERITE H. EPHRON.

Major Requirements: The requirement is in attainment rather than credits. Four courses numbered above 100 should assure a good major in Latin. Two courses in Greek may be substituted for two in Latin. Introduction to Humanities (Gen. 15abc), History of Greece (Hist. 15) and History of Rome (Hist. 16) are recommended.

Senior Examinations are required of all students who major in Latin.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

General Information. Placement examinations are required of all students who continue a language in which entrance credit is presented. Students who offer two entrance units should enter Intermediate Latin (Latin 13a); those offering four units, College Freshman Latin (Latin 15a), subject, however, to the placement examination. The restricted elective requirement is fulfilled upon completion of course Intermediate Latin (Latin 13a) for students who present adequate entrance units in Latin.

Latin

For Undergraduates

11abc. Elementary Latin. 3 Q. Autumn, winter, spring. 5 cr. each quarter. For students who enter with no high school or college credit in Latin.

13abc. Intermediate Latin. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, Latin 11c or equivalent. (a) Selections from Cicero and others studied for literary and historical value. (bc) Virgil's Aeneid I-VI. Introduction to poetry; reading of hexameter, appreciation of permanent values of the Aeneid.

15ab. College Freshman Latin. 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Latin 13c or equivalent. (a) Readings from Cicero's De Senectute and De Amicitia, or from Livy. (b) Catullus and Terence. Reading of the commonest metrical forms; outline of Roman literature.

17ab. Second Year College Latin. 2 Q. Subject to demand. 5 cr. each quarter. Prerequisite, Latin 15b. (a) Pliny and Martial; (b) Horace.

For Undergraduates and Graduates

139. Lucretius. 1 Q. Spring. 5 cr. Prerequisite, Latin 15b and junior standing. Reading and appreciation of portions of De Rerum Natura.

149. Writing Latin (Advanced). 1 Q. Spring. 4 cr. Prerequisite, Latin 15b and junior standing. Prepared exercises in translating into Latin from text-book or selected passages of English. Given in 1945-46, and in alternate years.

150. Latin Seminar. 1 Q. Any quarter. 2-5 cr. Prerequisite, Latin 15b and junior standing. Advanced readings which fit the needs and interest of the student in selected periods and authors. Course may be repeated during succeeding quarters by variation in content.

For Graduates

200. Research in Latin. 3 Q. Any quarter. Credit variable. Directed individual work. Course may be repeated by variation in content. Given subject to demand.

Greek

For Undergraduates

11ab. Elementary Greek. 2 Q. Winter, spring. 5 cr. each quarter. The reading method used; Attic Greek read from the first. Forms, vocabulary, idioms learned by use only.

13ab. Intermediate Greek. 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, Greek 11b or equivalent. (a) Selections from Plato and Herodotus. (b) Introduction to Greek Tragedy.

15a. Advanced Greek. 1 Q. Spring. 3 cr. Prerequisite, Greek 13b or equivalent. Selections from Lucian.

Further work in Greek will be offered as there may be a demand for it; the work will be suited to the interest of the students.

Economics and Sociology

PROFESSOR ROY J. W. ELY, HARRY HOLBERT TURNER-HIGH (CHAIRMAN); ASSOCIATE PROFESSOR HAROLD TASCHER; ASSISTANT PROFESSOR PAUL MEADOWS; ASSISTANT MABELLE GOULD HARDY.

Major Requirements: All major students in the Department of Economics and Sociology should complete the following courses in their Sophomore year, in addition to the Social Science Divisional require-

ments set forth on page 50: Principles of Economics (Econ 14), Elementary Anthropology (Econ 15), Elementary Sociology (Econ 16), Social Problems (Econ 17). Students concentrating in Economics may substitute either Comparative Economic Systems (Econ 18), or World Resources and Industries (Econ 19), for Social Problems (Econ 17). Social Science Methods (Econ 118) will be completed in their Junior year. A total of 50 or more credits in Economics and Sociology is required, to be made up of the above requirements and additional courses listed under the various fields of major concentration, as listed below.

- A. Economics Concentration:** A student may emphasize Labor Economics, Finance Economics, or Economic Theory, as well as a general Economics concentration according to his own choice. Students concentrating in Economics will complete the following in addition to the general departmental requirements: Money and Banking (Econ 101ab), Labor Economics (Econ 113ab), Public Finance (Econ 104ab), Advanced Economics (Econ 111), and Development of Economic Theory (Econ 112). The remaining credits for a major may be earned in courses pertaining to his field of concentration. A maximum of 12 credits selected from advance courses in Business Administration may be applied toward fulfilling the requirements for a major in Economics.
- B. Sociology Concentration:** The following courses listed under the Department of Economics and Sociology will be completed. Economics: Labor Economics (113 ab), Social Science Methods (118); Social Administration: Community Organization (133); Anthropology: One of the courses in Ethnography. The remaining credits for a major will be earned in Sociology courses. As many non-departmental electives as possible should be chosen from among the following: Department of History and Political Science: U. S. History (21 abc), Theories of the State (115). Department of Psychology and Philosophy: General Psychology (11), Social Psychology (14), Child Psychology (13), Systematic Psychology (104), Psychology of Personality (15), Ethics (51).
- C. Social Administration Concentration:** The following courses listed under the Department of Economics and Sociology will be completed: Economics: Public Finance (104ab), Industrial Relations (114); Sociology: Urban Sociology (121), Criminology (122). The remaining credits for a major will be earned in Social Administration courses. Non-Departmental electives should include as many of the following as possible. Department of History and Political Science: American Government and Politics (17), State and Local Government (18); School of Journalism: Introduction to Journalism (10 abc); Department of Psychology and Philosophy: General Psychology (11), Child Psychology (13), Abnormal Psychology (115).
- D. Anthropology Concentration:** In addition to General Departmental requirements the student will complete four courses in Ethnography and two courses in descriptive Archeology. All field courses should be taken when offered. Non-departmental electives should include as many of the following as possible: Department of Geology: General Geology (11 ab), World Geography (10), Historical Geology (22); Department of Mathematics: Statistics (25); Department of Physical Education: Human Anatomy (20ab); De-

partment of Psychology and Philosophy: General Psychology (11); Department of Zoology: Elementary Zoology (14 ab).

A comprehensive examination over the major field of study is given to all graduating seniors. Honors candidates must prepare a senior thesis based on original research.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

The Ryman Economics Foundation. The Ryman Foundation in Economics and Sociology was established in 1927 by the late J. H. T. Ryman, Esq., of Missoula. The gift includes the testator's personal library in these fields, as well as a gift of \$5,000 for its amplification. A sum of \$7,500 was also bequeathed, the income of which is devoted to a systematic extension of the Economics and Sociology Library.

The bequest also included the sum of \$10,000, the income of which is to be awarded every fourth even year to a student of that year's graduating class who has shown distinctive ability and promise in the field of economics. The purpose of the fellowship is to enable such a student to pursue study in some graduate school of recognized standing leading to the degree of Doctor of Philosophy. The award will next be made in 1950.

For Undergraduates

14. Principles of Economics. 2 Q. Autumn, winter. Winter, spring, Summer. Continuous. 8 cr., except that 14a, 4 cr., may be applied towards the degree of Bachelor of Science in Forestry. Prerequisite, sophomore standing. Mr. Ely and staff.

15. Elementary Anthropology. 1 Q. Autumn. 5 cr. Summer. 2-4 cr. Prerequisite, sophomore standing. An introduction to the study of man and culture. Mr. Turney-High.

16. Elementary Sociology. 1 Q. Winter. Summer. 4 cr. Prerequisite, sophomore standing. A general study of interhuman relations. Mr. Meadows and Staff.

17. Social Problems. 1 Q. Spring. Summer. 4 cr. Prerequisite, sophomore standing. A general study of social and personal disorganization. Mr. Turney-High and Staff.

18. Comparative Economic Systems. 1 Q. Spring. 4 cr. Prerequisite, course 14b. A comparative study of the leading economic systems of the world.

19. World Resources and Industries. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. A description and analysis of the world's resources with emphasis on the economic principles involved in their appraisal, exploitation, and functioning. Mr. Ely.

For Undergraduates and Graduates

Economics

101ab. Money and Banking. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, junior standing and course 14. (a) the study of money, credit, prices; (b) the study of the principles and practices of banking. Mr. Ely.

102. Transportation. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 14. The principles of railway, ocean and waterway, motor-truck and bus, and air transportation.

103. Public Utilities. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 14. An economic analysis of problems of public utility industries.

104ab. Public Finance. 2 Q. Winter, spring. 4 cr. each quarter. Students may enter either quarter. Prerequisite, junior standing and course 14. (a) Federal finance; (b) state and local taxation. Students who completed the former course Economics 104 may not receive credit in 104a.

107. Contemporary Economic Problems. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 14. A study of current economic problems on the national and international levels. Mr. Ely.

109. Economics of Consumption. 1 Q. Winter. 3 cr. Prerequisite, junior standing and course 14. An analysis of the final stages of the economic process. Mr. Ely.

110. Agricultural Economics. 1 Q. Spring. 3 cr. Prerequisite, junior standing and course 14. The economic problems which confront the citizens of an agricultural community and the means applied or advocated as solutions. Mr. Ely.

111. Advanced Economics. 1 Q. Autumn. Summer. 4 cr. Prerequisite, junior standing and course 14. An advanced course in the methods, concepts, and data of economics.

112. Development of Economic Theory. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 14. A history and analysis of economic theories, emphasizing the Classical, Historical and Austrian Schools. Mr. Ely.

113ab. Labor Economics. 2 Q. Autumn, winter. 3 cr. each quarter. Students may enter either quarter. Prerequisite, junior standing and course 14. (a) The beginnings, growth, development and current status of the labor movement; (b) forces behind modern labor conditions, management-labor and government labor relations. Students who completed the former course Economics 113 may not receive credit in 113b.

114. Industrial Relations. 1 Q. Spring. 3 cr. Prerequisite, junior standing and course 14, or consent of instructor for other than departmental majors. A study of the principles and problems that govern the relations of management and labor.

118. Social Science Methods. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 10 credits in the Social Science Division. An introduction to the methods used in the studies included in the Division of Social Sciences. Mr. Meadows and Staff.

Sociology

120. Population. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 16. A quantitative and qualitative analysis of world population; vital statistics and population change; migration and immigration. Mr. Meadows.

121. Urban Sociology. 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 16. A study of the rise of urbanism; the ecological setting and demographic trends of cities; the social relationships and organization of city life. Mr. Meadows.

122. Criminology. 1 Q. Winter. 5 cr. Prerequisite, junior standing and either course 16 or 17. A study of the causes, prevention, detection, and correction of crime. Mr. Turney-High.

123. Regional Sociology. 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 16. A study of the regional concept and method; types of regions; regional planning. Emphasis is laid on the Northwest Region. Mr. Meadows.

124. Sociology of Professions. 1 Q. Spring. 3 cr. Prerequisite, junior standing and course 16. A study of the histories of the major professions; processes of professionalization; professional relationships, codes, and associations. Mr. Meadows.

125. Development of Social Theory. 1 Q. Spring. 4 cr. Prerequisite, junior standing and 10 credits in economics and sociology for majors; for others, senior standing. The history of social theories from earliest times until the establishment of sociology, with emphasis on the forces which produced them. Mr. Turney-High.

126. Principles of Sociology. 1 Q. Autumn. 3 cr. Prerequisite, junior standing and course 16. An advanced course in the methods, concepts, and data of sociology. Mr. Meadows.

127. Social Control. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 16. A study of the institutional and non-institutional processes and methods by which persons and groups are controlled. Mr. Meadows.

128ab. Sociological Seminar. 2 Q. Winter, spring. 2 cr. each quarter. Students may enter either quarter. Prerequisite, senior standing and 10 credits in sociology. An analysis of current sociological literature and methods. Mr. Turney-High.

129. The Family. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 16. A comparative, historical, and analytical study of matrimonial institutions. Mr. Meadows.

Social Administration

130. Principles of Social Case Work. 1 Q. Winter. 4 cr. Prerequisite, junior standing and either course 16 or 17. The application of social case work principles and methods as shown by selected case records. Mr. Tascher.

131. Introduction to Social Administration. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and either course 16 or 17. The fields of social administration with special emphasis on social resources, philosophy, principles and methods. Mr. Tascher.

132. Principles of Group Work. 1 Q. Spring. 4 cr. Prerequisite, junior standing and either course 16 or 17. The study of social group work principles and methods, group work programs and objectives; the relationship between case work and group work. Mr. Tascher.

133. Community Organization. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and either course 16 or 17. Social forces in the community; methods of community analysis; community programs. Mr. Tascher.

134. Field Work: Social Administration. 1 Q. Any quarter. 2-5 cr. Prerequisite, junior standing and consent of instructor. This course may be repeated to a maximum of 15 credits. Provides integrated experience in the Social Work Laboratory and in State institutions. Not given in 1946-47. Mr. Tascher.

135. Child Welfare. 1 Q. Winter. 4 cr. Prerequisite, junior standing and either course 16 or 17. The study of child welfare problems, emphasizing services and methods of treatment and prevention. Mr. Tascher.

136. Public Welfare Administration. 1 Q. Spring. 4 cr. Prerequisite, senior standing and either course 16 or 17. The development of public welfare services with special reference to federal-state-local relationships; problems of state departments of public welfare. Mr. Tascher.

137ab. Social Agency Resources. 2 Q. Autumn, winter. 3 cr. each quarter. Students may enter either quarter. Prerequisite, junior standing and either course 16 or 17. A study of the development, structure, and function of selected social resources used in social work agencies. (a) private agencies; (b) public agencies. Mr. Tascher.

Anthropology

140. Descriptive Archeology: The Rise of Old World Civilization. 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The development of civilization from the Neolithic Age to the dawn of written history. Mr. Turney-High.

141. Descriptive Archeology: North America. 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The study of origins, backgrounds, and development of Pre-Columbian North American peoples and cultures. Not given in 1946-47. Mr. Turney-High.

145. Ethnography: America. 1 Q. Autumn. Summer. 4 cr. Prerequisite, junior standing and course 15, or concurrent registration in course 15. The cultures of the American Indian. Not given in 1946-47. Mr. Turney-High.

146. Ethnography: Africa. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 15, or concurrent registration in course 15. The peoples and cultures of Africa. Mr. Turney-High.

147. Ethnography: Asia. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 15. The peoples and cultures of Asia. Mr. Turney-High.

148. Ethnography: Oceania. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 15. The peoples and cultures of the Pacific, exclusive of Japan and Australia. Not given in 1946-47. Mr. Turney-High.

180. Archeological Survey. 1 Q. 1-5 cr. Any quarter in which field parties are organized. Prerequisite, junior standing and course 141. This course may be repeated to a maximum of 15 credits. A field course in Montana archeology. Not given in 1946-47. Mr. Turney-High and Staff.

181. Field Work: Northwest Ethnology. 1 Q. 1-5 cr. Any quarter in which field parties are organized. Prerequisite, junior standing and course 145. This course may be repeated to a maximum of 15 credits. A field course in Indian tribes of Montana and related areas. Mr. Turney-High and Staff.

190. Advanced Problems. Any quarter. 2 cr. Prerequisite, senior standing and consent of instructor. Staff.

For Graduates

201. Graduate Research. Any quarter. 1-5 cr. Prerequisite, graduate standing. Staff.

234. Advanced Field Work: Social Administration. 1 to 3 Q. Any quarter. 3 cr. each quarter. Prerequisite, graduate standing and course 130, or equivalent. Course may be repeated to a maximum of 9 credits. Mr. Tascher.

School of Education

PROFESSORS WALTER R. AMES, JAMES W. MAUCKER (DEAN); ASSOCIATE PROFESSOR WILLARD W. BLAESSER; ASSISTANT PROFESSOR LINUS J. CARLETON.

Staff Members of Cooperating Departments and Schools Who Offer Special Methods Courses: PROFESSORS HELEN GLEASON, LUCIA B. MIRRIELES; ASSOCIATE PROFESSORS HAROLD CHATLAND, CHARLES F. HERTLER, STANLEY M. TEEL, BRENDA FARRELL WILSON; ASSISTANT PROFESSOR BENJAMIN R. FROST; INSTRUCTOR ANDREW A. R. NOBLE.

The School of Education has the following objectives:

1. To provide professional preparation for teachers of the junior and senior high schools and to qualify them for the State Secondary Certificate. Emphasis is placed on helping these educational workers acquire (a) understanding of the school as an institution; (b) understanding of physical and mental development of pupils; (c) a philosophy of education based on American democracy; (d) techniques and competence needed for doing their work in the practical public school situation.
2. To give advanced preparation for superintendents, principals, supervisors, and guidance workers.
3. To offer advanced and graduate work for elementary teachers.
4. To conduct refresher programs leading to improved certification during the period of teacher shortage.
5. To provide extension and field services to public school systems.
6. To prepare leaders for adult education programs and to assist adult groups through educational services.
7. To cooperate with the State Department of Public Instruction in curriculum revision and in services to the schools.
8. To unify and coordinate the teacher education program in the University.

Requirements for Admission

In addition to the regular University requirements for admission (pages 20 to 24), a student must complete two years of college work. Pre-education students should follow the curriculum of the Division of Social Sciences on page 50; the completion of a foreign language is elective for students majoring in Education (see pages 28 and 50). **General psychology is prerequisite to all courses in Education and should be taken in the freshman or sophomore year.**

Students who expect to be certified to teach are required to file with the Dean of the School of Education at the beginning of their junior year a statement of their intended major and minor fields of specialization, which should include one teaching field of at least 45 quarter credits and one of at least 30 quarter credits. See requirements for the Secondary State Certificate below. Each candidate for the

Certificate who has not already received credit in Observation and Teaching (Educ 26a) will, at the beginning of the junior year, be assigned a definite quarter of the senior year in which he must register for that course.

Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Education must meet the following requirements:

- (1) The general University requirements for graduation (see pages 24 to 30) except in foreign languages.
- (2) A minimum of 40 credits in Education, including Educational Psychology (Educ 25a), Principles of Education (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), and a selection from the following courses or their equivalents: Observation and Teaching (Educ 26b), Systems and Methods in Physical Education (Educ 35a), Teaching of Composition (Educ 105a), Teaching of Literature (Educ 105b), School Music (Educ 123abc), Fundamentals of School Health (Educ 130), Secondary School Administration (S132), School Supervision (Educ 134), Educational and Vocational Guidance (Educ 140), Methods of Teaching Shorthand (Educ 142), Methods of Teaching Typewriting (Educ 143), Use of Audio-Visual Instructional Aids (Educ S145), Educational Administration (Educ 150), Educational Measurements (Educ 152), Seminar in Education (Educ 154), Educational Sociology (Educ 158), Problems in Elementary Education (Educ 162), Problems in Teaching Home Economics (Educ 163), Workshop in Education (Educ 165), History of Education (Educ 166).

Senior examinations will not be given except to candidates for honors.

Masters' Degrees. Applicants for admission to the Graduate School must meet the requirements indicated on page 94; candidates for the degree of Master of Arts or Master of Education must comply with the regulations governing graduate work on pages 93 to 96. For the Master of Arts degree, a candidate must take a general examination on the field of Education early in the period of his candidacy. A candidate for the Master of Education degree must pass a preliminary examination on his undergraduate courses in Education as a condition to full admission to graduate work within one quarter after beginning his graduate residence. He must, in addition, pass a final examination over the graduate field of Education before being recommended for the degree. No thesis is required. For further information, see pages 93 to 96.

SECONDARY STATE CERTIFICATE*

Montana State University recommends its graduates who meet state certification requirements to the State Department of Public instruction. All such recommendations are approved by the Dean of the School of Education. The Secondary State Certificate meets the North Central and Northwest Associations requirements. However, students who expect to teach in states other than Montana should investigate specific requirements, since they differ in the various states. Academic

*See statement of change in authority for granting teaching certificates on page 71.

and professional requirements for Secondary State Certificates to teach in fully accredited high schools of Montana are as follows:

- (1) A Bachelor's or Master's Degree from Montana State University.
- (2) Twenty-four or more quarter credits in education designated by the Dean of the School of Education.
- (3) A teaching major of 45 or more quarter credits in a field taught in high school; this may be in a combination of one or more related subjects.
- (4) A teaching minor of 30 or more quarter credits in a field taught in high school.
- (5) Adjustment in the above minimum credit requirements may be made for the combination of high school and University work in foreign language and mathematics. For each unit earned in high school three quarter credits may be deducted from the 45 or 30 credit minimum. Not more than nine quarter credits may be allowed for high school work in any one field.
- (6) The major or minor subject matter fields may include English, classical or modern languages, commercial work, mathematics, biological sciences, physical sciences, physical education, history and political science, economics and sociology, combined social science, home economics, fine arts, music.

Note: Students who began their work on teaching certificate requirements before June, 1944, should consult with the Dean of the School of Education regarding the requirements outlined above. Candidates for the teaching certificate must submit an application blank supplied by the State Department of Public Instruction, which includes a signed certificate of health and a signed oath of allegiance. Transcripts of all college work completed by the applicant must be submitted with the application.

Candidates for a certificate should confer with the Dean of the School of Education not later than the beginning of their junior year, at which time a statement regarding intended major and minor fields must be filed with the Dean.

Change in Authority for Granting Teaching Certificates

Since July 1, 1943, the State Department of Public Instruction issues all teaching certificates in accordance with the law on teacher certification passed by the 1943 Legislature. (Montana Laws, 1943.) The University will continue to offer the courses needed for certification and will recommend candidates to the State Department.

The section of the law which applies to students at Montana State University, preparing to teach, is "a secondary state certificate valid for six (6) years in grades six (6) to twelve (12) inclusive, in the public schools of Montana may be issued by the State Board of Education to a graduate of any fully accredited four (4) year college or university within or without the state in accordance with rules and regulations adopted by such State Board of Education. Montana state institutions recommending for certification shall file complete transcripts of record in the office of the State Superintendent of Public Instruction in such form as may be prescribed and required by the State Board of Education." (Laws of Montana, 1943.)

Sequence of Certification Courses in Education

The courses required for the teaching certificate should be taken both by Education majors and by non-majors in the following sequence:

- Freshman or
Sophomore year: General Psychology (Psych 11).
Junior year: Educational Psychology (Educ 25a), 4 credits;
Principles of Education (Educ 25b), 4 credits;
Secondary School Teaching Procedures (Educ 25c), 4 credits, and electives. (Methods course highly recommended).
Senior year: Observation and Teaching (Educ 26a), 5 credits and elective, 3-4 credits; Observation and Teaching (Educ 26b) or elective, 3-4 credits.

Course Requirements in Major and Minor Teaching Fields

Students who wish to qualify for the Secondary State Certificate must complete a minimum of 45 credits in a major teaching field and a minimum of 30 credits in a minor teaching field (see requirements 3 and 4 on page 71). The specific courses required in each major or minor teaching field are outlined by the school or department concerned. **These course requirements are available in a special bulletin.**

General Information

Students preparing for the work of superintendent, principal, or supervisor in public schools, for educational research, or for teaching professional subjects, should do major work in Education. Those desiring to become teachers of particular subjects, either in the junior or senior high school, should ordinarily major in the principal subject to be taught, although they may major in Education.

For Undergraduates

***25a. Educational Psychology.** 1 Q. Autumn. Spring. 4 cr. Prerequisite, junior standing and Psychology 11; sophomores may enroll in their third quarter. Emphasis on psychological foundations of learning; individual differences; pupil guidance and development; psychology of teaching secondary school subjects. Directed observation and study of pupils in school and in out-of-school situations. Staff.

***25b. Principles of Education.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, junior standing and Psychology 11; Education 19 (or 25a) recommended. Emphasis on the school as a social institution; backgrounds of education; organization of public schools; current trends and problems in education, looking forward toward the development of a basic philosophy of education. Directed observation of grade and high school classes. Staff.

***25c. Secondary School Teaching Procedures.** 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, junior standing and Education 18 and 19 (or 25ab). The purposes of secondary education; high school organization; class management; teaching procedures and materials; selection of content; lesson planning; testing and evaluation; emphasis on student participation using techniques generally applied in classroom instruction in high schools today. Mr. Carleton.

***26a. Observation and Teaching.** 1 Q. Autumn. Winter. Spring. 5 cr. Education 22 or 25c is prerequisite or must be taken concurrently. Students must, at the beginning of their junior year, consult with the Dean of the School in order to be assigned a definite quarter of the senior year in which this course is to be taken. Observation of classroom teaching; conferences; preparation of lesson plans; and teaching under supervision of critic teachers and staff of the School of Education in cooperation with the Missoula County High School and the Missoula City schools. Mr. Carleton.

*Courses required for the Secondary State Certificate.

26b. Observation and Teaching. 1 Q. Autumn. Winter. Spring. 4 cr. Prerequisite, 26a and consent of Dean of the School of Education. The second quarter of Observation and Teaching must be done in a teaching field other than the one registered for in 26a. One hour conferences required each week. Mr. Carleton.

42. School Libraries—Survey Course. 1 Q. Spring. 5 cr. Prerequisite, sophomore standing. Organization and management; book selection; cataloguing and classification; selection and use of reference materials. Students who have completed Library Economy S28 may not receive credit in this course. Not given in 1946-47. Library Staff.

S65. Refresher Program for Returning Teachers. 1 Q. Summer. 8 cr. Refresher program for former teachers and others with college training seeking permanent or temporary certificates.

For Undergraduates and Graduates

S108. Wartime and Postwar Administrative and Teaching Problems. 1 Q. Summer. Students may take any one or more units. 2 cr. each. Prerequisite, junior standing and 12 credits in education or administrative experience. Not more than 12 credits in unit courses (under S108) may be applied on an undergraduate or graduate degree.

S111. Aviation Education. 1 Q. Summer. 2½ cr. Prerequisite, high school teaching certificate and consent of instructor. Mr. Chatland.

130. Fundamentals of School Health. 1 Q. Spring. 4 cr. Prerequisite, senior standing. The physical and mental health of school children, the hygiene of the school program and instruction, and the problems of the teacher and staff. Not given in 1946-47.

S132. Secondary School Administration. 1 Q. Summer. 2½ cr. Prerequisite, junior standing and teaching experience. Study of problems involved in the daily administration of the American high school: definition of tasks, organization of staff, scheduling of classes, enrollment process, handling of supplies, management of extra-curricular activities, records and reports, teacher participation in administration, etc. Analysis of research and experience.

134. School Supervision. 1 Q. Winter. 4 cr. Summer, 2½ cr. Prerequisite, Education 19 or 25a. Instruction—its quality, technique, rating, and improvement; discipline, supervised study, and other problems bearing upon the instructional side of school work. Mr. Maucker.

140. Educational and Vocational Guidance. 1 Q. Autumn. Spring. Summer. 4 cr. Prerequisite, junior standing or extensive teaching experience. The individual and his aptitudes; direction in education; vocational guidance, its technique, means, and problems. Mr. Ames.

S145. Use of Audio-Visual Instructional Aids. 1 Q. Summer. 2½ cr. Prerequisite, junior standing and teaching experience. A practical course in effective instructional use of a wide variety of aids—pictures, strip films, slides, moving pictures, exhibits, etc. Will familiarize teachers with the actual operation of film projectors and other similar equipment. Primary emphasis will be placed on classroom use rather than the technical aspects of the subject.

S148. Problems in Special Education. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing, 12 credits in Education or Psychology and consent of instructor. Diagnostic and remedial techniques and specialized procedures in teaching the handicapped and slow learner. Students who completed Education S136 or S138 may not receive credit in this course.

150. Educational Administration. 1 Q. Winter. 4 cr. Summer, 2-4 cr. Prerequisite, 7 credits in Education. Administrative relationships at federal, state, and local levels; organization of local Boards of Education; duties of county and city school superintendents. Mr. Maucker.

152. Educational Measurements. 1 Q. Autumn. Summer. 4 cr. Prerequisite, Education 19 or 25a. Statistical methods. Measurement and evaluation of educational products. Mr. Ames. Mr. Maucker.

154. Seminar in Education. 1 Q. Winter. Spring. Summer. Credit variable. Prerequisite, senior standing, 8 credits in education and consent of instructor. This course may be elected for 2 or more quarters for a total of not more than 10 credits. Group analysis and discussion of individual projects. Application to student's specific teaching situation where possible. Mr. Maucker. Mr. Ames. Mr. Carleton.

156. School Finance. 1 Q. Spring. 4 cr. Summer, 2½ cr. Prerequisite, senior standing or 12 credits in Education and experience as a principal or superintendent. History and sources of school revenue. Funds, relative costs, inequalities, legal limitations, and proper expenditures. Comparative study of finances. Not given in 1946-47.

158. Educational Sociology. 1 Q. Winter. 4 cr. Prerequisite, junior standing and 6 credits in Education. The role of education in modern social, economic, and political life; the school as a social institution, problems of American life which affect and are affected by the work of the public schools.

S161. Curriculum Workshop. 1 Q. Summer. 1-8 cr. Prerequisite, senior standing and Education 25c. A laboratory dealing with curriculum making and the problems of the curriculum. Not more than 10 credits earned in workshop (under course S161) may be applied on an undergraduate or graduate degree.

162. Problems in Elementary Education. 1 Q. Spring. 4 cr. Summer, 2½ cr. Prerequisite, junior standing and Psychology 11. The elementary school, its history, organization, management, curriculum, types of teaching; its special problems; the kindergarten and other features with which supervisors should be acquainted. Mr. Carleton.

165. Workshop in Education. 1 Q. Autumn. Winter. Spring. Summer. Credit variable. Prerequisite, junior standing and 10 credits in education or teaching experience. This course may be elected for two or more quarters for a total of not more than ten credits. Individual problems in teaching and administration, elementary education, secondary education, curriculum, guidance, teaching literature, dramatics, art, social studies, science. Experimental programs in modern schools. Mr. Maucker. Mr. Ames. Mr. Rich.

166. History of Education. 1 Q. Autumn. 4 cr. Summer, 2½ cr. Prerequisite, junior standing and 8 credits in Education. Historical backgrounds of present-day problems in education. History of educational thought, school organization and support, curriculum development, and teaching procedures. Mr. Rich.

168. Techniques of Counseling in School Guidance Programs. 1 Q. Winter. Summer. 4 cr. Prerequisite, Education 140 or the equivalent and teaching experience. Analysis of basic principles and effective techniques in personal counseling of high school students—gathering information on the student, interviewing, follow-up. Study of pupils' relationships with teacher, parents, counselor and other pupils. Mr. Carleton.

S175. Education and the Contemporary Scene. 1 Q. Summer. 3 cr. Prerequisite, junior standing and 10 credits in Education. The background of contemporary problems which affect education; emphasis on the Montana and Northwest scene as investigated by the Montana Study. Not given summer, 1946.

183. Home and Family Life Education. 1 Q. Spring. Summer. 3 cr. Prerequisite, 8 credits in education. Consideration of problems and procedures dealing with satisfactory homemaking education in the upper grades and in high school. Miss Gleason.

For Graduates

270. Problems in Educational Psychology. 1 Q. Summer. 2-4 cr. Prerequisite, graduate standing in Education and consent of instructor. Individual work on problems in human growth and development, individual differences, intelligence and special aptitudes, learning and mental hygiene. Mr. Maucker.

S271. Montana Educational Problems. 1 Q. Summer. 4 cr. Prerequisite, graduate standing in education. Montana's district system, feasible reorganizations, teaching conditions, curricular defects. Not given summer, 1946.

S272. Philosophy of Education. 1 Q. Summer. 4 cr. Prerequisite, graduate standing in education. Leading philosophies, concepts of the individual and society, civilization and the place of education. Not given summer, 1946.

274. Laboratory Experience in Guidance. 1 Q. Spring. Summer. Credit variable. This course may be elected for two or more quarters for a total of not more than 10 credits. Prerequisite, Education 168 or concurrent registration and consent of instructor. Practical experience in research and clinical work as an assistant in the University Counseling Service; includes work with typical children brought to the University for special guidance.

280. Seminar in Administrative Problems. 1 Q. Spring. Credit variable. Prerequisite, Education 150ab or equivalent. Intensive study of administrative problems; original research.

285. Educational Research and Thesis Writing. 1 Q. Winter. Summer. 4 cr. Prerequisite, graduate standing in the School of Education. Research problems; their statement, organization, techniques, tabulation of materials. Mathematical concepts necessary for interpretation of research data and conclusions. A study of many types of theses. Mr. Ames.

SPECIAL METHODS COURSES

Only one of the following Special Methods courses may be used in meeting the minimum professional education requirements of 24 credits for the Secondary State Certificate. If students desire to take more than one of them, they may do so, but must then offer more than 24 education credits. In many instances this will be the desirable and proper thing to do. These courses are offered in the School of Education by representatives of departments and schools of the University.

31. Teaching of Secondary Mathematics. 1 Q. Summer. 4 cr. Prerequisite, consent of instructor. Aims, purposes, and possible curricula for high school mathematics. Not given summer, 1946. Miss Noble.

35a. Systems and Methods in Physical Education. 1 Q. Autumn. 3 cr. Summer, S35ab, 3-5 cr. Open only to major or minor students in Physical Education. Prerequisite, Physical Education 12abc. Various systems of physical education; their place in American schools; practical application in methods of handling gymnastic class work. Mr. Hertler.

105a. Teaching of Composition. 1 Q. Autumn. 3 cr. Summer, 2-4 cr. Prerequisite, senior standing. For English major and minor students only. Investigation of: various methods of teaching grammar, mechanics, and vocabulary; composition units; oral work. Laboratory exercises in teaching. Miss Mirrielees.

105b. Teaching of Literature. 1 Q. Winter. 3 cr. Prerequisite, senior standing. For English major and minor students only. Investigation of: courses of study; methods of teaching various units; books and magazines for free reading; library ordering and up-keep. Laboratory exercises in teaching. Miss Mirrielees.

123a. School Music. 1 Q. Autumn. 3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for elementary schools including child voice, rhythmic development, rote singing. Mr. Teel.

123b. School Music. 1 Q. Winter, 3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for junior high school grades. Mr. Teel.

123c. School Music. 1 Q. Spring. 3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for senior high schools including bands, orchestras, glee clubs, chorus, problems of community music, operettas, festivals. Mr. Teel.

S123. School Music. 1 Q. Summer. 1½-3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music and methods of senior high school; bands, orchestras, glee clubs, chorus, problems of community music, rural music, operettas, festivals.

142. Methods of Teaching Shorthand. 1 Q. Spring. 3 cr. Summer, 2-4 cr. Prerequisite, junior standing, and a minor or major in Business Administration, including course 22b or equivalent, or teaching experience in shorthand. Objectives, methods, and materials. Given in 1946-47, and in alternate years. Mrs. Wilson.

143. Methods of Teaching Typewriting. 1 Q. Spring. 3 cr. Summer, 2-4 cr. Prerequisite, junior standing, and a minor or major in Business Administration, or teaching experience in typewriting. Objectives, methods and materials. Given in 1947-48 and in alternate years. Mrs. Wilson.

163. Problems in Teaching Home Economics. 1 Q. Winter. Spring. 4 cr. Prerequisite, Education 18 and 19 (or 25ab). The fundamental principles of organization, unit planning, and method of presentation of subject matter. This course introduces the student to the problems of teaching.

S172. Problems in the Supervision and Teaching of Reading. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing and teaching experience. Systematic study of both the developmental and remedial work-type reading programs for pupils in the middle and upper grades, as well as high school students. Basic principles, teaching techniques, materials of instruction and supervisory practices involved in the program for development of reading ability and basic study skills. Not a course in the teaching of literature.

S173. Supervision and Teaching of Social Studies in Secondary Schools. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing and teaching experience. Systematic analysis of problems involved in the teaching and supervision of the social studies in junior and senior high schools—curriculum, teaching techniques (particularly the development and presentation of units of instruction) and specific materials for use in the classroom.

English

PROFESSORS RUFUS A. COLEMAN, EDMUND L. FREEMAN, HAROLD G. MERRIAM (CHAIRMAN), LUCIA B. MIRRIELES; ASSOCIATE PROFESSOR BAXTER L. HATHAWAY; ASSISTANT PROFESSORS RALPH Y. MCGINNIS, JOHN E. MOORE; INSTRUCTORS MARY B. CLAPP, RONALD-BEL STIFFLER, JOHN W. MACKAY, KEITH RINEHART, GEORGE W. SHERMAN, CALDER T. WILLIAMS.

Major Requirements: 50 or more credits in English. The required courses in English are listed in the schedules given below, which are designed for students of different types of needs and interests. By the beginning of his junior year the student should have decided definitely which of the schedules he is to follow. History of Art (F. A. 31abc); Listening to Music (Music 35abc); Social Psychology (Psych 14), History of Philosophy (Psych 52ab), Introduction to Philosophy (Psych 55); and at least two quarters of study in sociology and in history are strongly recommended. A reading knowledge in the literature of some foreign language, classical or modern, is recommended. See also **Speech and Drama**, page 79.

Senior examinations must be taken by all students who do major work in English or in Speech and Drama. The examinations will require elementary knowledge of critical literary terms and a general knowledge of the fields of English and American literature.

Students who plan to secure a teacher's certificate with minor preparation in English should consult the course requirements listed on page 70.

All freshmen will be given an examination in speech. During the year clinical work will be offered students who need correction.

Required in all Schedules:

Freshman Year: Literature and Composition (Eng 25abc).

Sophomore Year: Composition (Eng 30a or b).

Schedule A is planned to give the prospective teacher of English in high schools and in adult education an understanding of the basic relations between literature and human life and a training in the techniques required of the successful teacher of English.

Sophomore Year: American Literature (Eng 59abc) (two quarters).

Junior and Senior Years: Teaching of Composition or Literature (Educ 105a or b); Literary Values (Eng 169abc) (two quarters); British Literature, 1500-1745 (Eng 173ac), British Literature, 1745-1914 (Eng 174bc); Major Writers (Eng 192) (one quarter, preferably Chaucer); Seminar (Eng 199) (two quarters, 4 cr.); The High School Newspaper (Journ 126). The student should also prepare himself to handle speech and drama in the high school.

Schedule B is designed for those students who look forward to graduate study in English to enable them to teach in colleges, universities, and schools providing adult education.

Sophomore Year: Shakespeare and Contemporaries (Eng 57b); American Literature (Eng 59abc) (two quarters).

Junior and Senior Years: Literary Values (Eng 169abc) (two quarters); British Literature, 1500-1745 (Eng 173abc), British Literature, 1745-1914 (Eng 174abc) (three quarters); The English Language (Eng 187); Major Writers (Eng 192) (one quarter); Seminar (Eng 199) (two quarters, 4 cr.)

Schedule C has been prepared for students who desire a purely liberal education with possible additional training in a professional field. The studies provide thorough contact with the meaningful thought and emotion of the past and of the present, particularly in the humanities, and constitute an excellent approach to cultural maturity. The student may add training in many fields, especially in librarianship, secretarial work, social service, personnel work, the arts, history, and the languages.

Sophomore Year: Technique of Poetry (Eng 19) (or two quarters of Literary Values, 169abc, in the junior year); American Literature (Eng 59abc) (two quarters).

Junior and Senior Years: The Novel (Eng 75abc) (two quarters); The Drama (Eng 77abc) (two quarters); Literary Values (169abc) (two quarters, or Technique of Poetry, Eng 19, in the sophomore year); British Literature, 1745-1914 (Eng 174abc) (two quarters).

Schedule D is designed for students whose major interest is writing. It aims to help the student find himself and free his capacities for expression. The writing done comprises all kinds of writing other than for newspapers, although it is especially adapted to students who wish to develop abilities in the writing of fiction, poetry, essays, drama.

Sophomore Year: Technique of Poetry (Eng 19) (or two quarters of Literary Values, Eng 169abc, in the junior year), Shakespeare and Contemporaries (Eng 57abc) (one quarter).

Junior and Senior Years: Writing of Drama (Eng 70) or Literary Composition (Eng 72abc) (at least 6 credits); The Novel (75 abc) (one quarter); The Drama (Eng 77abc) (one quarter); English Club (Eng 96) (two quarters); Creative Writing (160abc) (at least 3 cr.); Literary Values (Eng 169abc) (two quarters or Technique of Poetry, Eng 19, in the freshman or sophomore year); British Literature, 1500-1745 (Eng 173abc.) British Literature, 1745-1914 (Eng 174abc) (two quarters); The English Language (Eng 187). Magazine Article Writing (Journ 33) and Trade and Technical Journalism (Journ 34) are strongly recommended.

For Schedules E and F see page 80.

Composition, Language and Literature

For Undergraduates

A. Preparatory Composition. 1 Q. Autumn. Winter. Summer. No credit. Sub-freshman course designed to meet the needs of freshmen who fail to establish an acceptable college standard in the English placement examination at the time of entrance. A fee of \$5 is charged for this course. Mrs. Clapp.

Note: Either English 11ab (10 credits) or 12abc (9 credits) is required of all students in the freshman year except that those who place high in the examination given at the time of entrance may be exempted from 11a or 12a. Majors in the department complete English 25abc instead of the 11ab, 12abc sequence. A student must complete the sequence he begins; i. e., he may not begin with English 11a and then change to English 12b, etc. (See divisional or school curriculum.)

11ab. Language in Action (Composition). 2 Q. Autumn, winter. Winter, spring. Summer. 5 cr. each quarter. See Note above. Students who receive a grade of "A" in 11a are exempted from further work in composition. The gathering and organization of materials, the writing of papers, and the development of personal ideas. Study of words and syntax. Mr. Hathaway and Staff.

12abc. Language in Action (Composition). 3 Q. Autumn, winter, spring. 3 cr. each quarter. See Note above. The gathering and organization of materials, the writing of papers, and the development of personal ideas. Study of words and syntax. Students who receive a grade of "A" in 12b will be exempted from 12c. Mr. Hathaway and Staff.

- 19. Technique of Poetry.** 1 Q. Spring. 4 cr. Open to all students. Understanding of poetry through analysis of forms, conceptions, and modern trends. Guidance in writing verse for students who desire it. Given in 1946-47, and in alternate years. Mr. Moore.
- 25abc. Literature and Composition.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Open only to freshmen who expect to do their major work in English or in Speech and Drama. Not open to freshmen who place in English A. Students who have completed course 11a or b or 12a or b or c or 18a or b or c; Humanities 15abc, the former course 25ab or 57c may not register for this course for credit. Three-fifths of the work each week is a study of world literature with extended reading of Shakespeare's plays and poems; two-fifths is practice in writing. Mr. Merriam.
- 528a. Western American Literature.** 1 Q. Summer. 2-4 cr. Open to all students. A quick view of the Trans-Mississippi writing for the last hundred years. Mr. Merriam.
- 29abc. Lectures and Readings.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to all students. American civilization. Not given in 1947-48. Staff.
- 30ab. Composition.** 2 Q. Autumn. Winter, 30a. Spring. Summer, 30b. 3 cr. each quarter. Students may enter any quarter. Prerequisite, English 11ab or 12abc, and sophomore standing. (a) Autumn and winter. Work in exposition. (b) Spring. A beginners course in the writing of narrative. Mr. Freeman. Mr. Merriam.
- 55abc. Contemporary Literature.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. Students may enter any quarter. (a) Contemporary American magazines. (b) American essay and fiction. (c) Biography, drama, short story. Some attention is given to verse and non-fictional material in b and c. Miss Mirrielees.
- 57abc. Shakespeare and Contemporaries.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 57b. Prerequisite, sophomore standing. Students may enter any quarter. (a) Dramatic beginnings in England; Shakespeare and his fellow craftsmen contrasted in relation to different dramatic forms. About twelve plays will be read. (b) Intensive study of three of Shakespeare's plays. Source materials. (c) Extensive reading of Shakespeare's plays. Background material. Students who have completed English 25abc may not receive credit in 57c. Staff.
- 59abc. American Literature.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 59a. Students may enter any quarter. Prerequisite, sophomore standing. (a) Edwards through Emerson. (b) Longfellow through Dickinson. (c) Clemens through Hemingway. Mr. Coleman.
- 70. The Writing of Drama.** 1 Q. Autumn. Winter. Spring. Summer. 1-2 cr. each quarter. A maximum of 6 credits may be taken. Prerequisite, junior standing and English 15 and 16 or 22abc. Technique and practice in writing the one-act play and full-length play. Worthy plays will be given experimental performance. Mr. Stiffler.
- 72abc. Literary Composition.** 3 Q. Autumn, winter, spring, 2 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing and English 30a or 30b or consent of instructor on the basis of submitted writings. The writing of fiction and other literary forms. Mr. Hathaway. Mr. Moore.
- 75abc. The Novel.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) English fiction. (b) Continental fiction. (c) American fiction. Given in 1946-47, and in alternate years. Staff.
- 77abc. The Drama.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) Periods of world drama. (b) Drama since Ibsen, in England and in Europe. (c) Contemporary American drama. Given in 1947-48, and in alternate years. Mr. Merriam.
- 96. English Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to English major or minor senior students. Discussion of current trends in literature; papers. Staff.

For Undergraduates and Graduates

For the Teaching of Literature and Composition (Courses 105a and b). See Special Methods courses, page 75.

160abc. Creative Writing. 3 Q. Autumn, winter, spring. Summer. 1-3 cr. each quarter. Prerequisite, junior standing and work in English 70 or 72abc, or consent of the instructor on the basis of submitted manuscripts. Practice in writing, with counsel in literary conception and execution. Mr. Merriam.

S166. Irish Literature since 1890. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing. (a) The bi-linguists—Hyde, the O'Grady's, Patrick-Joyce, MacManus, Lady Gregory, Stephens Colum; (b) the Anglo-Irish—Yeats, Synge, Robinson, Russell, Byrne, Dunsany; (c) later writers—O'Sullivan, O'Faolain, O'Flaherty, O'Casey. Mrs. Clapp.

169abc. Literary Values. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing and 9 credits in literature. (a) Literary terms and forms. (b) History of criticism. (c) Contemporary theories of value. Staff.

172. Bibliography. 1 Q. Autumn, Summer. 3 cr. Prerequisite, junior standing. Tools and methods of literary research. Mr. Williams.

173abc. British Literature (1500-1745). 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer 173a. Students may enter any quarter. Prerequisite, junior standing and for 173a one quarter of 57abc and 6 credits in literature; for 173bc, 8 credits in literature courses. (a) Renaissance verse and prose. (b) Literature up to the Restoration. (c) Restoration and early eighteenth century literature. Given in 1946-47, and in alternate years. Mr. Coleman. Mr. Freeman.

174abc. British Literature (1745-1914). 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer 174b. Students may enter any quarter. Prerequisite, junior standing and 8 credits in literature; 173c recommended for 174a. (a) Late eighteenth century literature. (b) Writing of the Romantic and early Victorian periods. (c) Victorian and Edwardian literature. Given in 1947-48 and in alternate years. Mr. Freeman.

S175c. The Novel: (American). 1 Q. Summer, 1½-3 cr. Prerequisite, junior standing. Study of the novels in American Literature selected from nineteenth century writers. Mr. Coleman.

S177c. American Drama. 1 Q. Summer. 1½-3 cr. Prerequisite, junior standing and 8 credits in literature, preferably in the study of drama. Study of the plays and playwrights of the 1920's and the 1930's. O'Neill, Anderson, Green, Connelly, Sherwood, Behrman, Odetts, Hellman, Saroyan, Wilder. Mr. Coleman.

186. Philosophical Backgrounds of Literature. 1 Q. Winter. Summer. 3 cr. Prerequisite, junior standing. Psychology 52abc and 55 and 8 credits in literary study recommended. Study of writings by Plato, Dante, Shakespeare, and Dostoevski that are typical of the pagan, medieval, renaissance, and modern times. Mr. Rinehart.

187. The English Language. 1 Q. Spring. 4 cr. Prerequisite, junior standing and 9 credits in composition or literature. Survey of the development of the English language. Words and word histories. Miss Mirrielees.

192. Major Writers. 1 Q. Autumn, Winter, Spring. 3 cr. Prerequisite, senior standing and 13 credits in literature. The subject and the instructor change from quarter to quarter. Each year a study of Chaucer will be offered. Staff.

197. The Philosophy of Grammar. 1 Q. Autumn. 3 cr. Prerequisite, senior standing and English 187 or equivalent. The nature and function of grammar in literature and writing. The basis for intelligent use of grammar in writing.

199. Seminar. 2 Q. Autumn, winter, Summer. 1-3 cr. each quarter. Continuous for seniors. Prerequisite, senior standing and consent of instructor. First instruction and practice in research. Mr. Freeman. Mr. Merriam.

For Graduates

200. Graduate Seminar. Any quarter. Credit variable. Prerequisite, graduate standing in English and consent of the chairman of the department. Guidance in graduate subjects or research. Staff.

Speech and Drama

This major is for students who expect to teach Speech and Drama as well as English in the high school. It includes the courses in Education that are required for the certificate to teach and a minor in English. Students with a primary interest in Speech follow Schedule E and those whose interest is principally in Drama follow schedule F.

For the curriculum in the freshman and sophomore years, see the Division of Humanities on page 49.

Required in both schedules E and F.

Principles of Speech (Eng 20), Voice and Diction (Eng 68), and Oral Interpretation (Eng 69).

Schedule E has been arranged primarily for students with interest in speech arts. All students wishing to train themselves in clear, logical thinking should study Argumentation (English 21) and Logic (Psychology 50).

Courses to be taken in Speech and Drama: Argumentation (21), Discussion (42), Radio Speech (45a), Business and Professional Speaking (61), Debate (67), (2 cr.), Correction of Speech Disorders (134), Advanced Public Speaking (143), and 12 credits selected from the following: Applied Acting (15), Applied Stagecraft (16), Introduction to Theater Production (22abc), Advanced Theater Production (66abc), or Debate (67).

Schedule F leads principally to the teaching of dramatics in schools, clubs, and little theaters; but the studies in this schedule also help toward the attainment of desirable personal qualities—a clear and pleasant voice, poise, self-confidence, imaginative insight into people, a sense of the dramatic.

Courses to be taken in the Department of English: Applied Acting (15) (2 cr.), Applied Stagecraft (16) (2 cr.), Introduction to Theater Production (22abc), Advanced Theater Production (66abc), Theater Projects (190) (2 cr.), and 8 credits selected from the following: Radio Speech (45b), Shakespeare and Contemporaries (57bc), The Writing of Drama (70) or the Drama (77bc).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

15. Applied Acting. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer 2 cr. Open to all students. Students may enter any quarter. Participation in experimental and major productions. (a) Acting technique taught from the director's viewpoint. (b) Principles of pantomime and characterization. (c) Techniques of voice in acting. Current New York shows reviewed. Miss Brown.

16. Applied Stagecraft. 2 Q. Autumn, winter. 1 cr. each quarter. Summer 2 cr. Open to all students. Students may enter any quarter. (a) Principles and practice in stagecraft. (b) Principles of stage lighting and stagecraft. (c) Practice of the stage technician. All students work with production crews to qualify as production assistants. Miss Brown.

20. Principles of Speech. 1 Q. Autumn. Winter. Spring. Summer. 5 cr. Open to all students. A beginning course in public speaking with platform practice. Emphasis on audience analysis, purpose, organization, and conversational delivery. Mr. McGinnis.

21. Argumentation. 1 Q. Autumn. Winter. Spring. Summer. 5 cr. Open to freshmen but only with the consent of the instructor. The principles of persuasive speaking with special attention to their application to debate. Research, analysis, evidence, logic, speech composition. Class arguments on current social, economic, and political problems. Mr. McGinnis.

22abc. Introduction to Theater Production. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 22a. Open to all students. English 15 and 16, at least 1 cr. each, are recommended. (a) Principles of rehearsal and stage direction. Theory of dramatic criticism and playwriting. All students write one original one-act play or adaptation. (b) Technique of acting and rehearsal. Students stage a one-act play. Study and reading of contemporary American theater. (c) Principles of stage scenery, lighting, design. Students must qualify as production assistants. Study and reading of contemporary British theater. Mr. Stiffler.

42. Discussion. 1 Q. Spring. Summer. 3 cr. Prerequisite, sophomore standing. Theory and application of discussion and group thinking. Extemporaneous speaking in discussion groups. Research, analysis, and organization of thought in solving of problems. Given in 1947-48 and in alternate years. Mr. McGinnis.

45ab. Radio Speech. 2 Q. Winter, spring. 2 cr. each quarter. Summer, 45b. Prerequisite, English 20 or 2 credits of English 15. Adaptation of speech composition to the broadcasting situation. Script writing, program building, announcing. (a) Speech. (b) Drama. Given in 1947-48 and alternate years. Miss Brown. Mr. McGinnis.

S60. Modern Theories of Play Production. 1 Q. Summer. 2 cr. Prerequisite, junior standing and the equivalent of study or experience in the production of plays, Naturalism, symbolism, expressionism, theatricalism, and epic theater. Such men as Antoine, Stanislawski, Appia, Craig, Fuchs, Jessner, Mayerhold, and Piscator will be considered.

61. Business and Professional Speaking. 1 Q. Spring. 3 cr. Prerequisite, junior standing and English 20 or 21. Organization and adaptation of speech and materials to special types of audiences. Preparation of speeches on subjects of business and professional interest to the student. Given in 1946-47 and in alternate years. Mr. McGinnis.

66abc. Advanced Theater Production. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, junior standing and 12 credits of English 15 (1 cr.), 16 (1 cr.), and 22abc. (a) Technique of rehearsing and directing long plays. Analysis of 20 plays suitable for high school production and problems of each. Students stage one long play. (b) Principles of production with emphasis on style of producing farce, comedy, melodrama, tragedy. Study is made of one play by Shakespeare, Shaw, O'Neill, Anderson, Behrman, Kaufman, and Hart. Students produce one long play. (c) Technical problems of stage scenery, design, lighting. Mr. Stiffler.

67. Debate. 3 Q. Autumn, winter, spring. Summer. 2 cr. each quarter. A maximum of 6 credits may be taken. Prerequisite, junior standing and English 21. Study of historical debates. Participation in inter-collegiate debating. Mr. McGinnis.

68. Voice and Diction. 1 Q. Autumn. 3 cr. Prerequisite, junior standing. Study of the social, physiological, neurological, and psychological basis of speech, leading to understanding of speech as a mode of behavior. Given in 1946-47 and in alternate years. Mr. McGinnis.

69. Oral Interpretation. 2 Q. Winter, spring. Continuous. 4 cr. Open to major and minor students of junior standing; to others with consent of the instructor. Practice in reading aloud. Attention to declamation. Mr. McGinnis.

70. Writing of Drama. See page 78.

For Undergraduates and Graduates

134. Correction of Speech Disorders. 1 Q. Winter. Summer. 3 cr. Prerequisite, junior standing and consent of the instructor. Methods of diagnosis of basic types of abnormal speech; methods of correction. Given in 1946-47 and in alternate years.

143. Advanced Public Speaking. 1 Q. Autumn. 3 cr. Prerequisite, junior standing and English 20 or 21 and 68 or 69. Theory of oral style. Study of models of speech composition. Mr. McGinnis.

190. Theater Projects. 1 Q. Autumn. Winter. Spring. Summer. 1-3 cr. each quarter. Open to seniors and graduates who have taken at least 4 credits of English 66abc and 57b or 77abc (two quarters) and demonstrated ability in dramatics; to others with consent of the instructor on the basis of much work in drama and dramatics. The student may produce a play, edit a drama, study the plays of a dramatist, inform himself about actors or playwrights, theaters or movements in drama, probe into technical details of production. Mr. Stiffler. Mr. Merriam.

DIVISION OF EXTENSION AND PUBLIC SERVICE

PROFESSOR E. A. ATKINSON, DIRECTOR.

The University is actuated by the idea that, so far as its resources permit, it should perform any public service for which it is more naturally adapted than other existing agencies. For this reason it undertakes various extension activities, such as correspondence study, extension lecturing, etc.

Correspondence Study

For a bulletin of courses, address Correspondence Study Department, Montana State University, Missoula, Montana.

During the past year the University has offered the following correspondence courses:

Bacteriology and Hygiene

General Hygiene.

Business Administration

Elementary Accounting, Advanced Accounting, Auditing, Cost Accounting, Corporation Finance, Foreign Trade, Marketing, Methods of Teaching Typewriting, Methods of Teaching Shorthand, Salesmanship.

Classical Languages

Elementary Latin, Intermediate Latin, Writing Latin (Elementary), College Freshman Latin, the Annals of Tacitus, Life and Works of Vergil, Latin Seminar, Second Year College Latin.

Economics and Sociology

Principles of Economics, Money and Banking, Public Finance, Elementary Sociology, Child Welfare, Social Problems, Principles of Social Case Work, Labor Economics, Agricultural Economics, Public Welfare Administration, Elementary Anthropology, Community Organization, The Family.

Education

History of Education, Principles of Education, Educational Psychology, The High School, School Supervision, History of American Education, Educational Administration, Fundamentals of School Health, School Finance, Educational and Vocational Guidance.

English

British Literature, Backgrounds of Irish Literature, Language in Action (Composition 11ab), American Literature (59abc), The Novel (75a and b), Contemporary Literature (55b and c).

Geology

General Geology, World Geography.

History and Political Science

Introduction to Social Science, American Government and Politics, State and Local Government, United States History, Contemporary United States History, Europe in the Nineteenth Century.

Home Economics

Elementary Nutrition, House Planning and Furnishing, Textiles.

Journalism

The High School Newspaper.

Mathematics

Business Mathematics, Intermediate Algebra, Solid Geometry, Survey of College Mathematics, College Algebra, Plane Trigonometry, Mathematics of Investment (Elementary), Elementary Statistics, Plane Analytic Geometry, Differential Calculus, Integral Calculus, Seminar, Spherical Trigonometry.

Modern Languages

Elementary French (11b) ; Intermediate French ; Advanced French ; General Survey of French Literature ; French Culture and Life ; French Grammar Review and Composition ; The Seventeenth Century French Literature ; The Eighteenth Century French Literature ; French Reading ; The Nineteenth Century French Literature ; Advanced French Composition. Elementary German (11b) ; Intermediate German ; Advanced German ; German Grammar, Composition, Conversation ; German Readings. Elementary Spanish (11b) ; Intermediate Spanish ; Advanced Spanish ; Spanish Grammar, Composition, Conversation ; General Survey of Spanish Literature ; Spanish Drama of the Golden Age ; Spanish Novel and Drama of the Nineteenth Century ; Contemporary Spanish Drama ; Spanish-American Literature ; Commercial Spanish ; Contemporary Spanish Novel ; Spanish-American Civilization.

Music

Survey of History of Music, Elementary Harmony, Advanced Harmony, Counterpoint, Class Piano Methods, Band and Orchestra Problems, School Music.

Psychology and Philosophy

General Psychology, Social Psychology, Abnormal Psychology, Ethics, Child Psychology, Psychology of Business, Psychology of Personality, Logic, History of Philosophy.

Religion

The Religions of Mankind, Our Prophetic Heritage. Further work upon request.

Correspondence Study Fees

The fees for correspondence courses are payable in advance.

For each quarter credit\$4.00

A charge of \$2.00 will be made for extension of time for the completion of a correspondence study course, except in the case of students required to suspend the correspondence study work while in attendance at some institution. If no work has been done on a course, and all other rules have been complied with, upon payment of \$2.00, the fee will be transferred to another course on request.

Extension Courses

Regular university courses are made available to the public through the extension program. These courses are usually given in the evening, and are offered in any accessible community where there is sufficient demand to justify the organization of the work. In nearly every case, the instructor in charge of an extension course is the instructor who teaches that course regularly at the University. The fee for extension courses is based upon the charge of \$4.00 for each quarter credit. Persons who wish to attend these courses merely as "auditors" are charged at the flat rate of \$5.00 per course.

Public Lectures

The services of members of the University staff may be secured for public addresses and lectures by application to the Division of Extension and Public Service.

Owing to financial limitations Montana State University has no separate staff for public service work, but is compelled to call upon the members of the regular staff for extra-mural services. For this reason it is usually necessary to plan some time in advance for any work which calls staff members away from the institution for any considerable length of time.

PLACEMENT BUREAU

Montana State University endeavors to assist all of its graduates and graduate students in finding positions and in securing advancement. This work is done by the Placement Bureau, the Director of which is Dr. G. D. Shallenberger and the acting secretary of which is Mrs. Jean Robinson. Confidential information showing the preparation, character, ability, and success of all persons registered in this Bureau is collected. This information is furnished to prospective employers.

The Placement Bureau particularly assists school authorities in need of teachers, principals, and superintendents; in like manner, it assists teachers, principals, and superintendents in finding positions for which they are qualified, by training, ability, and experience, to fill. A registration fee of \$5.00 is charged teachers not registered as students in the University for this service to cover the cost of gathering material, making up sets of papers, and sending them out to employing school officials. No additional charge is made for renewal of registration in subsequent years.

Fine Arts

ASSISTANT PROFESSOR ADEN F. ARNOLD.

Major Requirements: 55 or more credits, including the following courses in Fine Arts: Drawing (23), Color and Design (25ab), History of Art (31abc), Painting (40) and Life Drawing (51).

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

23. Drawing. 3 Q. Autumn, winter, spring. Summer. 3 cr. each quarter. Open to all students. Fundamentals of objective and expressive drawing, using varied methods and subject matter.

25ab. Color and Design. 2 Q. Autumn, winter. Summer. 3 cr. each quarter. Open to all students. A course in creative design and use of color, offering an introductory study of theories, methods and problems.

31abc. History of Art. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. Student may enter any quarter. A comprehensive treatment of every important art movement related to corresponding social and cultural backgrounds. Consideration of aesthetic values is an important phase of the work.

35. Sculpture. 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, 6 credits of Fine Arts 23. A basic course in the methods and techniques of sculpture.

37. Mediums. 1 Q. Autumn, Summer. 3 cr. Prerequisite, 6 credits of Fine Arts 23. Experiments with a variety of mediums to achieve a comprehensive knowledge of the limitations and possibilities of each, and a study of historical and current practices.

39. Water Color. 1 Q. Spring, Summer. 3 cr. Prerequisite, 6 credits of Fine Arts 23. Water color techniques and expressive use of subject matter. Still life and landscape.

40. Painting. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, 6 credits of Fine Arts 23. Methods and techniques of oil painting, with individual criticism directed towards significant expression.

51. Life Drawing. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, 6 credits of Fine Arts 23. A concentrated study of the human figure, posed and in action, accompanied by study of anatomical construction. With consent of instructor, this course may be repeated to a maximum of 9 credits.

For Undergraduates and Graduates

125. Advanced Design. 3 Q. Autumn, winter, spring. 1 to 3 cr. each quarter. Prerequisite, junior standing and Fine Arts 25ab. Advanced problems of a specialized nature. With consent of instructor, this course may be repeated to a maximum of 12 credits.

140. Advanced Painting. 3 Q. Autumn, winter, spring. 1 to 3 cr. each quarter. Prerequisite, junior standing and Fine Arts 40. Advanced training with emphasis on creative work. With consent of instructor, this course may be repeated to a maximum of 12 credits.

School of Forestry

PROFESSORS FAY G. CLARK, KENNETH P. DAVIS (DEAN), THOMAS C. SPAULDING, CHARLES W. WATERS; ASSOCIATE PROFESSOR MELVIN S. MORRIS; INSTRUCTOR AND STAFF FORESTER O. M. PATTEN; INSTRUCTOR THOMAS A. WALBRIDGE, JR.; SECRETARY EDNA HELDING CAMPBELL; LIBRARIAN MAIDA THOMAS. Additional teaching positions to be filled.

General Information

Forest education began at Montana State University in 1912 with organization of a short-term Ranger School at the request of the U. S. Forest Service. The next year some collegiate instruction in the subject matter of forestry was initiated by the Department of Botany. The School of Forestry, as a separate and distinct entity, was created by a special enabling act of the Legislature of the State of Montana in 1913 and was actively organized by 1914. It is fully accredited by the Society of American Foresters, national accrediting agency for forest schools.

Location. Situated in the heart of a major forest region, the School of Forestry has a marked advantage in location. Within 100 miles of the campus are ten national forests, several state forests, Glacier National Park, several federal and state game and wildlife refuges, several large private forest properties and all the principal forest types of the Inland Northwest. The headquarters of the Northern Region and the Northern Rocky Mountain Forest and Range Experiment Station of the U. S. Forest Service, the State Forester of Montana, the Lolo National Forest and the Blackfoot Forest Protective Association are in Missoula.

Railroads and highways place the School within easy reach of extensive logging, lumbering, and forest products manufacturing operations. Mills with an average annual cut of 120,000,000 feet, board measure, are located within thirty minutes of the campus and are available for use by the School in teaching and research.

Montana Forest and Conservation Experiment Station. The Montana Forest and Conservation Experiment Station was created by the State

Legislature in 1937 as an integral part of the School of Forestry. The staff of the School may be designated as members of the Experiment Station. Through the Station, the School of Forestry has wide authorization and vehicle for research and other professional activity in forest and conservation problems of Montana.

Equipment and Properties. The School of Forestry is housed in a separate modern 3-story building 56 by 130 feet, designed for forestry. It is well supplied with transits, levels, and other surveying equipment and with normal class room and laboratory equipment needed for effective teaching.

Deeded to the Experiment Station, and through it available to the School of Forestry, is the W. C. Lubrecht Experimental Forest of 21,000 acres of variously stocked forest and range lands. This area includes a wide and representative range of forest conditions in the ponderosa pine, larch-Douglas-fir and lodgepole pine types well suited for experimental management. It is 30 miles from the campus by highway. Other forest tracts suitable for field instruction are available to the School within a few miles.

A forestry nursery of 20 acres is maintained contiguous to the campus with a capacity of a million trees annually. The nursery co-operates with the Federal Government under the Clarke-McNary and Norris-Doxey Acts in the production of coniferous and deciduous planting stock for farm plantings. Supplied with modern equipment and employing a considerable number of student assistants, the nursery constitutes a valuable field laboratory to the School in nursery operation.

Field Work. Advantage is taken of the proximity to the campus of varied forest and range lands and industries by carrying on as much technical instruction as possible in the field. Frequent field trips, sometimes of several days duration, are made as a part of a regular instruction during the junior and senior years. In the spring of the senior year an extensive field trip of approximately three weeks' duration and 2,000 miles in extent is made to visit and study forest and range conditions and problems of the West. Upperclass and graduate students must be prepared to bear the expense of such trips.

School Activities. The Forestry Club of the School carries on various activities, such as field practice in woodsmanship for the novice, skiing, hikes, riflery and the Foresters' Ball—a major campus event of the year. It has built up a loan fund of about \$6,000 available to juniors and seniors who have been active members of the Club for one year.

The Druids is an honorary forestry fraternity of the School limited to not more than 20 students outstanding in leadership and scholarship in school and campus affairs.

Requirement for Admission and Graduation

The regular University requirements for admission apply to the School of Forestry. To continue as majors in the School of Forestry during the second period (third and fourth years), students must have and maintain a scholarship index of 1.0 (average grade of "C").

High school students planning to enter the School of Forestry should emphasize English, mathematics, biology, chemistry, and physics in their courses. Plane geometry and advanced algebra are especially important. Junior college and other transfer students planning to complete their work in forestry should study the forestry curriculum carefully and so far as possible plan their work to include the prescribed courses for the freshman and sophomore years. To do so will avoid irregular course schedules and save much time and difficulty.

Candidates for the degree of Bachelor of Science in Forestry must meet the following requirements:

1. The general University requirements for graduation.
2. A minimum of 186 credits of work, not including credits obtained by required work in Military Science and Physical Education.
3. A curriculum in forestry satisfactory to the staff of the School.

Senior examinations will not be given except to candidates for honors.

Summer Work

A feature of the Montana School of Forestry is the opportunity for and emphasis placed upon summer work. The School believes the best place to learn the practical and application aspects of forestry is on the job. Summer work while going to school is extremely valuable in supplementing and rounding out academic instruction and leads to a better balanced and trained man at graduation. Accordingly, each student is expected to spend at least two summers of at least three months each in gaining field experience through some type of approved forestry work. The opportunity to earn while gaining experience is an added advantage of summer work.

Employment opportunities for Montana students are normally good and every effort is made by the School to assist in placing students and in doing everything possible to assure fruitful and diversified experience. Federal and state agencies and the forest industries all cooperate in making summer work available for the student.

Summer School and Camp

A summer quarter or camp is not at present required. As indicated above, emphasis is placed on summer field work on the job and frequent field trips during instruction. However, to meet the needs of large numbers of returning veterans, courses in surveying and mapping will be offered on the campus as a part of the regular Summer School in 1946, and as long as the need continues.

Graduate Work

The School of Forestry offers graduate work leading to the Master of Forestry and Master of Science degrees in the general fields of timber and range management. Some courses at an advanced level are offered especially for graduate work. Individual courses on specific forestry problems may be arranged. The Master of Forestry degree is designed for those who wish to add to their undergraduate training and gain some degree of specialization in a particular field through well selected advanced courses and some thesis work. The Master of Science degree in forestry is designed for those who wish to specialize more deeply in a particular scientific field with greater emphasis on research and thesis work.

For additional information on graduate work, see the announcement of the Graduate School elsewhere in this catalog.

Curriculum

The School of Forestry emphasizes undergraduate instruction in the management of forested lands for the production and utilization of timber, forage, wildlife and water. Graduates are prepared for entering Civil Service positions in the Federal Government, state forestry, private forest industry and for subsequent graduate work. Although all stu-

dents receive basic training in the general field of forestry, optional specialization during the third and fourth years is provided in either (a) Timber Management or (b) Range Management.

The curriculum for the first and second years is the same for all and is essentially pre-forestry. It is designed to build a general foundation, particularly in the sciences, upon which professional training in forestry, itself a field of applied science, must rest. Major courses in forestry begin in the third or junior year.

The minimum course requirements for the Bachelor's degree in forestry are so arranged that they can be completed in four academic years, and the following curriculum is set up on this basis. However, it should be clearly recognized that the schedule is rather heavy. Students with inadequate high school preparation at the time of entrance or those who are not able to complete all courses on schedule will require more time to complete the work. It should also be recognized that although the schedule includes broad preparatory work for a professional degree, it allows little space for elective courses desirable in rounding out a more general education. Many students will find it advantageous to allow more time to complete their undergraduate work.

The student should realize that the scope and requirements of forestry have increased greatly in recent years. Educational requirements have increased correspondingly, particularly in fields of specialization. Students who want full professional preparation should look forward to at least a Master's degree requiring a minimum of five years of college work. Real specialization comes with advanced work, which often can most effectively be accomplished following a year or so of practical experience following the bachelor's degree. At this later date, the man knows more definitely what he wants and is in a better position to take advanced work in his professional field and to broaden his education generally.

The following courses are required of all students majoring in forestry except as changes may specifically be approved by the forestry faculty.

First Year

| Autumn | | Winter | | Spring | |
|--------------------------|----|--------------------------|----|--------------------------|----|
| For. 11a, Survey of For. | 1 | For. 11b, Survey of For. | 1 | For. 11c, Survey of For. | 1 |
| Zoology 10 or Botany 10a | 5 | Zoology 10, or Bot. 10a | 5 | Botany 10b | 5 |
| Chemistry 11a or 13a | 5 | Chemistry 11b or 13b | 5 | Chemistry 11c or 13c | 5 |
| Math. 10, Algebra | 5 | English 11a | 5 | Math. 13, Trigonometry | 5 |
| P. E. 11a, Physical Ed. | 1 | P. E. 11b, Physical Ed. | 1 | P. E. 11c, Physical Ed. | 1 |
| Mil. Sc. 11a | 1 | Mil. Sc. 11b | 1 | Mil. Sc. 11c | 1 |
| | 18 | | 18 | | 18 |

Second Year

| Autumn | | Winter | | Spring | |
|-------------------------|----|-------------------------|----|-------------------------|----|
| Physics 20a | 5 | Physics 25 | 5 | English 11b | 5 |
| Economics 14a | 4 | Bot. 22, Physiology | 5 | Bot. 51, Ecology | 5 |
| For. 12a, Mapping | 2 | For. 12b, Mapping | 2 | For. 20b, Surveying | 5 |
| For. 20a, Surveying | 4 | For. 25, Soils | 4 | P. E. 12c, Physical Ed. | 1 |
| P. E. 12a, Physical Ed. | 1 | P. E. 12b, Physical Ed. | 1 | Mil. Sci., 12c | 1 |
| Mil. Sc. 12a | 1 | Mil. Sc. 12b | 1 | | |
| | 17 | | 17 | | 17 |

Note: Students who have had the equivalent of Mathematics 10, intermediate algebra, before entering the University should take English instead, in autumn of first year, and are advised to take Math. 25, Statistics, in the spring quarter of second year. Students who offer entrance credit in trigonometry may not receive credit in Mathematics 13.

Third Year

(Required in all schedules)

| Autumn | Winter | Spring |
|---------------------------------|-----------------------------|---------------------------------|
| For. 105a, Silviculture 4 | For. 105b, Silviculture 4 | For. 105c, Silviculture 4 |
| For. 110a, Measurements 3 | For. 110b, Measurements 3 | For. 110c, Measurements 3 |
| Geol. 11a, Geology 5 | For. 120, Gen. Range Mgt. 5 | Bot. 125, Pathology 5 |
| For. 100, Dendrology 5 | | |
| 17 | | |
| Timber Management Option | | |
| | For. 115, Wood Tech. 4 | Zool. 118, Entomology 3 |
| | 16 | 15 |
| Range Management Option | | |
| | Bot. 161a, Syst. Bot. 5 | For. 121, Range Forage Plants 4 |
| | 17 | 16 |

Fourth Year

(Required in all schedules)

| Autumn | Winter | Spring |
|---------------------------------|--------------------------------|---------------------------|
| For. 130, Valuation 4 | For. 145a, Forest Management 4 | For. 145b, Forest Mgt. 2 |
| For. 138, Wildlife Mgt. 4 | For. 114, Fire Control 4 | For. 194, Field Seminar 4 |
| | For. 148, Forest Economics 4 | |
| Timber Management Option | | |
| For. 133, Logging 4 | For. 136a, Forest Eng. 4 | For. 136b, Forest Eng. 4 |
| For. 125a, Utilization 4 | | For. 125b, Utilization 4 |
| 16 | 16 | 14 |
| Range Management Option | | |
| Elective 4 | For. 140b, Range Management 4 | For. 140c, Range Mgmt. 2 |
| For. 140a, Range Mgt. 4 | | Zool. 118, Entomology 3 |
| 16 | 16 | 11 |

Wildlife Management

Course work in Wildlife is provided along two general plans:

(a) Students whose major field is in forestry and general wildland management, but who are also especially interested in wildlife and wish to take additional work in this subject, should take the courses required in all forestry schedules with additional courses in zoology, botany, and range management. The student should elect from the followings courses: Elementary Zoology (Zool 14ab), Comparative Vertebrate Zoology (Zool 23), Parasitology (Zool 103), Aquatic Biology (Zool 107), Ornithology (Zool 108), Mammalogy (Zool 109), Genetics

(Zool 125), Animal Ecology (Zool 128), Advanced Vertebrate Zoology (Zool 131), Systematic Botany (Bot 161ab), General Range Management (For 120), For. 121, Range Forage plants, and Range Management (For 140abc). Students should plan on 5 years to complete this curriculum.

(b) Students whose major interest is in wildlife should take the wildlife technology curriculum described elsewhere in this catalog.

For Undergraduates

11abc. Survey of Forestry. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Students may enter any quarter. General survey of the fields and subjects matter of forestry and introduction to the profession; functions and characteristics of forests, their benefits, use, distribution, importance, and conservation. Mr. Davis.

12ab. Mapping. 2 Q. Any quarter. 2 cr. each quarter. Elementary and advanced lettering, drawing and map construction. Mr. Walbridge.

20ab. Surveying. 2 Q. Autumn. 4 cr. Spring. 5 cr. Summer 1946. 8 cr. Prerequisite, trigonometry (Math. 13). Use, care, and adjustment of instruments; plane and topographic maps and surveys using compass tape, Abney level, stadia, traverse board, and photographic methods; leveling, triangulation, astronomical observations; U. S. land survey methods. Mr. Walbridge.

25. Soils. 1 Q. Winter. 4 cr. Prerequisite, Chemistry 11 or equivalent. A general course in soils of forest and range land; soil classification and surveys; soil erosion control. Mr. Morris.

For Undergraduates and Graduates

100. Dendrology. 1 Q. Autumn. 5 cr. Prerequisite, Botany 22 or consent of instructor. The microstructural and taxonomic relations and distribution of the principal forest trees of the United States and Canada, with some consideration of important foreign species. Mr. Waters.

105abc. Silviculture. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Students may enter any quarter. Prerequisite, Botany 51. The foundations of silviculture upon an ecological basis. The effects of climatic, edaphic, and biotic factors on the growth and development of trees and stands. The influences of the forest upon the site. Principles underlying the regeneration, care, and protection of forest stands. The silvicultural systems of harvesting and reproducing the final crop and the intermediate treatments such as weedings, thinnings, and improvement cuttings. Application of silvicultural methods in the various forest regions of America. Artificial reproduction of the forest, including sowing, planting, and nursery practice. Mr. Waters.

110abc. Forest Measurements. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, Math. 13. Math. 25 (Statistics) highly advised. Application of mathematical methods to forest and range measurement problems. Measurement of the volume and content of timber products; determination of the volume, growth, and yield of trees and timber stands. Mr. Clark.

114. Forest Fire Control. 1 Q. Winter. 4 cr. Prerequisite, Surveying 20ab. Forest fire control prevention, detection and suppression; improvements, equipment and organization. Field trips. Mr. Spaulding.

115. Wood Technology. 1 Q. Winter. 4 cr. Prerequisite, Botany 22 or consent of instructor. The physical, chemical, and mechanical properties of wood. Mr. Waters.

120. General Range Management. 1 Q. Winter. 5 cr. Prerequisite, junior standing. An introduction course to the field of range management, class of stock, grazing season, grazing capacity, control and distribution of livestock on range. Range improvements; forest and range interrelationships. Mr. Morris.

121. Range Forage Plants. 1 Q. Spring. 4 cr. Prerequisite, Forestry 120 and Botany 161a. Economic range of forage plants; forage value to different kinds of range animals; management problems in their use. Mr. Morris.

125ab. Forest Utilization. 2 Q. Autumn, Spring. 4 cr. each quarter. Prerequisites Forestry 115 and Chemistry 11abc or 13abc, or consent of instructor. Manufacture and processing of products derived from the forest stand. Wood preservation. A survey course covering the fields of forest products and their uses. Field trips required. Mr. Spaulding.

127. Forest Recreation. 1 Q. Autumn. Spring. 3 cr. Prerequisite, junior standing. Administrative, economic, and social aspects of the recreational use of forest lands. Field trips may be required. Mr. Clark.

130. Valuation. 1 Q. Autumn. 4 cr. Prerequisite, Forestry 105 and 110, or consent of instructor. Finance and investment methods applied to forest enterprises; appraisals. Mr. Clark.

133. Logging. 1 Q. Autumn. 4 cr. Prerequisite, Surveying 20ab. Equipment, methods, and costs of logging and forest transportation in the United States. Analysis and planning of logging operations. Field trips.

136ab. Forest Engineering. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Forestry 110 and Forestry 133 or consent of instructor. Layout of roads and other forest improvements, earthwork computation, measurement of water flow, photogrammetry.

137. Timber Mechanics. 1 Q. Winter. 4 cr. Prerequisite, Math. 13 or equivalent and Forestry 115. Factors governing the strength and utility of wood as a structural material; determination of stresses in wooden structures.

138. Wildlife Management. 1 Q. Autumn. 4 cr. Prerequisite, junior standing. The management of wildlife as a resource. Required of all specializing in Range Management. Mr. Morris.

140abc. Range Management. 3 Q. Autumn. Winter. 4 cr. Spring. 2 cr. Prerequisite, Forestry 120. Range types, distribution, forage value, forage production and utilization; range regulation, improvement. Correlation with other forest soil uses. Management plans. Mr. Morris.

145ab. Forest Management. 2 Q. Winter. 4 cr. Spring. 2 cr. Prerequisite, Forestry 105 and 110. Organization and management of forest properties; determination of allowable cut and regulation of the growing stock.

148. Economics of Forestry. 1 Q. Winter. 4 cr. Prerequisite, Economics 14a and junior standing. Forest resources and their relationships to the national and international economy; economic aspects of forest land management and utilization of its products.

150. Forest Policy. 1 Q. Autumn. 4 cr. Prerequisite, Forestry 105 and 148. Development of forest law and policy in the United States and other nations; current trends in public and private forestry. Mr. Spaulding.

155. Advanced Forest Mensuration. 1 Q. Winter. 4 cr. Prerequisite, Forestry 110 or consent of instructor. Advanced work in the determination of forest volume, growth and yield. Modern techniques in volume table construction, growth and yield studies. Mr. Clark.

160. Advanced Range Management. 1 Q. Any quarter if demand sufficient. 3-5 cr. Prerequisite, Forestry 140 or its equivalent. For advanced students. Field and laboratory studies in the field of range management emphasizing individual problem work. Mr. Morris.

165. Advanced Forest Management. 1 Q. Any quarter if demand sufficient. 4 cr. Prerequisite, Forestry 145 or its equivalent. Analysis and preparation of working plans. Current trends and developments in regional forest management practice. Independent problem work.

191. Forestry Problems. 3 Q. Any quarter 2-5 cr. each quarter. Prerequisite, completion of basic undergraduate work and consent of instructor. Individual problem work in timber, range or wildlife management fields. Staff.

192. Research Methods. 1 Q. Any quarter if demand sufficient. 3-4 cr. Prerequisite, senior standing and consent of instructor. Experimental methods and design, application of statistical methods, analysis of variance and covariance, etc., to forest research problems. Staff.

193. Senior-Seminar. 2 Q. Autumn, winter. 2 cr. each quarter. Prerequisite, senior standing. A general review of the newer developments in the various fields of forestry. Staff.

194. Field Seminar. 1 Q. Spring. 4 cr. Required of all seniors in Forestry (end of 4th year for students in Wildlife Management). An extended field trip through the range types of the Great Basin, the forest types of the Rocky, Cascade, Sierra, and Coast mountain ranges. Inspection of plants and processes involved in forest utilization. Study of installations and projects at field experiment stations, visits to various logging operations. Individual reports required.

For Graduates

200. Research. Any quarter. Credit variable. Independent graduate research work in the fields of timber, range, and wildlife management. Staff.

Note: Classwork will not be given in any subject unless demand is sufficient.

Geology

ASSOCIATE PROFESSOR WAYNE R. LOWELL (CHAIRMAN).

Objectives and Functions: The objectives which motivate the organization of the department and the courses of instruction given by the Department of Geology are: (1) To provide sound training in the fundamentals and principles of Geology. (2) To contribute to the subject knowledge of Geology through active research on original problems. (3) To demonstrate to the students the scientific method of thinking and the significance of science in modern civilization. (4) To prepare superior students for graduate training and an ultimate career as professional geologists. (5) To help the future citizens of Montana intelligently exploit and conserve the vast natural resources of the state.

The Department of Geology attempts to attain its objectives by performing the following functions: (1) To disseminate information through integrated fundamental courses of instruction, and museum exhibits of geologic phenomena. (2) To add to the subject matters of Geology through a program of scientific research on problems related directly or indirectly to the natural resources of Montana. (3) To preserve fossils, mineral types, and other related materials of natural science in Montana as part of the cultural life and heritage of future citizens.

Major Requirements: Major students must complete 40 or more credits in Geology. The following courses must be completed: General Geology (Geol 11ab), Historical Geology (Geol 22), Stratigraphy of North America (Geol 23), Mineralogy (Geol 24), Petrology (Geol 26), Field Geology (Geol 35), and Structural Geology (Geol 121). Inorganic Chemistry and Qualitative Analysis (Chem 13), Surveying (For 20ab), Advanced German (Mod Lang 15) or Advanced French (Mod Lang 15), Survey of College Mathematics (Math 12), and General Physics (Physics 20abc). Plane Analytic Geometry (Math 21) also should be completed. Students preparing for graduate training in Economic Geology must also complete Economic Geology (Geol 101) and Mineral Deposits (Geol 103), Calculus II (Math 23), and Physical Chemistry (Chem 106). Students preparing for graduate training in Paleontology and Stratigraphy must complete Economic Geology (Geol 101), Invertebrate Paleontology (Geol 111), Elementary Zoology (Zool 14ab), and Comparative Vertebrate Zoology (Zool 23), and also should complete General Comparative Embryology (Zool 101), Elementary Anthropology (Econ 15), and General Botany (Bot 11ab).

Senior examinations will not be given.

For Undergraduates

10. World Geography. 1 Q. Autumn, Winter. 3 cr. Open to all students. Distribution of lands and oceans, physiographic features, and climates of the major populated areas of the earth. Emphasis placed on distribution of national resources such as rubber, petroleum, and strategic minerals. This course does not apply toward the restricted elective requirement in laboratory science unless credit is offered in Geology 11ab.

11ab. General Geology. 2 Q. Autumn, winter. 5 cr. each quarter. The first quarter is given to a study of the origin and development of the surface features of the earth and its broad structural features. The second quarter is directed to the origin and evolution of the earth and its organisms.

22. Historical Geology. 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11a. The first quarter takes the study to the close of the Paleozoic era, and the second quarter continues it to the present time.

23. Stratigraphy of North America. 1 Q. Spring. 4 cr. Prerequisite, Geology 22 or 111. The stratigraphic record of North America in terms of paleogeography.

24. Mineralogy. 2 Q. Autumn, winter. Continuous. 8 cr. Chemistry 11 or 13 is prerequisite or may be taken concurrently. The elements of crystallography and the classification and determination by means of physical properties, blowpipe analysis, and other simple chemical tests, of about 175 common minerals of geologic and economic importance.

26. Petrology. 1 Q. Spring. 4 cr. Prerequisite, Geology 24. Study of the common rocks by means of their physical characters and mineral composition, their identification in the field, classification, origin, and structural features.

35. Field Geology. 1 Q. Spring. 2 cr. Prerequisite, Geology 11b. A course designed primarily to illustrate geologic features and principles by study of actual cases in the field.

For Undergraduates and Graduates

101. Economic Geology. 1 Q. Autumn. 4 cr. Prerequisite, Geology 11b and 24. A study of the non-metallic mineral deposits of North America.

103. Mineral Deposits. 2 Q. Winter, spring. Continuous. 8 cr. Prerequisite, Geology 26 and 101. A course in the more theoretical aspects of the geology of metallic mineral deposits.

111. Invertebrate Paleontology. 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11b; Zoology 14ab recommended. An introduction to fossil organisms with equal emphasis placed on anatomy, evolution, and faunas.

121. Structural Geology. 1 Q. Spring. 4 cr. Prerequisite, Geology 11a, 22, 26, high school physics, and Mathematics 12. A detailed study of the structural features of the earth's crust, presented largely by means of lectures and problems.

135. Geologic Surveying. 1 Q. Spring. 2-3 cr. Prerequisite, Geology 22, 26, and 35. Methods used in making a detailed study of field problems and preparing a formal report upon the investigation.

137. Advanced Geologic Problems. 1 Q. Any quarter. 2-5 cr. Prerequisite, Geology 11ab, junior standing, and consent of instructor.

For Graduates

201. Research. Any quarter. 2-4 cr. The department is prepared to arrange for properly qualified students to do independent investigation in paleontology, stratigraphy, structural geology, mineralogy, and economic geology.

Graduate School

Administration

Graduate instruction in the University is administered by the Committee on Research and Graduate Study acting for the general Faculty. The Registrar is the Secretary of the Committee.

Degrees Offered

(1) Graduate courses leading to the degree of Master of Arts or Master of Science are offered in the following Departments and Schools:

Bacteriology and Hygiene, Botany, Business Administration, Chemistry, Economics and Sociology, Education, English, Fine Arts, Forestry, Classical and Modern Languages, Geology, History and Political Science, Pharmacy, Home Economics, Journalism, Mathematics, Music, Physical Education, Physics, Psychology and Philosophy, and Zoology.

(2) The degree of Master of Education (no thesis required) is offered in the School of Education.

(3) The degree of Master of Forestry is offered in the School of Forestry. In lieu of a thesis a professional paper is required.

Graduate Record Examination

The Graduate Record Examination, while not required for admission to the graduate school, has been authorized by the Faculty as a means of supplementing other evidence of proper qualification for graduate study. This examination may be given at the option of any department or school.

Admission to the Graduate School

Applicants for admission to the Graduate School must hold the Bachelor's degree from Montana State University, or its equivalent from a college or university of approved standing. Official evidence must be offered of the completion of the minimum requirements for an undergraduate major in the field selected for graduate study or an allied field acceptable to the major department and to the chairman of the Graduate Committee. This work must approximate the general requirements for the corresponding Bachelor's degree at Montana State University. To receive graduate credit the student must register in the Graduate School and his program must receive the approval of the Chairman of the Graduate Committee.

In the School of Education, applicants may be admitted to major graduate study who have the Bachelor's degree and who have completed the certification requirements of the state in which they secured their undergraduate degree or of Montana.

At the discretion of a Department or School, qualifying examinations may be administered in order that there may be no question regarding a candidate's preparedness for graduate study. Such examinations may be oral or written or both.

Members of the faculty of Montana State University above the rank of instructor may not become candidates for advanced degrees from this University. This does not prevent such members from taking advanced courses for transfer to other institutions.

Admission to Candidacy for an Advanced Degree

If an applicant's record is satisfactory during his first quarter of attendance he may be admitted to candidacy for the Master's degree at the beginning of his second quarter. At this time, or at least two quarters prior to qualifying for the degree, he must file an application for Admission to Candidacy for the Master's degree, and submit a tentative thesis title. These forms must be filed **in triplicate**. (Master of Education degree candidates do not file thesis title since no thesis is required.)

Graduate Credit Courses

Undergraduate courses of advanced character are accepted for graduate credit. Such courses, however, must be of at least junior character. Courses numbered from 100 to 199 will meet this requirement. Courses numbered 200 or over are open to graduate students only.

An undergraduate of senior standing who needs less than 9 quarter credits to complete the requirements for the baccalaureate degree may enroll in courses for graduate credit. All requests for such enrollment must be submitted to and be approved by the major professor and the Chairman of the Graduate Committee in advance of registration.

Study Load

Fifteen hours of graduate credit per quarter is considered a maximum graduate study load.

Graduate students who are well qualified can complete the requirements for the Master's degree during one academic year of three quarters.

Graduate students employed as teaching assistants, or in other part time employment must carry a reduced number of credits. Such students, of course, cannot fulfill all the requirements for the Master's degree in three quarters.

Transfer of Graduate Credit

Graduate credit for courses completed in other institutions of approved standing may be transferred in a total amount not to exceed 12 quarter credits. Transfer of such credit does not shorten the period of residence requirement.

Residence Requirement

Three regular quarters or three summer sessions of 10 weeks each is the minimum residence requirement for the Master's degree. (Exception to this is made in the case of extension courses as noted below.) All credit that is applied toward the fulfillment of the requirements for the Master's degree must be earned within a period of six years before the degree is granted.

Quality of Work

No grade below a C is accepted in any course offered for graduate credit and an average of B must be maintained for all courses offered for the Master's degree.

Extension and Correspondence Work

With the approval of the Graduate Committee, credits earned in Extension lecture courses of graduate caliber taught by members of the University faculty may be accepted for a Master's degree to a maximum of 15 quarter credits. One quarter residence (of the 3 regularly required) may be waived by the satisfactory completion of 15 credits so earned. Correspondence courses will not be accepted for graduate credit.

Credit Requirements

(1) Master of Arts and Master of Science Degree.

Before receiving the Master of Arts or the Master of Science degree the candidate must present evidence of intensive study and investigation in his field of special interest. He must present at least 45 credits in graduate courses and a thesis.

(2) Master of Education Degree.

Candidates for the Master of Education degree must have completed a minimum of 3 years' satisfactory teaching (one of which may have been military teaching experience) and offer 45 credits in graduate courses, at least ten hours of which must have been earned following completion of the teaching experience. No thesis is required. Work for this degree may be completed in the minimum required residence of 3 regular quarters or 3 summer sessions of 10 weeks each.

Qualifying examinations, oral or written or both, may be given by the School of Education for admission to candidacy.

The degree of Master of Education and Master of Arts in Education are mutually exclusive, so that both degrees may not be conferred upon the same individual.

(3) Master of Forestry Degree.

Candidates for the Master of Forestry degree must offer 45 credits in graduate courses and a professional paper.

Major and Minor Work

(1) A minimum of two thirds of the course credits offered for a Master of Arts degree and Master of Science degree must be in the major field. The remainder of the credits may be in a related (minor field).

(2) For the Master of Education degree, if the candidate's undergraduate major was Education, a maximum of 30 quarter credits may be offered in minor fields, otherwise the maximum which may be offered in fields other than Education is 15 quarter credits.

(3) For the Master of Forestry degree, candidates must offer a minimum of 25 credits in the major field of forestry. The remainder of the credits may be in fields other than forestry.

Thesis

For the degrees of Master of Arts and Master of Science a thesis is required. The subject of the thesis must receive the approval of the major professor and the Chairman of the Graduate Committee. By the end of the fourth week of the final quarter before the degree is to be secured, the candidate must file with the Secretary of the Graduate Committee three unbound copies of the thesis. He must pass an examination over the whole field of his special study and this examination, either oral or written or both, may be taken only after the thesis is accepted. Final acceptance of the thesis is subject to the approval of a special examining Committee which also conducts the examination. This Committee will be appointed by the Chairman of the Graduate Committee, in consultation with the major professor and must, if possible, include at least two members of the staff of the major field.

Three copies of a statement of all graduate courses to be offered, and experience, such as in teaching, research work, etc., must be filed with the Secretary when the thesis copies are submitted.

After the examination, three bound copies of the thesis must be placed on file with the Secretary of the Graduate Committee.

Professional Paper. For the degree of Master of Forestry a professional paper is required. This paper is to be prepared under the direction of the major professor. The subject matter must be approved by the Dean of the School of Forestry. After the candidate's examination one copy of the professional paper must be submitted to the Secretary of the Graduate Committee. Such copy will be deposited in the University library.

Examination for Master of Education Candidates

Candidates for the Master of Education degree must take, during the final month of the quarter in which they expect to secure their degree, oral and written examinations over the course work that they have completed. Arrangements for these examinations are made by the Dean of the School of Education.

Examination for Master of Forestry Candidates

Candidates for the Master of Forestry degree must take, during the final month of the quarter in which they expect to receive their degree, an examination, either oral or written, over the course work which they have completed and the subject matter of the professional paper. Arrangements for these examinations are made by the Dean of the School of Forestry.

Health and Physical Education

PROFESSOR DOUGLAS A. FESSENDEN; ASSOCIATE PROFESSORS GEORGE P. DAHLBERG, CHARLES F. HERTLER (ACTING CHAIRMAN); ASSISTANT PROFESSOR EDWARD S. CHINSKE; INSTRUCTORS RUTH N. GREENFELD, VINCENT WILSON.

Major Requirements: 45 or more credits in addition to courses Freshmen and Sophomore Physical Training, Men and Women (Phys Ed 11abc and 12abc). The following courses must be completed: Advanced Gymnastics (Phys Ed 15abc), Human Anatomy (Phys Ed 20ab), First Aid (Phys Ed 32), Systems and Methods (Phys Ed 35ab), Kinesiology (Phys Ed 136), School Gymnastics (Phys Ed 137), Corrective Gymnastics (Phys Ed 141), Physiology of Exercise (Phys Ed 148), Anthropometry and Diagnosis (Phys Ed 149), Organization and Administration (Phys Ed 150), Health Education (Phys Ed 153), Coaching for Women (Phys Ed 63abc-women), Coaching of Basketball (Phys Ed 60), Coaching of Track (Phys Ed 61ab), Coaching of Football (Phys Ed 62ab-men); Elementary Zoology (Zool 14ab) and Human Physiology (Zool 24). The following courses are recommended: Dancing Methods and Materials (Phys Ed 45abc); General Hygiene (Bact 26), Elementary Bacteriology (Bact 19) or General Bacteriology (Bact 117), Sanitation and Public Health (Bact 126); Comparative Vertebrate Zoology (Zool 23) and General Histology (Zool 105); General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13).

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

General Information. All students taking part in the work of the Department are required to take a physical examination.

All students enrolled in Montana State University are required to take 1 credit each quarter until 6 credits of Physical Education 11abc, 12abc have been completed. See also page 26. Students who are physically unable to take the regular class work are given excuses or exemptions by the University Health Service after consultation with the physician in charge of the case, or are required to enter corrective classes, or to do individual corrective work suited to their needs.

Athletics. All intercollegiate athletics are under the supervision of the Faculty Athletic Committee, varsity teams being maintained in football, basketball, track, baseball, and the minor sports.

Facilities are provided by the Department for participation in athletic work for every member of the student body, intra-mural competition being maintained in football, basketball, baseball, track, tennis, cross-country running, indoor baseball, boxing, wrestling, golf, gymnastics, and swimming.

Intercollegiate competition in minor sports—tennis, wrestling, and swimming—is provided for by the athletic department.

For Undergraduates

11abc, 12abc. Freshman and Sophomore Physical Training (Men). 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in swimming, floor work, apparatus work, competitive games, track, boxing, wrestling, tennis, and fencing. No student will be given the final grade in the last quarter of this course until he has passed the elementary examination in swimming. Mr. Wilson and Staff.

11abc, 12abc. Freshman and Sophomore Physical Training (Women). 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in hockey, tennis, recreative games, mass class drills, apparatus work, elementary and advanced dancing, swimming, fencing, basketball, volleyball, baseball, track, and tennis. Staff.

15abc. Advanced Gymnastics. 3 Q. Autumn, winter, spring. 1 cr. each quarter. For major and minor students only. Students may enter any quarter. Prerequisite, 12abc or marked gymnastic ability. Gymnastic mass floor drills; apparatus work and military marching tactics; recreative games and athletics; class leading is also required in the 11abc classes. Mr. Hertler.

20ab. Human Anatomy. 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, sophomore standing. Students may enter either quarter. Mr. Wilson.

32. First Aid. 1 Q. Spring. Summer. 2 cr. Prerequisite, for students majoring in Physical Education, 20ab; for majors in Forestry, junior standing; all others, senior standing. Accidental injuries of the human body; methods of treatment. Students preparing to coach will receive special work in treatment of athletic injuries, massage, and training room technique. Red Cross certification may be secured on completion of the course. Mr. Hertler.

35a. Systems and Methods. See Special Methods courses, page 75.

35b. Systems and Methods. 1 Q. Winter. 3 cr. Summer 1946 35ab. 3-5 cr. Prerequisite, Education 35a. A continuation of Education 35a. Mr. Hertler.

45abc. Dancing Methods and Materials. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer, S45. 4 cr. Students may enter any quarter. Prerequisite, junior standing. (a) Tap dancing. (b) Folk dancing. (c) Social dancing. Staff.

60. Coaching of Basketball. 1 Q. Autumn. Summer S60. 4 cr. Open to junior men. Theory and practice in handling work in basketball. Mr. Dahlberg.

61ab. Coaching of Track. 2 Q. Winter, spring. 2 cr. each quarter. Summer, S61ab. 4 cr. Open to junior men. (a) Theory. (b) Practice. Mr. Fessenden.

62ab. Coaching of Football. 2 Q. Spring, winter. 2 cr. each quarter. Summer S62ab. 4 cr. Open only to men of at least sophomore standing. 62a is prerequisite to 62b. (a) Practice. (b) Theory. Mr. Fessenden.

63abc. Coaching for Women. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, S63. 4 cr. Prerequisite, Education 18 (or 25a) or concurrent registration. Course includes methods and materials. (a) Hockey, speedball. (b) Basketball, volleyball. (c) Tennis, softball, archery. Staff.

For Undergraduates and Graduates

136. Kinesiology. 1 Q. Spring. 5 cr. Open only to major students. Prerequisite, Physical Education 20ab. The anatomical mechanism of the most common and representative types of gymnastic movements and positions with the view of developing subjective control. Mr. Wilson.

137. School Gymnastics. 1 Q. Spring. 4 cr. Prerequisite, Physical Education 35b. Growth and development of the child. Theory and practice in selecting and teaching activities for each school grade. Mr. Hertler.

141. Corrective Gymnastics. 1 Q. Winter. 5 cr. Prerequisite, Physical Education 136 and 137. Open only to major students. The prevention and correction of deformities in the child. Not given in 1945-46. Mr. Wilson.

148. Physiology of Exercise. 1 Q. Winter. 2 cr. Prerequisite, Zoology 24. Open only to major students. The physiological effects of the different types of exercises on the function of the human body. Mr. Wilson.

149. Anthropometry and Diagnosis. 1 Q. Winter. 3 cr. Prerequisite, Physical Education 20ab or concurrent registration. Open only to major students. Examination of the human body for external signs of disease. Anthropometric measurement and tests; how to use and chart them; their value in physical education. Mr. Hertler.

150. Organization and Administration. 1 Q. Autumn. Summer. 4 cr. Open to junior major students. The organization and administration of high school physical education departments. Management of the physical education plant. Mr. Hertler.

151. Curriculum Construction. 1 Q. Autumn. 3-4 cr. Prerequisite, senior standing and Physical Education 137. Classification and analysis of physical education activities; construction of programs and adaptation of programs to specific situations. Mr. Hertler.

152. Physiotherapy. 1 Q. Spring. 4 cr. Prerequisite, senior standing and Physical Education 141. This course is a direct continuation of cor-

rective gymnastics and deals with the treatment by physical means of defects which have a pathological basis and which come within the field of physical education. Not given in 1945-46.

153. Health Education. 1 Q. Spring. Summer. 4 cr. Open to junior students majoring or minoring in Physical Education. The aims, objectives, and possible curricula for teaching health education in the elementary and high schools. Mr. Hertler.

160. Seminar in Health Education. Autumn. Winter. Spring. Summer. 1 cr. each Q. Prerequisite, senior standing and at least 25 credits in the Health Education major. This course may be repeated for credit not to exceed 3 credits. A study of the problems connected with the administration of community and school health programs by means of reviews of current literature and topical discussions. Mr. Hertler.

For Graduates

201. Problems of Physical Education. 1 Q. Winter. 4 cr.

203. Tests and Measurements in Physical Education. 1 Q. Autumn. 4 cr. Types of tests and their reliability as part of a testing program. Methods for establishing distribution of scores; pupil rating in groups; correlation of scores. Mr. Hertler.

History and Political Science

PROFESSORS EDWARD E. BENNETT, WESLEY P. CLARK, J. EARLL MILLER (CHAIRMAN), PAUL C. PHILLIPS; ASSISTANT PROFESSOR MELVIN C. WREN; INSTRUCTORS JULES A. KARLIN, ROBERT T. TURNER.

Major Requirements: 50 credits in History and Political Science; 20 of these credits must be taken from courses numbered over 100. Freshmen who expect to take major or minor work in History should register for Introduction to Social Science (Gen 11abc). Major students must elect either History or Political Science and offer the larger portion of their credits from the field selected. All majors should complete course Social Science Methods (Econ 118) during their junior year. Public Utilities (Econ 103) and Public Finance (Econ 104ab) may be applied toward a major in Political Science.

Senior examinations are required of all students who major in History or Political Science.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

History

For Undergraduates

13abc. English History. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 13a. Prerequisite, sophomore standing. Students may enter any quarter. The political, economic, and social history of England and the British Empire. Mr. Miller. Summer, Mr. Wren.

15. History of Greece. 1 Q. Winter. 4 cr. Prerequisite, sophomore standing. The cultural, social, and political development of ancient Greece from prehistoric times to the Roman conquest. Mr. Clark.

16. History of Rome. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. The institutional, social, and cultural development of Rome to 395 A. D., with emphasis upon the period from the founding of the Republic to the death of Marcus Aurelius. Mr. Clark.

21abc. United States History. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 21c. Prerequisite, sophomore standing. Students may enter any quarter. (a) 1492-1783. Colonial beginnings and types of governments, with attention to social and economic conditions; causes, course, and results of the Revolution. (b) 1783-1865. The function of the national government; the development of nationality and democracy; the western movement; slavery and the nullification controversy; the Civil War. (c) 1865-1945. Reconstruction; the new west; agricultural and industrial development; influence of business and of organized labor; reform movements the First World War; the golden age; the depression; the New Deal and after; the Second World War. Mr. Phillips. Mr. Bennett. Mr. Karlin.

- 22. Montana History and Government.** 1 Q. Summer. 4 cr. Open to all students. Exploration, fur trade, missions, gold mining, social and economic conditions, transportation, development of silver and copper mining, agriculture, territorial and state government, and political questions. Not given summer 1946. Mr. Phillips.
- 29. French Revolution and Napoleonic Era.** 1 Q. Spring. Summer. 4 cr. Prerequisite, sophomore standing. Economic, social, political, and religious developments, and the international reaction to the Revolution. Mr. Turner.
- 30ab. Europe in the 19th Century.** 2 Q. Autumn, winter. 3 cr. each quarter. Summer, 30b. Students may enter either quarter. Prerequisite, sophomore standing. The internal economic, social, political, and religious development of France, Germany, Austria, and Italy. (a) 1815-1870. (b) 1870-1900. Mr. Bennett.
- 33. Medieval Europe.** 1 Q. Autumn. 3 cr. Prerequisite, sophomore standing. The political, social, and economic development of Europe from the barbarian invasions to 1300. Mr. Wren.
- 34. Renaissance and Reformation.** 1 Q. Winter. 3 cr. Prerequisite, sophomore standing. The political, social and cultural development of Europe from 1300 to 1600. Mr. Phillips.
- 35. The Ancient Regime.** 1 Q. Spring. 3 cr. Prerequisite, sophomore standing. The political, social and cultural history of Europe from 1600 until the outbreak of the French Revolution. Mr. Turner.

For Undergraduates and Graduates

- 101. American Frontiers.** 1 Q. Autumn. 3 cr. Prerequisite, course 21ab. A survey of frontiers in America from the first settlements on the continent to the end of the 19th century. Emphasis is placed on the political, social, and economic factors of frontier life and the reaction of the frontier upon American and European history. Mr. Phillips.
- 102ab. History of the Northwest.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, course 21abc. Students may enter either quarter. The most significant factors in the history of the northwestern states and their relation to the nation. Mr. Phillips.
- 103. The Early 20th Century (1900-1931).** 1 Q. Spring. 3 cr. Prerequisite, junior standing and a college course in modern European history. Internal development of Britain and of the continental powers. Colonial development and international rivalry prior to the First World War. The War and its aftermath to 1935. Mr. Bennett.
- 104. Seminar in American History.** 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, senior standing and 25 credits in history, including 8 credits in United States history. Mr. Phillips.
- 105. Seminar in European History.** 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, senior standing and 25 credits in history. Mr. Bennett.
- 110. The British Empire Since 1783.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, junior standing and a college course in modern European history. Organization of the Old Empire at the close of the American Revolution; new colonial policy and British expansion in the 19th century; evolution of the self-governing dominions, and their relations with the mother country; the Empire and World War II. Mr. Bennett.
- 111. Medieval Civilization.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and either course 13a or 33. Institutional, social, and cultural progress in the Middle Ages. Not given in 1946-47. Mr. Miller.
- 113. Representative Americans.** 1 Q. Autumn. 4 cr. Prerequisite, History 21abc. Studies in American biography. Mr. Phillips.
- 114abc. Russia and Poland.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing and a college course in modern European history. 114b required for registration in 114c. (a) The beginnings of Russia. Early expansion. (b) The Russia of the Tsars. 19th and early 20th century Russia. (c) Contemporary Russia. Mr. Wren.
- 117ab. History of the Far East.** 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, junior standing and a college course in modern European history. The social, political, and economic aspects of the modernization of China, Japan, and the Philippine Islands; the conflicting interests of the Great Powers in the East. World War II. Mr. Wren.
- 118. Social Science Methods.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and 10 credits in the department. An introduction to the methods used in the studies included in the Division of Social Sciences. Divisional Staff.
- 121abc. Central Europe.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, S121. 4 cr. Prerequisite, junior standing and a college

course in modern European history. 121b required for registration in 121c. The growth and development of the states of Central Europe and the Balkans since early modern times. Mr. Wren.

123abc. Hispanic-American History. 3 Q. Autumn, winter, spring, 4 cr. each quarter. Summer, S123c. 2 cr. Prerequisite, junior standing. (a) The European background; the political and economic development of Spain and Portugal to the foundation of the Latin American colonies. (b) The Spanish and Portuguese colonies; the revolutionary period and the foundation of present-day Latin American states. (c) The development of Latin American states in the 19th and 20th centuries. Mr. Turner and Staff of the Spanish Department.

125. Economic History of the United States. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and either a college course in American history or Economics 14ab. Colonial economy, the expansion of the United States; industrial, planter, and pioneer economics, the heyday of laissez-faire; the agrarian movement; war and postwar prosperity; the great depression and recovery. Mr. Karlin.

126. Economic History of Western Europe. 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and a course in modern European history or Economics 14ab. The background and the development of the economic problems of 20th century Europe. Mr. Wren.

131. Recent American History. 1 Q. Spring. 4 cr. Prerequisite, junior standing and a college course in American history. The internal affairs and external relationships of the United States in the 20th century. Mr. Bennett.

132. Contemporary European History. 1 Q. Winter. 4 cr. Prerequisite, junior standing and a college course in Modern European history. The internal affairs and external relationships of the principal European states during the past fifteen years. Mr. Turner.

For Graduates

200. Seminar in American History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Open to graduates who have a major or minor in history or political science, including course 21abc. A study of special problems in American history. Mr. Phillips.

201. Seminar in European History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 30 credits in history. A study of special problems in European history. Mr. Wren.

Political Science

For Undergraduates

17. American Government and Politics. 1 Q. Autumn. Summer. 4 cr. Prerequisite, sophomore standing. The organization and functions of federal government and the problems of the present time. Mr. Turner.

18. State and Local Government. 1 Q. Winter. Summer. 4 cr. Prerequisite, course 17 or 21b. A study of state, county, and municipal governments and their relation to the federal government. The changing functions of the states. Mr. Turner.

20. Comparative Governments. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing and Social Science 11ab or course 17. A study of representative types of government; constitutional beginnings, organization, methods of legislation and administration. Soviet, Fascist, and other programs. Mr. Phillips.

For Undergraduates and Graduates

106ab. International Public Law. 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in the department. The law of nations in relation to peace, war, and neutrality. Not given in 1946-47. Mr. Miller.

107ab. Diplomatic History of Europe. 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in the department. Students may enter either quarter. International relations and world politics from the Congress of Vienna to World War I. Mr. Turner.

108. Present World Problems. 1 Q. Spring. 4 cr. Prerequisite, History 103 or 107ab. The failure of the Versailles treaty. The decline of democracy and the rise of dictatorship. Foreign relations of the Great Powers. The present world situation. Mr. Turner.

109. American Political Problems. 1 Q. Winter. 4 cr. Prerequisite, course 21bc or 17 and 18. Present day political problems, such as governmental reorganization, relation of government and business, states' rights, and powers of Congress and the Chief Executive. Mr. Phillips.

112. Seminar in Political Science. 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 15 credits in political science and senior standing. Mr. Miller.

115. Theories of the State. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 15 credits in the department. The theories of ancient and modern political philosophers with regard to the origin, the nature, the attributes, and the functions of the State. Mr. Karlin.

116. Government Regulation of Business. 1 Q. Spring. 4 cr. Prerequisite, junior standing and 15 credits in the department or Economics 103. The necessity for and the theories of government regulation; regulation in practice by legislation, by commission, and by judicial decision; the government in business. Not given in 1946-47.

119. Constitutional History of the U. S. 1 Q. Spring. 4 cr. Prerequisite, History 21abc. The origin and growth of the constitution in relation to the institutional development of the United States. Mr. Karlin.

120. American Foreign Relations. 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing and History 21abc. The policies and practices of the United States in her relations with foreign powers. Mr. Karlin.

124. International Organizations. 1 Q. Spring. 3 cr. Prerequisite, junior standing. The efforts for and machinery of international cooperation; the great European congresses since 1815; the Hague tribunal; the Pan-American Union; the International Labor Bureau; the World Court; the League of Nations; the UNO. Mr. Turner.

Home Economics

PROFESSORS HELEN GLEASON (CHAIRMAN), ANNE C. PLATT; MONICA B. SWEARINGEN; INSTRUCTORS HELEN I. BEAVER, GLADYS VAN VOROUS.

Major Requirements: 50 or more credits in Home Economics, selected from courses listed under one of the following groups, in addition to General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13), Organic Chemistry (Chem 19), and Physiological Chemistry (Chem 103).

1. **General:** Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), and Experimental Foods (Home Ec 138).
2. **Teaching.** Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), Textiles (Home Ec 82), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138). In addition, a major student should take History of Art (FA 31abc) and Educational Psychology (Educ 25a), Principles of Education (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), Problems in Teaching Home Economics (Educ 163), Home and Family Life Education (Educ 183). These courses prepare teachers of Vocational Home Economics in reimbursed schools.

- 3. Institutional Management:** Introduction to Home Economics (Home Ec 17abc), House Planning and Furnishing (Home Ec 119), Nutrition (Home Ec 122), Nutrition in Disease (Home Ec 123), Child Nutrition (Home Ec 125), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138), Problems in Home Economics (Home Ec 198). In addition, a major student should select one or more from the following: Problems in Home Equipment (Home Ec 80), Child Development (Home Ec 124), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131). To qualify for a dietetic internship in a hospital the following are also required: Elementary Bacteriology (Bact 19), Human Physiology (Zool 24), Elementary Accounting (Bus Ad 11ab), Elementary Sociology (Ec & Soc 16), and a minimum of 5 credits in Education.

Other opportunities in business and professional fields are open to Home Economics graduates.

The combined fields of Journalism and Home Economics offer excellent opportunities for special careers in advertising publications, and radio programs for the home. With this in mind the Home Economics Department recommends the following courses which offer valuable background and training for these and similar positions: Reporting (Journ 21ab), Copyreading (Journ 30), Principles of Advertising (Journ 40ab), Typography (Journ 38), Newscasting (Journ 48abc), Trade and Technical Publications (Journ 34), Promotion and Public Relations (Journ 35).

For further information students should consult the chairman of the department.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

17abc. Introduction to Home Economics. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter any quarter. (a) Education for personal and family life today. (b) Selection and preparation of food. (c) Selection, planning, and construction of clothing. Miss Gleason. Mrs. Beaver.

18. Clothing Design. 1 Q. Winter. 4 cr. The principles of design and their application to clothing. Miss Gleason.

19. Food Conservation. 1 Q. Summer, 1947. 5 cr. Open to all students. The fundamental methods used in conserving, processing, and storing the various foods for family needs. Miss Platt.

24. Elementary Nutrition. 1 Q. Spring. 5 cr. No prerequisite. Open only to non majors. A study of fundamental principles of adequate human nutrition. Miss Platt.

80. Problems in Home Equipment. 1 Q. Winter. Summer. 4 cr. Materials, specifications, selection, care, and use of equipment. Miss Platt.

82. Textiles. 1 Q. Spring. 4 or 5 cr. Fibers, their manufacture and use; physical and chemical tests to aid in the selection of clothing and household furnishings. Mrs. Beaver.

S86. Weaving. 1 Q. Summer 1-4 cr. Open to all students. A lecture and laboratory course in weaving textiles, using traditional and historic examples as illustrations.

For Undergraduates and Graduates

119. House Planning and Furnishing. 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing. The aesthetic, economic, and hygienic problems in house planning and furnishing. Miss Gleason

120. Clothing. 1 Q. Winter. 5 cr. Prerequisite, Home Economics 17c and 18; 117 recommended. The clothing problem of the family studied from the economic and social point of view. Mrs. Beaver.

122. Nutrition. 1 Q. Autumn, 5 cr. Prerequisite, Home Economics 17b and Chemistry 103. Dietetics given in the light of the chemistry and physiology of digestion. Miss Platt.

123. Nutrition in Disease. 1 Q. Spring. 4 cr. Prerequisite, Home Economics 122. The symptoms of disease, Prophylactics, and feeding in disease. Miss Platt.

124. Child Development. 3 Q. Autumn, winter, spring. Summer. 3-5 cr. Prerequisite, Psychology 11 and junior standing. Development of motor, linguistic, and intellectual skills and abilities of young children studied through observation and participation in the Nursery School. May be repeated to a maximum of nine credits. Miss Gleason.

125. Child Nutrition. 1 Q. Winter. 3 cr. Prerequisite, Home Economics 122. The science of human nutrition as it applies to children, using the University Nursery School as a laboratory for many of the problems studied. Miss Platt.

Note: Courses 127 and 128 must be taken concurrently. The two courses require approximately 24 hours a week for lecture and laboratory time.

127. Home Living Center. 1 Q. Autumn, winter, spring. Summer. 5 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Residence in the home living center for one term, applying principles gained in other courses to home problems. Mrs. Beaver.

128. Home Management. 1 Q. Autumn, winter, spring. Summer. 2 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Management studies and discussion presented on problems in the home living center. Mrs. Beaver.

129. Problems in Family Living. 1 Q. Autumn. Summer. 3 cr. Prerequisite, Psychology 11 and Home Economics 17abc. A critical study of theories and practices in relation to the home and family life. Mrs. Beaver.

131. Problems of the Consumer. 1 Q. Spring. Summer. 3 cr. Prerequisite, 8 cr. in Economics and Sociology and consent of instructor. A critical analysis of problems confronting the consumer. Mrs. Beaver.

133. Institutional Cookery. 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 122 or concurrent registration. The application of scientific, economic, and sociological principles to the feeding of large numbers of people. Mrs. Swearingen.

135. Institutional Management. 1 Q. Winter. 5 cr. Prerequisite, Home Economics 133. Organization, management, and equipment of special types of institutions, such as dormitories, hospitals, tea rooms, cafeterias, and hotel dining rooms. Mrs. Swearingen.

138. Experimental Foods. 1 Q. Spring. 4 cr. Prerequisite, Home Economics 17b and Chemistry 19. Special problems are assigned for individual investigation. A study of foods from the scientific experimental point of view, approached by means of experiment and problems dealing with food compositions and preparation. Miss Platt.

163. Problems in Teaching Home Economics. See Special Methods courses page 75.

183. Home and Family Life Education. See School of Education page 74.

198. Problems in Home Economics. 1 to 6 Q. Any quarter. Cr. variable. Prerequisite, senior standing in Home Economics. Qualified students may select for study special problems of the Home and the community in any of the following fields: Nutrition, textiles, child development, advanced design, family economics, teaching. Staff.

School of Journalism

PROFESSOR JAMES L. C. FORD (DEAN); ASSOCIATE PROFESSORS OLAF J. BUE, ANDREW C. COGSWELL; ASSISTANT PROFESSORS W. L. ALCORN, EDWARD B. DUGAN, ROBERT P. STRUCKMAN; INSTRUCTORS DONALD R. COE, RAY W. FENTON. PROFESSIONAL LECTURES RICHARD F. CRANDELL, SAM GILLULY.

Through honest and accurate channels of communication, democratic government must find a source of information. Through the media of such communication, democratic living can progress. Journalism thus may help to guide the citizen towards intelligent participation

in his community and in his world. Journalism education, accepted and supported today by practicing journalists throughout the United States, is the professional training of tomorrow's editor and reporter, radio commentator and advertising executive.

The Montana State University School of Journalism was organized in 1914 and is one of the nation's pioneer institutions for journalism education. Its high rank was recognized in 1917 through its charter membership in the American Association of Schools and Departments of Journalism. It has retained its affiliation ever since with this organization of 34 institutions offering Class A journalism training.

Four fundamental objectives have been maintained by the School of Journalism. They are:

1. To qualify the journalism student for the profession of journalism through a broad and liberal education, so that he will be equipped with an appreciation and knowledge of his world and its problems.
2. To provide professional training in the fundamental journalistic techniques for his future lifework—on the newspaper, the magazine staff, in advertising, or radio journalism.
3. To further the progress and standing of all journalism through a realization by the student of the social responsibilities of his profession so that he will contribute to its growth in public service and esteem.
4. To create a greater number of informed and intelligent readers of the newspaper and listeners to the radio, through special courses open to non-majors, and thus serve the general education of the American college student.

Requirements for Admission

The regular University requirements for admission apply to the School of Journalism (pages 20 to 24). During Freshman Week, new students are required to take special aptitude and achievement tests as a guide to their admission as journalism majors.

Requirements for Graduation

Candidates for the degree of Bachelor of Arts in Journalism must meet the following requirements:

- (1) The general University requirements for graduation, (pages 24 to 30), except in foreign languages.
- (2) The recommended curriculum for majors in journalism, (pages 107 and 108).
- (3) A comprehensive examination in the senior year, covering the student's entire college program. A grade of "C" or better must be obtained. Candidates for special honors will be required to take an additional honors examination.

Candidates for the degree of Master of Arts in Journalism must comply with the regulations governing graduate work set forth on pages 93 to 96.

The Journalism Curriculum

The School of Journalism's course is four years.

During the first two years of enrollment in the School of Journalism, the student is required to complete the survey courses of the divisions of the College of Arts and Sciences. These serve as a foundation of general education for the professional training in journalism.

The School of Journalism may accept equivalent substitutes for survey courses to meet cases of individual necessity or special interest.

In addition to the professional journalism courses which the student selects with the aid of careful guidance, he is given a wide choice of electives in other departments during his college program. Journalism training should not emphasize narrow specialization. With this in mind, the School of Journalism especially stresses the importance of a good background in the social sciences—history, political science, economics, and sociology. All journalism majors should possess facility and skill in typewriting; all written work for journalism courses must be typed. In addition, a knowledge of shorthand will be most useful.

For certain students who have special journalism interests—in advertising, in radio, in rural journalism, in free-lance writing, in various vocations where women journalists have been especially successful—the School of Journalism recommends the following programs of elective work:

Advertising: Principles of Economics (Econ 14ab); Economics of Consumption (Econ 109); Marketing (Bus Ad 151); General Psychology (Psych 11); Color and Design (Fine Arts 25ab).

In Journalism, in addition to the recommended curriculum, the following courses should be taken: Advertising Layout and Copy (Journ 43); Retail Store Advertising (Journ 44); Promotion and Public Relations (Journ 35).

Free-lance Writing: Composition (Eng 30ab); Literary Composition (Eng 72abc); Creative Writing (Eng 160abc); General Psychology (Psych 11).

In Journalism, in addition to the recommended curriculum, the following courses should be taken: Magazine Article Writing (Journ 33); Trade and Technical Journalism (Journ 34); News Photography (Journ 42).

Journalism Specialties for Women: Careers in the combined fields of home economics and journalism offer splendid opportunities for women journalism majors. The girl who seeks a journalistic future will find certain fields especially, and often exclusively, open to women in retail and department store advertising and promotion, in women's magazines and specialized publications, and in radio programs for the home.

With this in mind, the School of Journalism recommends the following courses which offer valuable background and training for these and similar positions: Clothing Design (Home Ec 18); Elementary Nutrition (Home Ec 24); Child Development (Home Ec 124); Textiles (Home Ec 82); House Planning and Furnishing (Home Ec 119); Problems of the Consumer (Home Ec 131).

All courses suggested under the curricula for Advertising and Radio Journalism will be equally useful for students following this program. In addition to the recommended Journalism curriculum, these Journalism courses should be taken: Magazine Article Writing (Journ 33); Trade and Technical Journalism (Journ 34); Newsphotography (Journ 42).

Radio Journalism: Microphone and Program Technique (Music 45a); Applied Acting: Voice and Diction (Eng 15). Microphone and Program Technique (Music 45a) should be taken concurrently with Newscasting (Journ 48a) as the two courses supplement each other.

In Journalism, in addition to the recommended curriculum, the following course should be taken. Newscasting (Journ 48abc).

The School of Journalism offers practical radio experience through a regular broadcast, written and produced by students in this course and presented every week over Station KGVO from the radio studio in the Journalism building.

Rural Journalism: In Journalism, in addition to the recommended curriculum, the following courses should be taken: Rural Journalism (Journ 23ab); Newspaper Management (Journ 24); Editorial Writing (Journ 25); (Journ 39) and Retail Store Advertising (Journ 44).

Nine graduates of the School of Journalism are publishers of weekly papers in Montana, a state in which 83 per cent of the press is in the rural field.

General Information

The School of Journalism is unusually well-equipped to give the student contact with the technical phases of journalism. Few journalism departments in the United States can equal its physical plant. Laboratories offer the future journalist the opportunity to acquaint himself with typography, engraving, news photography, printing and press work, and radio processes. The Journalism building is essentially a model newspaper plant and offers unsurpassed teaching facilities.

The relationship between the School of Journalism and the press of Montana is close and cordial, involving a number of mutual services. The field secretary-manager of the Montana State Press Association also serves on the faculty of the School and has his office in the Journalism building.

For 23 years, the School of Journalism has sponsored the Montana Interscholastic Editorial Association, the state organization of high school newspapers, and has issued its monthly publication. Thus it seeks to serve the beginning journalist in secondary education as well as the college student desiring a professional training.

The Montana Kaimin, University student newspaper, is published in the School of Journalism building. On this newspaper, the students supplement class instruction with actual reporting, advertising, and business experience under the expert guidance of a journalism faculty member.

Several special scholarships and prizes are offered exclusively to journalism students. These include: the Dean Stone Scholarship, awarded by the Montana State Press Association to a senior student; the Warden Scholarship, for the student who has made the outstanding freshman record; the Mosby Scholarship, to the outstanding student in radio journalism; the Gannaway Prize in Rural Journalism; and the Sigma Delta Chi Scholarship Awards. More details regarding these scholarships are given on pages 42 to 44.

The two nationally recognized journalism fraternities, Sigma Delta Chi for men and Theta Sigma Phi for women, both maintain chapters in the School of Journalism and have for thirty years. In addition, the School itself supports the Press Club, organization to which all journalism students belong.

Recommended Curriculum for Journalism Majors

| | Freshman Year | | |
|---|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Journalism 10abc, Introduction to Journalism..... | 2 | 2 | 2 |
| General 11abc, Introduction to Social Sciences | 5 | 5 | 5 |
| General 13abc, Introduction to Biological Sciences .. | 5 | 5 | 5 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Physical Education 11abc, Physical Education | 1 | 1 | 1 |
| Military Science 11abc, Military Science (Men)..... | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |

| Sophomore Year | | | |
|--|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Journalism 21ab, Reporting | 2 | 2 | - |
| Journalism 22ab, Reporting Practice | - | 2 | 2 |
| Journalism 30, Copyreading | - | - | 2 |
| Journalism 38, Typography | 2 | - | - |
| General 15abc, Introduction to Humanities | 5 | 5 | 5 |
| Physical Education 12abc, Physical Education | 1 | 1 | 1 |
| Military Science 12abc, Military Science (Men) | 1 | 1 | 1 |
| Electives | 6 | 6 | 6 |
| | 16-17 | 16-17 | 16-17 |
| Junior Year | | | |
| Journalism 31, Copyreading Practice | - | 2 | 2 |
| Journalism 37, Law of Journalism | - | 3 | - |
| Journalism 40ab, Principles of Advertising | 3 | 3 | - |
| Journalism 41, Advertising Practice | - | - | 2 |
| Journalism 49, History of Journalism | - | - | 3 |
| Electives | 13 | 8 | 9 |
| | 16 | 16 | 16 |
| Senior Year | | | |
| Journalism 100abc, Senior Seminar | 6 | 6 | 6 |
| Electives | 10 | 10 | 10 |
| | 16 | 16 | 16 |

Total elective hours, 73 hours.

Total recommended hours in general education, 54 hours.

Total recommended hours in journalism, 59 hours.

For Undergraduates

10abc. Introduction to Journalism. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Open to all students; required of freshman journalism majors. Introduction to the field of journalism; elementary work in reporting and copyreading; analysis of the opportunities and various professions in journalism; ethics of journalism; journalism in the world today. Mr. Ford.

18. Public Opinion. 1 Q. Spring. 3 cr. Prerequisite, junior standing. Open to non-majors. A study of the theories of public opinion, the factors involved in its formation, and methods used in its measurement. Mr. Fenton.

21ab. Reporting. 2 Q. Autumn, winter. Summer, 20a. 2 cr. each quarter. Prerequisite, Journalism 10abc or consent of instructor. Open to non-majors. Reporting methods, news story construction, evaluation of news, the coverage of public affairs, press association techniques. Mr. Bue.

22ab. Reporting Practice. 2 Q. Autumn, winter. Winter, spring. Spring, summer. 2 cr. each quarter. Prerequisite, Journalism 21ab or concurrent registration. A laboratory and lecture course, involving Kaimin news coverage, presenting reporting, and publishing problems. Mr. Dugan.

23ab. Rural Journalism. 2 Q. Autumn, winter. 2 cr. each quarter. Prerequisite, Journalism 21ab. A study of news, editorial, circulation, and advertising problems of weekly and small daily newspapers. Mr. Alcorn.

24. Newspaper Management. 1 Q. Spring. 3 cr. Prerequisite, junior standing. The problems of management in the daily and weekly newspaper fields; actual financial setups and operation of newspaper and printing plants; cost-finding practice and systems in general use. Mr. Alcorn.

25. Editorial Writing. 1 Q. Autumn. Winter. 3 cr. Prerequisite, junior standing or consent of instructor. Preparation and presentation of editorial interpretation and comment. Editorial history; functions of editorial page. Mr. Fenton.

30. Copyreading. 1 Q. Autumn. Spring. Summer. 2 cr. Prerequisite, Journalism 21ab or concurrent registration with consent of adviser. The editing of local, state, and wire copy; headline writing; makeup. Mr. Struckman.

31ab. Copyreading Practice. 2 Q. Autumn, winter. Winter, spring. Spring, summer. 2 cr. each quarter. Prerequisite, Journalism 30. Laboratory and lecture course involving desk work on the Kaimin. Mr. Dugan.

33. Magazine Article Writing. 1 Q. Autumn. 3 cr. Prerequisite, junior standing or consent of instructor. Open to non-majors. The preparation and writing of articles for magazines of general circulation. Techniques of analyzing and selling to magazine markets. Mr. Struckman.

34. Trade and Technical Journalism. 1 Q. Winter. 3 cr. Prerequisite, junior standing or consent of instructor. Open to non-majors. The writing and editing of trade and business journals, technical and specialized publications. Mr. Struckman.

35. Promotion and Public Relations. 1 Q. Spring. 3 cr. Prerequisite, junior standing or consent of instructor. Open to non-majors. The techniques of promotion and the handling of public relations. Mr. Struckman.

36. Current Events. 1 Q. Any quarter. 1 cr. Open to all students. Current history of the world; its background; its relationships and probable influences. Emphasis on current journalistic handling. Staff.

37. Law of Journalism. 1 Q. Winter. Spring. 3 cr. Prerequisite, junior standing or consent of the instructor. The laws of libel, slander, and right of privacy as they affect both press and radio. Contempt of court by publication, newspaper rights in newsgathering; property rights in news; regulatory provisions of state and federal statutes. Mr. Struckman. Mr. Fenton.

38. Typography. 1 Q. Autumn. Winter. Spring. Summer. 2 cr. Prerequisite, consent of instructor. Students may enter any quarter. Problems of typographical design and application. Elementary work in printing and in the handling of type. Mr. Bue.

39. Graphic Arts. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, Journalism 38, or consent of instructor. Open to non-majors. Students may enter any quarter. Study of various printing and engraving processes, including letter press, offset lithography, intaglio, electrotpe and stereotype. Attention is paid to the use of inks, paper, color, and other materials of the graphic arts. Mr. Alcorn.

40ab. Principles of Advertising. 2 Q. Autumn, winter. Summer, 40a. 3 cr each quarter. Prerequisite, junior standing. Open to non-majors. Fundamentals of advertising theory and techniques with emphasis on the role of advertising as it applies to the producer, the distributor, the consumer. Analysis of media use and the advertisement itself. A general background course in advertising offered jointly by the School of Journalism and the School of Business Administration. Mr. Dugan. Mr. Smith.

41. Advertising Practice. 1 Q. Autumn. Winter. Spring. 2 cr each quarter. Prerequisite, Journalism 40ab or concurrent registration. Preparation, promotion, and sale of advertising. Lecture, and staff work on the Kaimin. Mr. Dugan.

42. News Photography. 1 Q. Autumn. Winter. Spring. 2 cr. Prerequisite, Journalism 21ab, and consent of instructor. The news picture and how to take it; laboratory practice in use of Speed Graphic camera, synchroflash, and processing of film and prints. Mr. Bue.

43. Advertising Layout and Copy. 1 Q. Spring. 3 cr. Prerequisite, Journalism 40ab. Open to non-majors. Application of typographical and advertising principles to preparation of layouts and copy, with practice in sales presentation. Mr. Dugan.

44. Retail Store Advertising. 1 Q. Spring. 3 cr. Prerequisite, Journalism 40ab. Open to non-majors. Integration of retail store merchandising among advertising media. Study of technical aspects of advertising schedules for retail stores. Mr. Dugan.

44abc. Newscasting. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, Journalism 21ab or consent of instructor and concurrent or previous registration in Music 45a. Planning and preparation of news programs; practice in newscasting. Mr. Bue.

49. History of Journalism. 1 Q. Autumn. Winter. 3 cr. Prerequisite, junior standing or consent of the instructor. Open to non-majors. The historical background of the American press. Mr. Fenton. Mr. Struckman.

For Undergraduates and Graduates

100abc. Senior Seminar. 3 Q. Autumn, winter, spring. Summer, 100a. 6 cr. each quarter. Prerequisite, senior standing in journalism. An overall journalism course on the seminar pattern, incorporating the project method. Correlates work of the four years in journalism and other fields, covering: history and ethics of journalism, public opinion and propaganda problems; technological phases of journalism; editorial and advertising techniques; the press as a social institution. Mr. Ford.

126. The High School Newspaper. 1 Q. Spring. 3 cr. Summer. 2 cr. Prerequisite, junior standing and consent of instructor. Open to non-majors.

A course for students who plan to teach journalism courses in high schools or act as advisers to school publications. Mr. Struckman.

136. Advanced Journalism Problems. 1-3 Q. Autumn. Winter. Spring. Summer. Credit variable. Prerequisite, junior standing and consent of instructor. Training and research in advanced journalism problems. Mr. Ford and Staff.

For Graduates

201. Research in Journalism. 1-3 Q. Autumn. Winter. Spring. Summer. Credit variable. Prerequisite, graduate standing and consent of instructor. Research in journalism for graduate students. Mr. Ford and Staff.

School of Law

PROFESSORS CHARLES W. LEAPHART (DEAN), WALTER L. POPE, J. HOWARD TOELLE, DAVID R. MASON, EDWIN W. BRIGGS; ASSISTANT PROFESSORS FRANCIS E. COAD, JAMES C. GARLINGTON, RUSSELL E. SMITH. INSTRUCTORS EDMUND T. FRITZ, DONOVAN WORDEN. LIBRARIAN CHARLOTTE RUSSELL.

The School of Law is located in a modernly equipped law school building with adequate class, office, library, and court room facilities. The school has a good working library of more than thirty thousand volumes. To a very great extent the library is the result of the generous gifts and legacies of Mrs. W. W. Dixon, and gifts of John J. McHatton, and the Anaconda Copper Mining Company. The school is a member of the Association of American Law Schools and is one of the schools approved by the American Bar Association.

The School of Law will operate on a four quarter basis as long as the needs of returning veterans require it. Nine quarters work in residence are requisite for the Bachelor of Laws degree. Students who attend continuously and who do satisfactory work will be able to secure the degree in two and one-quarter calendar years.

Requirements for Admission

Non-veteran applicants for admission must present credits equal to one-half of the work acceptable for a Bachelor's degree in Montana State University of which not more than 10 per cent may include work in non theory courses in military science, hygiene, domestic arts, physical education, vocal or instrumental music, or other courses of similar character. This work must be done in residence at an approved college or university and have been passed with a scholastic average at least equal to the average required for graduation in the institution attended, and this average shall also be attained by the student in his theory courses.

Furthermore, the applicant for admission must, in his pre-legal work, satisfy the scholastic average requirements for graduation of students of the second period in the College of Arts and Sciences of Montana State University (see page 28). These requirements are that he must have obtained a number of grade points at least equal to all of the credits for which he has registered and for which he has received a grade. Negative grade points (1 for each credit of grade I, E, or F) must be subtracted from the positive grade points earned to determine the number of grade points acquired toward meeting grade point requirements. When credits are accepted from another institution, grade points are evaluated at the time of transfer; however, where a student has had pre-legal work at Montana State University and at

another institution, he must meet the above requirements on credits earned at Montana State University as well as on his entire record.

A veteran of the present war must present the same amount of credits with the same restrictions as to the percentage of non theory courses and scholastic average as the non veterans. He may, however, in lieu of, or in addition to, offering for admission credits obtained in regular college or university courses, offer credits for:

- (1) Military training as such (not to exceed 12 quarter credits). For purposes of admission credits so obtained are classed as credits in theory courses.
- (2) Study or intellectual growth while the applicant was in the armed forces if the achievements resulting from such study or intellectual growth have been evaluated by a testing program within the armed forces or by examination given by an approved college, and if available data or tests with respect to this additional work shows unusual performance or ability.
- (3) Work done on a college campus in class under the direction of regular members of the college faculty while the applicant was a member of the armed services, if that college will give credit for such work towards its own degree and the work is of superior caliber.

He may satisfy the residence requirements by only one academic year of study in residence, either as a civilian or in the uniform of his country, in an approved college or university if he has completed substantially one quarter of the work acceptable for the bachelors degree at the institution attended and the quality of his work has been equal to the quality required for graduation by the institution.

Although students are admitted who have met the foregoing requirements, three years of pre-legal preparation are recommended.

It is recommended that pre-legal students complete the curriculum of the Division of Social Sciences, page 50.

Special students are not admitted to the School of Law.

For the University admission requirements, see page 20.

Requirements for Graduation

Candidates for the Bachelor of Laws degree are required to complete:

- (1) The requirements for admission listed above.
- (2) Nine quarters of work in a law school of recognized standing, the last three of which must be completed in residence in Montana State University. Two summer sessions of approximately 6 weeks each will be counted as one quarter.
- (3) The following courses: Contracts, Property Torts, Criminal Law and Procedure, Practice Court, Forms of Action and Code Pleading, or Civil Procedure, and Legal Writing.
- (4) A total of 126 credits in law with an average of at least one grade point for each credit.

Candidates for the Bachelor of Arts degree with Law as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 24 to 30 and page 50).

Any student who has conditions or failures in more than nine hours of work standing against him at the end of any year will be dropped from the Law School. Any student who has a condition or a

failure in one course of six hours or more at the end of his first year will be dropped from the Law School, unless he obtained at least eighteen grade points in his other courses; and any student having a deficiency of fifteen or more grade points at the end of his first year will be required to repeat, during the next year in which he is in attendance at the Law School, at least one-half of the hours of work in which he received a grade of D or less. Any student having a deficiency of more than twelve grade points at the end of his second year will be dropped from the Law School.

No student will be recommended for a degree in Law who is markedly deficient in English, or who, in the opinion of the majority of the members of the faculty of the School of Law, is unfitted for admission to the practice of law by reason of a lack of honesty and integrity.

The special senior examination provided for on page 29, will not be given except to candidates for honors.

General Information

No student will be allowed credit in any one quarter for over 15 hours of work in the School of Law; except that in addition, within the discretion of the Dean, a student may be allowed to take an examination to remove a condition and be given credit upon satisfactory passage of the same. A student may also be allowed one additional credit for Legal Writing.

The case system of instruction is employed. Special attention is given to practice court work, in which the students are required not only to argue legal questions, but to try cases, prepare appeals, and go through all the steps incident to the trial of a law suit. A thorough course is given in the use of law books.

Where courses extend over more than one quarter, credit is conditional upon the completion of and final satisfactory examination over the whole course except where because of unusual circumstances arrangements have been made in advance for examination and credit at the end of other quarters.

In continuous courses examinations will also be given at the end of the first quarter. Conditions may be removed only in the regular examination at the end of a repetition of the course.

The honor system has been in successful operation since the foundation of the School.

The curriculum of the School of Law is designed to afford preparation for the practice of law in any of the United States, but special attention will be given in all courses to the codes and decisions of Montana.

Graduates of the School of Law may, in the discretion of the Supreme Court of Montana, be admitted to practice in the courts of Montana without further examination.

Combined Degrees

Undergraduate students in regular standing, candidates for the degree of Bachelor of Arts, electing law as a major subject at the beginning of the junior year may count not to exceed 65 credit hours of the law course towards graduation and the degree of Bachelor of Arts.

Students may also combine Business Administration and Law so as to secure in six years the degree of Bachelor of Arts in Business Administration and the degree of Bachelor of Laws.

Courses for Non-Professional Students

Courses in the Law School are open to students in other departments and schools in the University who meet its entrance requirements. Credits obtained may apply toward degrees in such departments.

Curriculum

First Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits | Summer Quarter Credits |
|--------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Civil Procedure | 3 | 3 | 3 | 9 |
| (a) Contracts | 3 | 3 | 3 | 9 |
| (b) Criminal Law and Procedure | 2 | 2 | 2 | 6 |
| Property | 3 | 3 | 3 | 3 |
| Torts | 3 | 3 | 3 | -- |

Students who begin law in the Winter Quarter take Contracts 6, Torts 6, and Property 3 hours in the Winter Quarter, and Contracts 3, Torts 3, Property 3, and Criminal Law 6 hours in the Spring Quarter.

Second and Third Years

| | | | | |
|----------------------------------|----|----|----|----|
| (c) Administrative Law | 3 | 3 | -- | 6 |
| Agency | 2 | 2 | -- | -- |
| Appellate Practice | 1 | 1 | 1 | -- |
| Bills and Notes | 2 | 2 | 2 | -- |
| Business Organizations | 3 | 3 | 3 | -- |
| Conflicts of Law | 2 | 2 | 2 | -- |
| (d) Constitutional Law | -- | 3 | 3 | 6 |
| Creditors' Rights | 2 | 2 | 2 | -- |
| Damages | -- | -- | 3 | -- |
| (b) Domestic Relations | -- | -- | -- | 3 |
| Equity | 2 | 2 | 2 | -- |
| Evidence | 2 | 2 | 2 | -- |
| Insurance | -- | -- | 3 | -- |
| (e) Irrigation Law | -- | -- | 2 | -- |
| (a) Labor Relations | -- | -- | -- | 3 |
| Legal Ethics | 2 | -- | -- | -- |
| Legal Writing | -- | 1 | -- | -- |
| (f) Mining Law | -- | -- | 2 | -- |
| (b) Municipal Corporations | -- | -- | -- | 3 |
| Practice Court | 1 | 1 | 1 | -- |
| (a) Restitution | -- | -- | -- | 3 |
| Sales | 2 | 2 | 2 | -- |
| Suretyship and Mortgages | 2 | 2 | 2 | -- |
| (g) Taxation | 2 | 2 | 2 | 6 |
| (h) Trade Regulation | 2 | 2 | 2 | 6 |
| Trusts | 2 | 2 | 2 | -- |
| Use of Law Books | 2 | -- | -- | -- |
| Wills and Administration | -- | 2 | 2 | -- |

(a) To be given in Summer 1947, not in 1946.

(b) To be given in Summer 1946, not in 1947.

(c) To be given in Summer 1947, 6 hours a week, and 3 hours a week in the autumn and winter quarters 1946-47; not to be given in Summer 1946.

(d) Given 3 hours a week in the winter and spring quarters in 1945-46, and as a 6 hour one-quarter course in Summer 1946. Will not be given in the winter and spring quarters 1946-47.

(e) Not given in 1945-46, will be given in 1946-47.

(f) Given in 1945-46, will not be given in 1946-47.

(g) To be given in Summer 1946. Not to be given in autumn, winter and spring quarters 1946-47.

(h) To be given in Summer 1947, 6 hours a week; to be given as a continuous three-quarter course, 6 credits, autumn, winter and spring quarters 1946-47.

Courses

Administrative Law. 2 Q. Autumn, winter. Continuous. 6 cr. Sear's Cases on Administrative Law. Not given in 1945-46. Mr. Mason.

- *Agency.** 2 Q. Autumn, winter. Continuous. 4 cr. Mechem's Cases on Agency, 3rd edition. Mr. Toelle. Mr. Garlington.
- *Appellate Practice.** 3 Q. Autumn, winter, spring. Continuous. 3 cr. Smith's Cases and Materials on Appellate Practice. Mr. Mason.
- *Bills and Notes.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Smith and Moore's Cases on Bills and Notes, 4th edition. Mr. Mason.
- *Business Organizations.** 3 Q. Autumn, winter, spring. Continuous. 9 cr. Frey's Cases and Statutes on Business Associations. Mr. Briggs.
- *Civil Procedure.** 3 Q. Autumn, winter, spring. Continuous; 1 Q. Summer (1946). 9 cr. Sunderland's Cases and Materials on Judicial Administration. (Magill's Cases on Civil Procedure, 3rd edition. Summer 1946). Mr. Mason. Mr. Toelle.
- *Conflicts of Law.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Cheatham, Dowling, Goodrich, and Griswold's Cases on Conflict of Law, 2nd edition. Mr. Briggs.
- Constitutional Law.** 3 Q. Autumn, winter, spring. Continuous; 1 Q. Summer 1946. 6 cr. (Was given 2 Q. winter, spring 1946. 6 cr.) Dodd's Cases on Constitutional Law, 3rd edition. Mr. Mason.
- *Contracts.** 3 Q. Autumn, winter, spring. Continuous; 2 Q. Winter, spring. Continuous; 1 Q. Summer (1947). 9 cr. Williston's Cases on Contracts, 4th edition. Mr. Leaphart. Mr. Worden.
- *Creditors Rights.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Hanna and McLaughlin's Cases on Creditors Rights. Mr. Toelle.
- *Criminal Law and Procedure.** 3 Q. Autumn, winter, spring. Continuous; 1 Q. Spring; 1 Q. Summer (1946). 6 cr. Mikell's Cases on Criminal Law and Procedure, 3rd edition. Mr. Briggs.
- Damages.** 1 Q. Spring. 3 cr. Casebook to be announced.
- Domestic Relations.** 1 Q. Summer 1946. 3 cr. Jacob's Cases on Domestic Relations, 2nd edition. Mr. Briggs.
- *Equity.** 3 Q. Autumn, winter, spring. 6 cr. Continuous. Cook's Cases on Equity. Mr. Leaphart. Mr. Fritz. Mr. Coad.
- *Evidence.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. McCormick's Cases on Evidences. Mr. Pope. Mr. Smith.
- Insurance.** 1 Q. Spring. 3 cr. Vance's Cases on Insurance, 3rd edition. Not given in 1945-46. Mr. Mason.
- Irrigation Law.** 1 Q. Spring. 2 cr. Bingham's Cases on Water Rights. Not given in 1945-46. Mr. Toelle.
- Labor Relations.** 1 Q. Summer 1947. 3 cr. Casebook to be announced.
- Legal Ethics.** 1 Q. Autumn. 2 cr. Costigan's Cases and Materials on the Legal Profession and its Ethics, 2nd edition. Mr. Toelle.
- Legal Writing.** 1 Q. Winter. 1 cr. For third year students. No text. Staff.
- Mining Law.** 1 Q. Spring. 2 cr. Costigan's Cases and Materials on Mining Law. Will not be given in 1946-47. Mr. Toelle.
- Municipal Corporations.** 1 Q. Summer 1946. 3 cr. Tooke and McIntire's Cases on Municipal Corporations, 3rd edition. Mr. Mason.
- *Practice Court.** 3 Q. Autumn, winter, spring. 3 cr. Continuous. Montana Code of Civil Procedure, selected cases, and practical exercises. Mr. Fritz. Mr. Garlington.
- Property.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Fraser's Cases on Property, vols. 1 and 2, 2nd edition; Kirkwood's Cases on Conveyances, 2nd edition. Mr. Briggs. Mr. Coad.
- Property.** 1 Q. Summer. 3 cr. Fraser's Cases on Property, Vol. 2, 2nd edition. Mr. Briggs. Mr. Coad.
- Restitution.** 1 Q. Summer 1947. 3 cr. Casebook to be announced.
- *Sales.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Williston's and McCurdy's Cases on Sales. Mr. Mason. Mr. Coad.
- Suretyship and Mortgages.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. (Was given in 1945-46 as 2 Q. Winter 2 cr. Spring 3 cr.) Casebook on Suretyship to be announced; Campbell's Cases on Mortgages, 2nd edition. Mr. Leaphart.
- Taxation.** 3 Q. Autumn, winter, spring. Continuous; 1 Q. Summer 1946. 6 cr. Magill and McGuire's Cases on Taxation. Mr. Coad.
- *Torts.** 3 Q. Autumn, winter, spring. Continuous; 2 Q. Winter,

*Not given as a continuous course in 1945-46.

spring. Continuous. 9 cr. Harper's Bohlen Cases on the Law of Torts. 4th edition. Mr. Toelle. Mr. Smith.

Trade Regulation. 3 Q. Autumn, winter, spring. Continuous. 6 cr. Casebook to be announced. Not given in 1945-46. Mr. Coad.

***Trusts.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Scott's Cases on Trusts, 3rd edition. Mr. Leaphart.

Use of Law Books. 1 Q. Autumn. 2 cr. Beardsley's Legal Bibliography and Use of Law Books. Mr. Toelle.

***Wills and Administration.** 2 Q. Winter, spring. Continuous. 4 cr. Bingham's Costigan Cases on Wills and Administration, 3rd edition. Mr. Toelle.

*Not given as a continuous course in 1945-46.

Mathematics

PROFESSOR A. S. MERRILL (CHAIRMAN); ASSOCIATE PROFESSOR HAR-OLD CHATLAND. INSTRUCTORS ROY DUBISCH, ANDREWA R. NOBLE, WALTER HOOK.

Major Requirements: 45 or more credits. However, for students presenting three and a half entrance units in mathematics, a 40 credit minimum, and for students with four entrance units, a 35 credit minimum may be permitted at the discretion of the Department. No student may offer in fulfillment of these minimum requirements more than four of the following courses or their high school equivalents: Survey of College Mathematics (Math 12), Plane Trigonometry (Math 13), Spherical Trigonometry (Math 14), College Algebra (Math 16), Elementary Mathematics of Investments (Math 19), Plane Analytic Geometry (Math 21), Statistics (Math 25). Courses in Intermediate Algebra (Math 10), Solid Geometry (Math 11), Introductory Business Mathematics (Math 18), and Descriptive Astronomy (All) may not be counted toward a major in Mathematics. Students majoring in Mathematics must complete General Physics (Physics 20abc) or the equivalent.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certificate requirements listed on page 70.

General Information. Major students are expected to take part in extra-curricular activities of the Department, such as the Mathematics Club and the Mathematics Fraternity.

The Mathematics Library contains complete sets of all the American mathematics journals and several of the most important foreign journals, such as Crelle, Annalen, Liouville, Fortschritte. Important new books are constantly added.

Courses in Elementary Algebra (Math A), Descriptive Astronomy (Math All), Solid Geometry (Math 11), and Teaching of Secondary Mathematics (Math 31) and those numbered over 100 [except Ordinary Differential Equations (Math 101) and Calculus III (Math 107a), Calculus IV (Math 107b)] are offered subject to demand.

During the early post-war period elementary courses will be repeated according to the demand in so far as the limitations of the staff permit.

For Undergraduates

A. Elementary Algebra. 1 Q. Spring. Summer. No cr. A sub-freshman, refresher course for students who have had no algebra in high school or who wish to cover this ground for review. Staff.

- B. Plane Geometry.** 1 Q. Summer. No cr. A sub-freshman refresher course for students who have had no geometry in high school or who wish to cover this ground for review. Staff.
- 10. Intermediate Algebra.** 1 Q. Autumn. Summer. 5 cr. Prerequisite, 1 entrance unit of algebra. That portion of algebra usually described as "quadratics and beyond." Students entering with $1\frac{1}{2}$ units of algebra or who have completed Mathematics 18 or 35a may not receive credit in this course. Staff.
- 11. Solid Geometry.** 1 Q. 5 cr. Prerequisite, Mathematics 10 and one entrance unit in plane geometry. Students who present entrance credit in solid geometry may not receive credit in this course. Mr. Chatland. Mr. Dubisch.
- 12. Survey of College Mathematics.** 1 Q. Autumn. Winter. 5 cr. Prerequisite, 1 entrance unit of plane geometry and Mathematics 10 or equivalent. A survey of the fields of trigonometry, analytical geometry, and calculus. See Note below. Not given in 1946-47. Staff.
- 13. Plane Trigonometry.** 1 Q. Winter. Summer. 5 cr. Prerequisite, plane geometry and Mathematics 10 or equivalent. Students who present entrance credit in trigonometry or who have completed Mathematics 35b may not receive credit in this course. Staff.
- 14. Spherical Trigonometry.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 13 or equivalent. Spherical trigonometry and certain topics in plane trigonometry. Mr. Chatland. Mr. Dubisch.
- 16. College Algebra.** 1 Q. Autumn. Summer. 5 cr. Prerequisite, Mathematics 10 or equivalent. Students who present 2 entrance units of high school algebra must have the permission of the Mathematics Department before receiving credit in this course. See Note below. Staff.
- Note:** Mathematics 12 and Mathematics 16 are not equivalent. Students who have credit in Mathematics 12 are permitted to take 16 for credit, but not vice versa. A student who enters with 2 entrance units of high school algebra (with or without high school trigonometry) may be allowed to take Mathematics 12, and at the option of the department may be required to take that course as a prerequisite to Mathematics 21.
- 17. College Geometry for Teachers.** 1 Q. Summer. $2\frac{1}{2}$ -5 cr. Prerequisite, one entrance unit of plane geometry and consent of instructor. Designed to cover problems in the teaching of high school geometry with the use of material from the field usually designated as college geometry. Miss Noble.
- 18. Introductory Business Mathematics.** 1 Q. Autumn. 5 cr. Prerequisite, 1 entrance unit of algebra. This course covers practically the same field as Mathematics 10, except that work on progressions and binomial theorem replaces the study of quadratic equations and systems. Students who present $1\frac{1}{2}$ entrance units of algebra or who have completed Mathematics 10 or 35a may not receive credit in this course. Staff.
- 19. Elementary Mathematics of Investments.** 1 Q. Winter. Summer. 5 cr. Prerequisite, Mathematics 18 or $1\frac{1}{2}$ entrance units of algebra. Mathematics 19 may not be taken for credit by those who have had 25 or more credits in mathematics. Staff.
- 20. Advanced Mathematics of Investments.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 19 or 25 credits in the Department of Mathematics. Not given in 1946-47. Mr. Merrill.
- 21. Plane Analytic Geometry.** 1 Q. Spring. Summer. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 12 or 16. Staff.
- 22. Calculus I.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 21. Differential calculus, including introductory work on integration. Staff.
- 23. Calculus II.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Applications of differential calculus; integral calculus. Staff.
- 25. Statistics.** 1 Q. Spring. Summer. 5 cr. Prerequisite, Mathematics 10 or 18 or equivalent. Staff.
- 26. Advanced Statistics.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 12 and 25, or 25 credits in mathematics. Not given in 1946-47. Mr. Merrill.
- 31. Teaching of Secondary Mathematics.** See Special Methods courses page
- 35a. Forestry Mathematics (Algebra).** 1 Q. Winter. 4 cr. Prerequisite, 1 entrance unit of algebra. A briefer course covering most of the field of Mathematics 10. Students who have completed Mathematics 10 or 18 may not receive credit in this course. Not given in 1946-47. Mr. Chatland. Mr. Merrill.
- 35b. Forestry Mathematics (Trigonometry).** 1 Q. Spring. 4 cr. Prerequisite, Mathematics 35a or equivalent (i.e., $1\frac{1}{2}$ entrance units of algebra

or Mathematics 10 or 18), and one entrance unit of plane geometry. Students who offer entrance credit in trigonometry or who have completed Mathematics 13 may not receive credit in this course. Not given in 1946-47. Mr. Chatland. Mr. Merrill.

35c. Forestry Mathematics (Statistics). 1 Q. Winter. 4 cr. Prerequisite, Mathematics 35a (or 10 or 18). Students who have completed Mathematics 25 may not receive credit in this course. Not given in 1946-47. Mr. Chatland. Mr. Merrill.

For Undergraduates and Graduates

101. Ordinary Differential Equations. 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 23. Staff.

104. Theory of Equations. 1 Q. 5 cr. Prerequisite, Mathematics 22. Staff.

107a. Calculus III. 1 Q. Spring. 5 cr. Prerequisite, Mathematics 23. Infinite series; expansion of functions; hyperbolic functions; partial differentiation; multiple integration. Staff.

107b. Calculus IV. 1 Q. Winter. 5 cr. Prerequisite, Mathematics 107a. Introductory theory of functions. Staff.

150. Seminar. 1 Q. Any quarter. Credit variable. Prerequisite, junior standing and consent of instructor. This course provides guidance in special work for advanced students. Staff.

For Graduates

200. Graduate Seminar. 1 Q. Any quarter. Credit variable. Prerequisite, graduate standing and consent of instructor. This course provides guidance in graduate subjects or research work. Staff.

Astronomy

A11. Descriptive Astronomy. 1 Q. Spring. 5 cr. Open to all students. An introductory course. Credit does not apply toward the restricted elective requirement in laboratory science. Mr. Chatland.

Medical Technology

Clinical analyses are based on a knowledge of serology, bacteriology, chemistry, physics, and zoology. It is, therefore, essential for the laboratory technicians to have accurate knowledge in these sciences. It is also important that the workers receive routine practical training in a hospital laboratory under the supervision of a qualified clinical pathologist.

For students desiring to enter this work a four-year course is offered in the Division of Biological Sciences which involves three academic years of scientific training and twelve months of practical laboratory experience in an approved hospital. Upon the completion of the fourth year's work the student will be required to pass an examination given by the American Society of Clinical Pathologists covering the practical laboratory instruction. At least the third year of University work prescribed in this course must be taken in residence at Montana State University. Satisfactory completion of this course leads to the degree of Bachelor of Science in Medical Technology.

The curriculum for this course has been designed for those students who have had adequate high school preparation, which should include one and one-half units of algebra, one unit of geometry, one of chemistry, and two units of a modern foreign language. Students who lack this preparation should plan to spend four years in the University before going to a hospital for the practical laboratory instruction.

Since the number of hospital internships available is limited, the department will recommend candidates for these internships largely on the basis of superior scholarship.

The curriculum is as follows, and has been approved by the Council of Education and Hospitals of the American Medical Association:

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Freshman Year | | | |
| Zoology 14ab, Elementary Zoology and Psych 11, General Psychology | 5 | 5 | 5 |
| Chemistry 13, Inorganic Chemistry and Qualitative Analysis | 5 | 5 | 5 |
| English 11ab, Language in Action and Math 13, Trigonometry | 5 | 5 | 5 |
| Phys. Ed. 11abc, Physical Education..... | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men)..... | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |
| Sophomore Year | | | |
| Physics 20abc, General Physics | 5 | 5 | 5 |
| Chem. 101, The Carbon Compounds and Chem. 17, Qualitative Analysis | 5 | 5 | 5 |
| English Literature or Philosophy | 4 | -- | -- |
| History or Economics | -- | -- | 4 |
| Elective | -- | 4-5 | -- |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | 15-16 | 15-17 | 15-16 |
| Junior Year | | | |
| Zoology 103, Parasitology and Zoology 24, Human Physiology | -- | 3 | 5 |
| Zoology 105, General Histology | -- | 5 | -- |
| Bact. 117, General Bacteriology, Bact. 118, Immu- nology and Bact. 119, Pathogenic Bacteriology | 5 | 5 | 5 |
| Bact. 125, Hematology and Bact. 121 Diagnostic Bacteriology | -- | 5 | 5 |
| History or Economics | 4 | -- | -- |
| Elective | 6 | -- | -- |
| | 15 | 18 | 15 |
| Senior Year | | | |

Twelve months' internship in an accredited hospital.
Credits earned in practical laboratory work may be applied toward graduation only for the degree of Bachelor of Science in Medical Technology.

Military Science and Tactics

PROFESSOR WILLIAM G. KELLY (MAJOR, INFANTRY) (CHAIRMAN);
ASSISTANTS BURNIE L. EUBANKS (SGT., D. E. M. L.), FRANK J. STANEK
(STAFF SGT., D. E. M. L.), (UNITED STATES ARMY).

The University maintains a Branch Immaterial of the Reserve Officers' Training Corps, Senior Division, organized in 1919, under authority of the National Defense Act.

"The general object of the courses of instruction of the Reserve Officers' Training Corps is to qualify students for positions of leadership in time of national emergency."—Extract. War Department publication A. G. 353 R. O. T. C., 1932. Every effort is made to develop the initiative and other qualities of leadership necessary for success in any walk of life.

Students enrolled in the R. O. T. C. courses have no obligation for military service in a national emergency other than that of an able-bodied citizen. Students satisfactorily completing the advanced course are commissioned as second lieutenants, Infantry Reserve, Army of the United States.

All resident male students of freshman and sophomore standing who are citizens of the United States and who are physically fit are required to take the basic R. O. T. C. course, except those who may claim exemption under any of the following reasons:

SECTION I. Complete exemption.

(a) **MILITARY REQUIREMENTS.** (Upon presentment of the necessary credentials.)

1. Completion of two years of military instruction in a Senior R. O. T. C. Unit.
2. Attendance at two Citizen's Military Training Camps.
3. Completion of one enlistment in the National Guard.
4. Attendance at two National Guard Training Camps which consisted of at least two weeks of training at each camp.
5. Students who have served in any branch of the Army or Navy for at least one year.

SECTION II. Exemption of one year.

(a) Attendance at one Citizen's Military Training Camp.

(b) Attendance at one National Guard Training Camp, which consisted of at least two weeks of training.

SECTION III. Exemption for training in a Junior Division, or in any college or school conducting military training.

Students who have received previous military training in a Junior ROTC Unit or in some other school or college conducting military training under an officer of the Army, will receive such credit adjustment as the professor of Military Science and Tactics and the head of the institution may jointly determine.

A first- or second-year student claiming exemption because of non-citizenship, physical disability, or age must present to the Department of Military Science and Tactics a petition for such exemption. Pending action on this petition, the student must enroll in the course prescribed for his year and enter the work of the course.

All male students, unless exempted under Section I of the above regulations, must register in the Department during the first quarter of their attendance at Montana State University and each succeeding quarter until the requirement is completed.

Students who have satisfactorily completed the basic course are eligible to make application for the advanced course which covers two additional years. Students are carefully selected according to military and scholastic merit from those who make application for this course. Before being admitted to the advanced course they must pass a thorough physical examination and must execute a written contract to complete the course and pursue a period of summer camp training, normally 6 weeks at government expense, as a prerequisite to graduation from the institution.

The Federal Government supports military training at this institution by providing uniforms and by furnishing instructional material, weapons, equipment, and army personnel for instruction and administration. The president of the university is bonded for the full value of government property so furnished. Each member of the basic course is issued a uniform which must be properly worn while attending military classes. Articles lost, worn out, or damaged through other than fair wear and tear must be paid for by the student. Uniforms

must be kept in first class condition and so returned at the close of the college year or when the student for any reason discontinues military training.

War Department manuals are provided for the students in all courses.

For Undergraduates

Note: Students who are irregular in the sequence of the basic courses 11abc and 12abc should note that the work of the winter quarters (11b, 12b) may not be substituted for either an autumn or a spring quarter's work. Not more than two winter quarters of basic Military Science will be accepted in fulfilling the general university requirement.

11abc. Military Science and Tactics. 3 Q. Autumn, winter, spring, 1 cr. each quarter. Students may enter any quarter. (a) Dismounted drill; military courtesy and customs of the service; rifle marksmanship; protection against carelessness; interior guard duty; safeguarding military information. (b) Organization of the Army; field sanitation; first aid; personal and sex hygiene; map and aerial photography reading. (c) Extended order formations; formations and ceremonies. Staff.

12abc. Military Science and Tactics. 3 Q. Autumn, winter, spring, 1 cr. each quarter. Students may enter any quarter. Formations and ceremonies; scouts, observers, and messengers; patrol operations; technique of rifle fire; U. S. rifle caliber .30M1903; U. S. rifle caliber .30M1; concealment and camouflage; cover and movement; marches and bivouacs; equipment and clothing; tent pitching. Staff.

13abc. Advanced Military Science and Tactics. 3 Q. Autumn, winter, spring, 2½ cr. each quarter. Students may enter any quarter. Army vehicles and aircraft; basic infantry tactics; classification procedures; utilization of manpower; combined arms; communications; current organization of the Army; drill ceremonies and inspections; principles of leadership; health of personnel; individual tactics; interior guard; map and aerial photo reading; mess management; military courtesy; discipline and customs of the Army; military instruction; military law and boards of officers; principles of intelligence; reconnaissance and security; ROTC and National defense; supply management; unit administration; weapons. Staff.

14abc. Advanced Military Science and Tactics. 3 Q. Autumn, winter, spring, 2½ cr. each quarter. Staff.

Note: Advanced students are paid on the basis of the value of the garrison ration, currently about \$18 per month, and are furnished an officer-type uniform with shoes and overcoat, or an allowance in money in lieu thereof. Advanced students are not subject to selective service, and may draw all pay and allowances in addition to those provided by the GI Bill of Rights.

Modern Languages

PROFESSORS LOUISE G. ARNOLDSON, RUDOLPH O. HOFFMAN, BART E. THOMAS (CHAIRMAN); ASSOCIATE PROFESSOR PAUL A. BISCHOFF. ASSISTANT PROFESSOR RUDOLPH J. SCHLUETER. INSTRUCTOR THORA SORENSON.

General Information. Not more than 90 credits in all languages may be counted towards the Bachelor of Arts degree. Placement examinations are required of all entering students who continue languages in which entrance credit is presented (see page 27). Students who have one high school unit in a modern language should enter course 13a, Intermediate French; those with two units, Advanced French (French 15); those with three units, courses numbered over 100, subject, however, to a placement examination.

Senior examinations will not be given except to candidates for honors.

French

Major Requirements. Candidates for the degree of Bachelor of Arts in French must meet the following requirements:

1. French 11 to 119 inclusive, or equivalent, and 15 credits selected from courses numbered 121 to 132 inclusive. If a student, on the basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

2. Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

3. Two quarters in the history of Europe, chosen from the following: French Revolution and Napoleonic Era (Hist 29), Europe in the 19th Century (Hist 30ab), Medieval Europe (Hist 33), Renaissance and Reformation (Hist 34), The Ancient Regime (Hist 35).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

11. **Elementary French.** 2 Q. Autumn, winter. Continuous. 10 cr. Summer. 5 cr. French Staff.

13a. **Intermediate French.** 1 Q. Spring. Summer. 5 cr. Prerequisite, French 11 or equivalent. French Staff.

13b. **Intermediate French.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, French 11 or equivalent. French Staff.

15. **Advanced French.** 1 Q. Winter. Summer. 4 cr. Prerequisite, French 13b or equivalent. French Staff.

17. **French Grammar Review and Composition.** 1 Q. Spring. Summer. 4 cr. Prerequisite, French 15 or equivalent. French Staff.

For Undergraduates and Graduates

115. **Practical Phonetics.** 1 Q. Autumn. Spring. 1 cr. Prerequisite, French 15 or equivalent. French Staff.

119. **General Survey of French Literature.** 1 Q. Winter. 4 cr. Prerequisite, French 17 or equivalent. Mrs. Arnoldson.

*121. **The 17th Century French Literature.** 1 Q. Autumn. 3 cr. Prerequisite, French 17 or equivalent. Given in 1947-48, and in alternate years. Mr. Hoffman.

*123. **The 18th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 17 or equivalent. Given in 1947-48, and in alternate years. Mrs. Arnoldson.

*125. **French Culture and Life.** 1 Q. Autumn. 3 cr. Prerequisite, French 17 or equivalent. Given in 1946-47 and in alternate years. Mr. Hoffman.

*126. **French Poetry.** 1 Q. Spring. 3 cr. Prerequisite, French 17. Given in 1947-48, and in alternate years. Mr. Hoffman.

*127. **The 19th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 17 or equivalent. Given in 1946-47 and in alternate years. Mrs. Arnoldson.

*131. **Advanced French Composition.** 1 Q. Spring. 3 cr. Prerequisite, French 17 and one additional course numbered over 100, or equivalent. Given in 1947-48, and in alternate years. Mr. Hoffman.

132. **Seminar: Studies in Outstanding Writers.** 1 to 3 Q. Autumn. Winter. Spring. 2-3 cr. Open to French majors of senior standing with consent of instructor. Writer and instructor change from quarter to quarter, and from year to year. French Staff.

German

Major Requirements. Candidates for the degree of Bachelor of Arts in German must meet the following requirements:

(1) German 11 to 119 inclusive, or equivalent, and 15 credits of German Readings (German 150). If a student, on the basis of a place-

*Classwork will not be given unless the demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.

ment examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

(2) Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

(3) Two quarters in the history of Europe, chosen from the following: French Revolution and Napoleonic Era (Hist 29), Europe in the 19th Century (Hist 30ab), Medieval Europe (Hist 33), Renaissance and Reformation (Hist 34), The Ancient Regime (Hist 35).

Senior examinations will not be given except to candidates for honors.

For Undergraduates

11. Elementary German. 2 Q. Autumn, winter. Continuous. 10 cr. Summer 11a. 5 cr. German Staff.

13a. Intermediate German. 1 Q. Spring. Summer. 5 cr. Prerequisite, German 11 or equivalent. German Staff.

13b. Intermediate German. 1 Q. Autumn. Summer. 4 cr. Prerequisite, German 13a or equivalent. German Staff.

15. Advanced German. 1 Q. Winter. Summer. 4 cr. Prerequisite, German 13b or equivalent. German Staff.

17. German Grammar, Composition, Conversation. 1 Q. Spring. 4 cr. Prerequisite, German 15 or equivalent. German Staff.

For Undergraduates and Graduates

*119. General Survey of German Literature. 1 Q. Autumn. 3 cr. Prerequisite, German 17 or equivalent. Given in 1945-46, and in alternate years. German Staff.

*150. German Readings. 1 Q. Any quarter. 2-5 cr. Prerequisite, German 17 or equivalent. Advanced readings which fit the interests and needs of the student selected from outstanding German writers. Course may be repeated during succeeding quarters by variations in content to a maximum of 25 credits. German Staff.

Spanish

Spanish courses offer preparation (1) for prospective teachers or for those interested in literary information and (2) for students interested in Pan American studies, governmental work, or commercial work in Spanish-American countries.

Major Requirements: For (1) above, courses 11 to 119 inclusive, or equivalent, 15 credits selected from courses 121 to 133 inclusive, and Hispanic-American History (Hist 123abc).

For (2) above during the first two years the student should select his courses and electives in the curriculum of the Division of Humanities (see page 49), to include Spanish 11 through 117, or equivalent; Introduction to Humanities (Gen 15abc) or Introduction to Biological Science (Gen 13abc); General Psychology (Psych 11); Language in Action (Composition, Eng 11ab), American Literature (Eng 59b); Principles of Economics (Econ 14ab); American Government and Politics (Hist 17), State and Local Government (Hist 18), Comparative Governments (Hist 20).

Junior Year: General Survey of Spanish Literature (Spanish 119) and two other courses from the group numbered 120 to 129 inclusive; Hispanic-American History (Hist 123abc); Elementary Anthropology (Econ 15), Descriptive Archeology: North America (Econ 141), Ethnography: America (Econ 145), and American Literature (Eng 59c).

*Classwork will not be given unless the demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.

Senior Year: Basic Values in Religion (Rel 20R) or electives; The Early 20th Century (1900-1931) (Hist 103); Current Events (Journ 36); Business Law (Bus Ad 4lab) or electives. In addition, from each of the following groups three one-quarter courses should be selected (a) International Public Law (Hist 106ab), Present World Problems (Hist 108), American Political Problems (Hist 109), Theories of the State (Hist 115); History of Philosophy (Psych 52abc); Foreign Trade (Bus Ad 152). (b) Listening to Music (Music 35abc); History of Art (Fine Arts 31abc); The Novel (Eng 75abc), The Drama (Eng 77abc). (c) Spanish, the remaining courses not yet completed in the group numbered 120 to 129, 131 to 133 inclusive.

Note: The total number of college credits required in Spanish varies with the student's high school preparation; the minimum requirement is 21 credits. Students who intend to complete the work in this field should consult early with the adviser of Pan American studies.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

- 11. Elementary Spanish.** 2 Q. Autumn, winter. Winter, spring. 10 cr. Continuous. Summer. Spanish Staff.
- 13a. Intermediate Spanish.** 1 Q. Autumn. Spring. Summer. 5 cr. Prerequisite, Spanish 11 or equivalent. Spanish Staff.
- 13b. Intermediate Spanish.** 1 Q. Autumn. Winter. Summer. 4 cr. Prerequisite, Spanish 13a or equivalent. Spanish Staff.
- 15. Advanced Spanish.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 13b or equivalent. Spanish Staff.
- 17. Spanish Grammar, Composition, Conversation.** 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 15 or equivalent. Mr. Thomas.
- 18. Advanced Spanish Composition and Conversation.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. This is a required course for Spanish majors. Mr. Thomas.

For Undergraduates and Graduates

- 119. General Survey of Spanish Literature.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. A general survey of the literary history of Spain. Assigned readings and class discussions of masterpieces. Mr. Thomas.
- 121. Spanish Drama of the Golden Age.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 17. Given in 1947-48, and in alternate years. Mr. Thomas.
- 122. Picaresque Novel.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1946-47, and in alternate years. Miss Sorenson.
- 123. 19th Century Spanish Novel.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. Romanticism and the novel of this century. Given in 1947-48, and in alternate years. Mr. Bischoff.
- 124. 19th Century Spanish Drama.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1947-48, and in alternate years. Miss Sorenson.
- 125ab. Spanish-American Literature.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, Spanish 17. (a) General survey of the literary movement from Colonial times through the Modernista movement. (b) Contemporary prose writers with emphasis on the novelists of the Argentine, Mexico, Colombia, and Venezuela. Given in 1946-47, and in alternate years. Mr. Thomas.
- 127. Contemporary Spanish Drama.** 1 Q. Autumn. 3 cr. Prerequisite Spanish 17. Given in 1946-47, and in alternate years. Mr. Bischoff.
- 128. Advanced Spanish Conversation.** 1 Q. Any quarter. 1 cr. Prerequisite, Spanish 17. Mr. Thomas.
- 129. Contemporary Spanish Novel.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 17. Given in 1946-47, and in alternate years. Mr. Bischoff.

131. Commercial Spanish. 1 Q. Spring. 3 cr. Prerequisite, Spanish 17. Writing of Spanish commercial letters and a study of commercial practices in Spanish-America. Designed for students in Pan American studies. Given in 1947-48, and in alternate years. Spanish Staff.

133. Seminar. 2 Q. Winter, spring. 2-3 cr. Open to Spanish major students with senior standing. Topics offered for study: outstanding authors and literary movements of Spain and Spanish America. All majors must take at least one quarter of course 133; not more than 6 credits may be applied toward graduation. Mr. Thomas.

School of Music

PROFESSORS JOHN B. CROWDER (DEAN), JOHN LESTER, FLORENCE R. SMITH, A. HERMAN WEISBERG; ASSOCIATE PROFESSOR BERNICE BERRY RAMSKILL; ASSISTANT PROFESSOR CLARENCE BELL; INSTRUCTOR NORMAN GULERANDSEN; ASSISTANTS ROBERT LANGEN, LEONA MARVIN.

Requirements for Admission

1. The regular University requirements for admission apply to the School of Music, pages 20 to 24. Credit for applied music is granted only to students who are eligible to register for regular University courses and to accredited applied music teachers desiring to meet the requirements for life certificates.

2. Students desiring to enter courses leading to the degree of Bachelor of Music in applied music must meet the following entrance requirements in the field of applied music in which they wish to major:

Voice. Must be able to sing on pitch and show talent for musical expression as demonstrated by the performance of standard songs in English and should be able to read a simple song at sight.

Piano. Major and minor scales, major and minor arpeggios in moderate tempo, some standard études such as Heller, Op. 47; small works of Bach such as Little Preludes and Two-Part Inventions; easy sonatas and standard compositions such as Haydn Sonata in G Major, Schubert Impromptu Op. 142, No. 2.

Violin. Ability to perform études such as Kreutzer études Nos. 1 to 32 and Tartini G Minor Sonata.

Organ. Same as Piano.

Wind Instruments. Must have mastered elementary technique of his or her instrument.

3. An entrance examination in music aptitude and placement tests in applied music are required.

Requirements for Graduation

1. Candidates for the degree of Bachelor of Music in music education are required to complete satisfactorily 186 credits as outlined in suggested Curriculum A, and must have a minimum proficiency in applied music as follows: Piano, two years of continuous study or its equivalent in performing ability; Voice, Wind Instruments, and Violin, each for one year of continuous study or the equivalent in performing ability.

2. Candidates for the degree of Bachelor of Music in applied music must meet the general university requirements for graduation (pages 24 to 30), with the exception that only two of the restricted elective requirements (to be selected from sections 2, 3, 4, and 5 under "Restricted Elective Requirements") must be completed. In addition, they must complete the music courses suggested in Curriculum B and meet the following requirements in the field of specialization:

Voice. The candidate must have the ability to perform satisfactorily and to demonstrate a knowledge of the technique of singing, including breath control, resonance, placement, diction, and interpretation. He must have both a singing and teaching knowledge of lieder, art song, oratorio, opera, and sacred literature, and a singing knowledge of French, Italian, and German.

For his specialization requirements the student in voice must include Choral Groups, (Music 10abc, 2 years), Conducting (Music 31a), Applied Music (Music 1, Piano, 2 years or its equivalent in performing ability).

Piano. The candidates must be able to demonstrate the ability to play scales, arpeggios, chords, octaves, and double notes in various speeds and with various tonal effects. Repertoire must include classic, romantic, and modern compositions such as Bach, Chromatic Fantasia and Fugue, preludes and fugues from the Well-Tempered Clavier; Beethoven Sonata Op. 53 and a concerto; Brahms Sonata in F Minor, Mozart Concerto in E-Flat Major, large compositions of Chopin, Liszt, and Grieg; compositions from modern composers such as Rachmaninoff, MacDowell, Debussy, and Ravel. Candidates must be able to read compositions of modern difficulty and average song accompaniments at sight.

For his specialization requirements the student in piano must include Choral Groups (Music 10abc, 2 years), Class Piano Methods (Music 23abc), Ensemble Groups (Music 40, 1 year), Advanced Keyboard Harmony (Music 47abc), and Interpretation and Style (Music 140abc).

Violin. The candidate must be able to play scales, arpeggios, thirds, sixths, octaves, and harmonics satisfactorily and must have studied such representative works as études of Kreutzer, Fiorilli, Rovelli, Rode; concertos chosen from Bach, Mozart, Viotti, Rode, Beethoven, Wieniawski, Vieuxtemps, Bruch, and Brahms, and sonatas chosen from Bach, Mozart, Beethoven, Grieg, and Brahms; miscellaneous concert pieces in the standard repertoire.

For his specialization requirements the student in violin must include Orchestra (Music 10abc, 3 years), Conducting (Music 31ab), Ensemble Groups (Music 40, 1 year), Orchestration (Music 129abc), and Piano (Music 1, 2 years or its equivalent in performing ability).

Organ. The candidate must be able to demonstrate ability in sight reading, in accompaniment of oratorios and masses, and in general service playing. He should have a large repertoire of organ literature of all schools, classic and modern, of the degree of difficulty indicated by the following: Bach, Fantasia and Fugue in B minor; Handel, Concerto in G; advanced works in Guilmant, Widor, Franck, Vierne, Dupre, Mendelssohn, and others; works of contemporary French, English, German, and American schools.

For his specialization requirements the student in organ must include Choral Groups (Music 10abc, 2 years), Conducting (Music 31a), Ensemble Groups (Music 40, 1 year), Advanced Keyboard Harmony (Music 47abc).

Wind Instruments. The candidate must be able to perform representative solos from the literature for his instrument and to carry his part in a professional or semi-professional band or orchestra.

For his specialization requirements the student in wind instruments must include Band (Music 10abc, 3 years), Conducting (Music 31ab), Ensemble Groups (Music 40, 2 years), Band and Orchestra Management (Music 52), and Applied Music (Music 1, Piano, 2 years).

3. Candidates for the Bachelor of Arts degree with Music as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 24 to 30 and page 48).

4. Senior examinations are required of all students who major in Music.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

General Information

The Montana State University School of Music is a member of the National Association of Schools of Music.

The School of Music seeks to develop the musical interests and talents of students planning a professional career and of students whose major interests lie in other fields wishing to add to their enjoyment of music and to the enrichment of their lives through the recreation of music for their own satisfaction. The curricula include not only systematic and progressive instruction in the structure, history, appreciation, and practice of music; but also instruction in those branches of higher learning which bear most directly upon music and without a knowledge of which success in the higher domain of music is impossible.

Students who do not major in music will be allowed to count towards graduation only 6 credits in ensemble work and 12 credits in applied music. These non-major students may register for one credit where one lesson per week is taken or for two credits if two lessons per week are taken. Ensemble music courses are indicated by an asterisk (*) affixed to the number of the course description, and applied music courses are indicated by a dagger (†) affixed to the number of the course description.

Music majors who have not included 10abc and 40 in their music electives may be required to participate in these courses without credit.

Students are required to appear in recitals at the request of the instructor. The instructor's permission must be obtained before the student appears in public.

Students registered for courses numbered 1, 5, 6, 7, and 8 may be required to attend the lessons of another student registered in the same course.

For information concerning the Music School Foundation Scholarships and the State Board of Education Music Scholarships, see pages 41 and 43.

In keeping with advanced thought of leading educators, the faculty of the School of Music recommends to its students the adoption of a five-year course leading to the Bachelor's degree. This plan will enable the student to prepare more fully for professional activity and for post-graduate study. An adjusted curriculum for the five-year course will be worked out to meet the needs of the individual. Students electing this course should consult with the Dean of the School not later than the freshman year concerning the modification of the various curricula listed below.

The Music School Foundation has received funds from the students' Music Club to establish a loan fund for music majors. The funds are administered by the music faculty and loans are made without interest charges.

A. Curriculum for Bachelor of Music Degree in Music Education

Curriculum A prepares for teaching in the public school if the electives are so chosen as to meet the state requirements. See certification requirements page 70.

| Freshman Year | | | |
|---|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra..... | 1 | 1 | 1 |
| Music 11abc, Theory I | 4 | 4 | 4 |
| Music 25, String Instruments in Class or Music 29, Wind Instruments in Class | 1 | 1 | 1 |
| Music 35abc, Listening to Music | 3 | 3 | 3 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men)..... | 1 | 1 | 1 |
| | 15-16 | 15-16 | 15-16 |
| Sophomore Year | | | |
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra..... | 1 | 1 | 1 |
| Music 25, String Instruments in Class or Music 29, Wind Instruments in Class | 1 | 1 | 1 |
| Music 31ab, Conducting | 3 | 3 | 3 |
| Music 41abc, Theory II | 4 | 4 | 4 |
| Psych. 11, General Psychology | .. | .. | 5 |
| Electives | 4 | 4 | 3 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | 16-17 | 16-17 | 17-18 |
| Junior Year | | | |
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra..... | 1 | 1 | 1 |
| Music 123abc, School Music | 3 | 3 | 3 |
| Music 125abc, Counterpoint | 2 | 2 | 2 |
| Educ. 25a, Educational Psychology; Educ. 25b, Principles of Education and Educ. 25c, Secondary School Teaching Procedures | 4 | 4 | 4 |
| Electives | 4 | 4 | 4 |
| | 16 | 16 | 16 |
| Senior Year | | | |
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra..... | 1 | 1 | 1 |
| Music 134abc, History of Music | 2 | 2 | 2 |
| Education 26ab, Observation and Teaching..... | .. | 5 | 4 |
| Electives | 10 | 5 | 6 |
| | 15 | 15 | 15 |

B. Curriculum for Bachelor of Music Degree in Applied Music

Completion of the first two years of work in Curriculum B qualifies the student to receive the Elementary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Completion of the entire Curriculum qualifies the student to receive the Secondary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Students who intend to request a certificate in applied music by endorsement must include General Psychology (Psych. 11), Educational Psychology (Educ 25a) and Principles of Education (Educ 25b) in the free electives listed in the curriculum.

| Freshman Year | | | |
|---|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Music 5, Applied Music (Voice, piano, violin, organ or wind instruments) | 4 | 4 | 4 |
| Music 11abc, Theory I | 4 | 4 | 4 |
| Music 35abc, Listening to Music | 3 | 3 | 3 |
| Music Elective (See note below) | 1 | 1 | 1 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |
| Sophomore Year | | | |
| Music 6, Applied Music (Voice, piano, violin, organ or wind instruments) | 4 | 4 | 4 |
| Music 41abc, Theory II | 4 | 4 | 4 |
| Music Elective (See note below) | 1 | 1 | 1 |
| Restricted Electives | 4 | 4 | 4 |
| Elective (Fine Arts 31abc, History of Art, recom- mended) | 3 | 3 | 3 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | 17-18 | 17-18 | 17-18 |
| Junior Year | | | |
| Music 7, Applied Music (Voice, piano, violin, organ or wind instruments) | 4 | 4 | 4 |
| Music 125abc, Counterpoint | 2 | 2 | 2 |
| Music 158abc, Form and Analysis | 2 | 2 | 2 |
| Music Electives (See note below) | 4 | 4 | 4 |
| Electives | 4-5 | 4-5 | 4-5 |
| | 16-17 | 16-17 | 16-17 |
| Senior Year | | | |
| Music 8, Applied Music (Voice, piano, violin, organ or wind instruments) | 4 | 4 | 4 |
| Music 134abc, History of Music | 2 | 2 | 2 |
| Music 141, Score Reading and Music 142, Senior Recital | 2 | .. | 2 |
| Music Electives (See note below) | 3 | 3 | 3 |
| Electives | 3-5 | 5-7 | 3-5 |
| | 14-16 | 14-16 | 14-16 |

Note: In addition to the courses specified in Curriculum B above, the student must also complete the work outlined as specialization requirements under voice, piano, violin, organ, wind instruments (page 125), dependent upon which of those fields he selects.

C. Curriculum for Bachelor of Arts with a Major in Music

Curriculum C does not lead to certification for teaching in the public schools.

| Freshman Year | | | |
|---|-------|-------|-------|
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 1 | 1 | 1 |
| Music 11abc, Theory I | 4 | 4 | 4 |
| Music 35abc, Listening to Music | 3 | 3 | 3 |
| General 11abc, Introduction to Social Science or General 15abc, Introduction to Humanities.... | 5 | 5 | 5 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | 17-18 | 17-18 | 17-18 |

Sophomore Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|---|------------------------------|------------------------------|------------------------------|
| Music 1, Applied Music (Voice, piano, violin, organ or wind instruments) | 1 | 1 | 1 |
| Music 41abc, Theory II | 4 | 4 | 4 |
| General 13abc, Introduction to Biological Sciences | 5 | 5 | 5 |
| Foreign Language | 5 | 5 | 5 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | 16-17 | 16-17 | 16-17 |

Note: The work of the Junior and Senior years is devoted largely to completing any remaining University restricted electives, free electives, and music electives, as well as Applied Music 5 during each quarter of these years.

For Undergraduates

†1. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1 or 2 cr. Scales, arpeggios, sight reading, and interpretation. A course for students not majoring in applied music and for students who are unable to meet the entrance requirements in Music 5. Staff.

†5. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1 to 4 cr. Prerequisite, satisfactory placement examination as outlined in School of Music entrance requirements. Individual instruction designed to meet the requirements of first year students majoring in the various fields of applied music. Staff.

†6. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 5. Continuation of individual instruction. Staff.

†7. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 6. Continuation of individual instruction. Staff.

†8. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 7. Continuation of individual instruction leading to fulfillment of requirements as outlined for applied music majors. Staff.

*10abc. **Band, Orchestra, Choral Groups.** 3 Q. Autumn, winter, spring, Summer. 1 cr. each quarter. Band, chorus, and orchestra. Prerequisite, consent of instructor. Staff.

11abc. **Theory I.** 3 Q. Autumn, winter, spring, Summer, S11a. 4 cr. each quarter. The art and science of musical structure, including the study of scales, keys, intervals, chords, cadences, melody writing, beginning modulations, and rhythms. Practice in two-, three-, and four-part writing, analysis, dictation, and keyboard application. The course is designed to acquaint the student with the fundamentals of musicianship, to increase his accuracy and understanding in musical performance, and to train him to think in tone so that he is able to sing, identify, and write the music he hears. Mr. Langen.

†12abc. **Voice in Class.** 3 Q. Autumn, winter, spring, Summer, S12a. 1 cr. each quarter. Breathing methods, tone placement, and enunciation leading to the singing of simple songs. Designed for students who desire practical training in singing without specialization. Mr. Lester.

*23abc. **Class Piano Methods.** 3 Q. Autumn, winter, spring, 2 cr. each quarter. Prerequisite, placement in Piano 5. A normal class for piano teachers and public school music instructors dealing with methods and materials for teaching piano classes in public schools and private studios. Practical demonstrations with children's classes. Given in 1946-47, and in alternate years. Mrs. Ramskill.

†25. **String Instruments in Class.** 3 Q. Autumn, winter, spring, Summer. 1 cr. each quarter. Students may enter any quarter. One instrument each quarter to be selected by students with advice and consent of instructor. A course designed to enable music education majors to gain a practical knowledge of the stringed instruments. Mr. Weisberg.

†Applied Music.

*Ensemble Music.

†29. **Wind Instruments in Class.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Students may enter any quarter. One instrument each quarter to be selected by the student with advice and consent of instructor. A course designed to enable music education majors to gain a practical knowledge of the instruments of the band. Mr. Bell.

31ab. **Conducting.** 2 Q. Autumn, winter. 3 cr. each quarter. Summer, 31a or 31b. 3 cr. Students may enter either quarter. Prerequisite, 10 credits in music. Fundamentals of choral and instrumental conducting. (a) Choral conducting. (b) Instrumental conducting. The University choral and instrumental groups are made available to advanced students for practical experience. Mr. Gulbrandsen.

35abc. **Listening to Music.** 3 Q. Autumn, winter, spring. Summer, S35a. 1-3 cr. Students may enter any quarter. This course with variable credit is designed to meet the needs of both non-music majors and music majors. A non-technical study of the elements essential to musical understanding with an evaluation of music of the 18th and 19th centuries from a musical and historical standpoint. One meeting a week will consist of a formal lecture-recital and one of directed listening to phonograph records. The other two meetings will be devoted to further analysis and discussion. Mr. Gulbrandsen.

†40. **Ensemble Groups.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Any small group of two or more players or singers may have a course outlined by the instructor. Opportunity is offered for the development of sight reading and for gaining acquaintance with music literature; accompanying. Staff.

41abc. **Theory II.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, S41a. 4 cr. A continuation of Theory I. Further practice in sight singing, ear-training, dictation, and keyboard work; the inter-relation of harmony and counterpoint; the analysis of Bach chorales; and creative work exemplifying the contents of the course.

45abc. **Microphone and Program Technique.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. (a) Use of public address system. (bc) Preparation and practice in broadcasting musical programs. Either quarter of 45b or c is interchangeable.

47abc. **Advanced Keyboard Harmony.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Music 41abc or concurrent registration. Practical application of theory principles to the keyboard. Exercises in modulation, transposition, and development of extempore playing. Mrs. Ramskill.

51. **Choral Technique.** 1 Q. Spring. Summer. 3 cr. Prerequisite, Music 31a and 10 credits selected from Music 1 and 11abc. A course designed to furnish choral conductors with materials and methods of preparing vocal groups for performance. Program building. Mr. Gulbrandsen.

*52. **Band and Orchestra Management.** 1 Q. Spring. Summer. 2 cr. Prerequisite, Music 31b and 10 credits in band and orchestral instruments selected from Music 1, 25, and 29. A course designed to furnish instrumental conductors with materials and methods of preparing instrumental groups for performances; program building. Mr. Bell.

For Undergraduates and Graduates

†105. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1-8 cr. Prerequisite, completion of Music 3 or graduate standing in music education and consent of the Dean of the School of Music. Individual instruction. Staff.

*119ab. **Band and Vocal Arranging.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, Music 129a. Individual and combined possibilities of instruments and voices; original work, arranging, and transcriptions for various combinations. Given in 1946-47, and in alternate years. Mr. Weisberg.

123abc. **School Music.** See Special Methods courses page 75.

125abc. **Counterpoint.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 41c. Two-, three-, and four-part counterpoint. Mr. Weisberg.

*129abc. **Orchestration.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. Given in 1946-47, and in alternate years. Mr. Weisberg.

†Applied Music.

*Classwork will not be given unless demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.

134abc. History of Music. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, Music 35abc or senior standing in music. Music of all periods analyzed; the lives, works, and influences of all composers discussed and studied. Mr. Crowder.

140abc. Interpretation and Style. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, consent of instructor. Piano compositions of different national schools and periods and characteristics of each from the standpoint of interpretation and style. Given in 1946-47, and in alternate years. Mr. Crowder.

***141. Score Reading.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing. Given in 1946-47, and in alternate years. Staff.

142. Senior Recital. 1 Q. Spring. 2 cr. Prerequisite, registration in Music 8. Staff.

***158abc. Form and Analysis.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c or concurrent registration. A course designed to familiarize the student with the melodic, harmonic, and formal structure of the different kinds of musical composition. Given in 1946-47, and in alternate years. Mr. Weisberg.

***159abc. Composition.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. A course in creative writing. Given in 1945-46, and in alternate years. Mr. Weisberg.

S162. Seminar in Public School Music. 1 Q. Summer. Cr. variable. Prerequisite, junior standing. Mr. Teel.

Applied Music Fees per quarter.

A fee of \$25.00 per quarter will be charged all music majors, to cover applied music instruction as required by the curricula and advised by the Dean of the School of Music.

For non-majors the fees per quarter will be:

Voice, Piano, Violin

| | | |
|------------------------------|-------------------------|---------|
| Applied Music 1, 5, 6, 7, 8. | Two lessons a week..... | \$40.00 |
| | One lesson a week..... | 20.00 |

Organ

| | | |
|------------------------------|-------------------------|-------|
| Applied Music 1, 5, 6, 7, 8. | Two lessons a week..... | 36.00 |
| | One lesson a week..... | 18.00 |

Wind Instruments

| | | |
|------------------------------|-------------------------|-------|
| Applied Music 1, 5, 6, 7, 8. | Two lessons a week..... | 24.00 |
| | One lesson a week..... | 12.00 |

For majors and non-majors who register for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of \$1.75 per private lesson taken will be made.

Lessons in applied music missed by the instructor will be made up within the quarter. Lessons missed by students or lessons falling on a legal holiday will not be made up.

Rentals, per quarter

| | |
|--|--------|
| Piano and practice room. One hour daily..... | \$3.00 |
| Additional hour daily..... | 2.00 |
| Organ and practice room. One hour daily..... | 6.00 |
| Additional hour daily | 5.00 |

Students registered in Music 25 and 29 must rent instruments unless they provide their own.

Rentals must be paid for entire quarter. No refunds of rentals will be made.

†Applied Music.

*Classwork will not be given unless demand is sufficient. Qualified students may be permitted to register independently by tutorial instruction.

Nursing Education

Montana State University offers a program in Nursing Education which covers a period of nine quarters on the University campus either followed by or preceded by three years of training in an accredited nursing school. Upon completion of this program, the student receives the degree of Bachelor of Science in Nursing Education. At least the third year of university work in this program must be completed in residence at Montana State University.

Curriculum in Pre-Nursing Education

To be followed by three years of training in an accredited nursing school, for which the equivalent of one year's college work is allowed.

Freshman Year

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|---|------------------------------|------------------------------|------------------------------|
| General 13abc, Introduction to Biological Science..... | 5 | 5 | 5 |
| Chem. 11, General Chemistry or Chem. 13, Inorganic and Qualitative Analysis | 5 | 5 | 5 |
| Eng. 11ab, Language in Action and Eng. 20, Principles of Speech | 5 | 5 | 5 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| | 16 | 16 | 16 |

Sophomore Year

| | | | |
|---|----|----|-------|
| Zoology 10, General Zoology | 5 | .. | .. |
| Chem. 19, Organic Chemistry | .. | 5 | .. |
| Chem. 103, Physiological Chemistry | .. | .. | 5-6 |
| Bacteriology 19, Elementary Bacteriology | 5 | .. | .. |
| Econ. & Sociol. 16, Elementary Sociology and Econ. & Sociol. 17, Social Problems | .. | 4 | 4 |
| Psychology 11, General Psychology | 5 | .. | .. |
| Home Ec. 17b, Introduction to Home Economics and Home Ec. 24, Elementary Nutrition..... | .. | 5 | 5 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| | 16 | 15 | 15-16 |

Junior Year

| | | | |
|---|----|-------|----|
| Fine Arts 31abc, History of Art | 3 | 3 | 3 |
| Elective in English Literature | 4 | .. | 4 |
| Psych. & Philos. 51, Ethics | .. | 5 | .. |
| Zoology 24, Human Physiology | .. | .. | 5 |
| Psych. 115, Abnormal Psychology | 5 | .. | .. |
| History 30b, Europe in the 19th Century..... | .. | 3 | .. |
| Elective in History | .. | .. | 4 |
| Econ. & Sociol. 130, Principles of Social Case Work | 4 | .. | .. |
| Home Economics 124, Child Development..... | .. | 3-5 | .. |
| | 16 | 14-16 | 16 |

Curriculum in Post-Nursing Education

(Preceded by three years of training in an accredited nursing school, for which the equivalent of one year's college work is allowed.)

First Year (Sophomore standing)

| | | | |
|---|----|----|----|
| Chemistry 11, General Chemistry or Chem. 13, Inorganic and Qualitative Analysis | 5 | 5 | 5 |
| Gen. 11abc, Introduction to Social Science | 5 | 5 | 5 |
| Eng. 11ab, Language in Action and Eng. 20, Principles of Speech | 5 | 5 | 5 |
| | 15 | 15 | 15 |

Second Year (Junior standing)

| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
|--|------------------------------|------------------------------|------------------------------|
| Psychology 11, General Psychology | 5 | -- | -- |
| Home Ec. 17b, Introduction to Home Economics and Home Ec. 24, Elementary Nutrition..... | -- | 5 | 5 |
| Bacteriology 19, Elementary Bacteriology..... | 5 | -- | -- |
| Econ. & Sociol. 16, Elementary Sociology and Econ. & Sociol. 17, Social Problems | -- | 4 | 4 |
| Gen. 13abc, Introduction to Biological Science..... | 5 | 5 | 5 |
| Elective | -- | 2 | 2 |
| | 15 | 16 | 16 |

Third Year (Senior standing)

| | | | |
|---|----|-------|----|
| Econ. & Sociol. 130, Principles of Social Case Work | 4 | -- | -- |
| Home Ec. 124, Child Development | -- | 3-5 | -- |
| Zoology 24, Human Physiology | -- | -- | 5 |
| Psych. 115, Abnormal Psychology | 5 | -- | -- |
| Gen. 15abc, Introduction to Humanities..... | 5 | 5 | 5 |
| Fine Arts 31abc, History of Art | 3 | 3 | 3 |
| Psych. & Philos. 52ab, History of Philosophy..... | -- | 5 | 5 |
| | 17 | 16-18 | 18 |

The credit grant for the three years of nurses training, when allowed in the post-nursing curriculum is made contingent upon the completion of the work outlined in that curriculum.

Although the curricula outlined is intended to cover three years, it is possible to accelerate the completion of the work by attendance during summer sessions and by careful selection of courses. However, the field of nursing is increasing in its scope and importance to such an extent that there is a great deficiency of broadly educated persons to form its policies and direct its activities. For this reason the University is contemplating the establishment of a full four-year program in Nursing Education.

The hospital schools in which the nurses training is completed must follow the curriculum of the National League of Nursing Education and the National Association of Collegiate Schools of Nursing.

School of Pharmacy

PROFESSORS CHARLES E. F. MOLLETT, JOHN F. SUCHY, CURTIS H. WALDON (DEAN); INSTRUCTOR ALEX F. PETERSON; SECRETARY-LIBRARIAN MARJORIE J. BRUNETT.

The School of Pharmacy offers an opportunity to the individual who is properly qualified to obtain a professional education which will prepare him for a lifetime of service to his fellowmen. Well-trained pharmacists find good paying positions in the several fields of Pharmacy. A pharmacist may desire to undertake the practice of Pharmacy in a retail drug store, or he may want to seek employment with one of the pharmaceutical manufacturers. Many graduates engage in some pharmaceutical specialty, such as drug assay, food and drug analysis, toxicology, pharmacology, pharmacognosy or some other related scientific or professional work. Women in pharmacy have excellent opportunities in hospital pharmacy, quite often combining radiography and clinical analysis with pharmaceutical work.

Pharmacy graduates are eligible for commissions in the Pharmacy corps of the United States Army, and many accept positions with

United States Public Health Service or the Veterans Administration. The Federal Civil Service classifies Pharmacy in the professional classification requiring graduation from a recognized school of pharmacy.

There is an ever increasing demand for well-trained pharmacists in pharmaceutical manufacturing companies and for many other important scientific positions. The demand for pharmacists with advanced training, particularly those who go on and complete the requirements for advanced degrees has never been satisfied.

The curriculum of the School of Pharmacy, Montana State University, is designed to yield an education and the training necessary for leadership in our ever increasing complex social and economic life; to make its graduates professionally and legally qualified for the distribution of substances through the operation of pharmacies; and to prepare its students for cooperation with the medical, dental, veterinary, nursing and other health professions. The student is given a well-founded training in the physical and biological sciences and the arts, as well as a most thorough training in Pharmacy. The chief aim of the School of Pharmacy is in training of a pharmacist who is well adjusted so as to meet the demands made upon him both professionally and in his community life.

The laboratory facilities of the School of Pharmacy are of the best. Each laboratory is equipped with the latest type of apparatus. Besides the laboratories where basic training is acquired there are special ones for advanced instruction, such as a manufacturing laboratory where tablet manufacturing, etc., is carried on, a hospital pharmacy laboratory where hospital techniques are acquired and a pharmacology laboratory to demonstrate and evaluate the action of drugs. The equipment in the various laboratories is being constantly augmented in order to keep abreast of recent advances in laboratory techniques.

The School of Pharmacy maintains a medicinal plant garden which is used as a means of supplying laboratory materials and for training students in the recognition and culture of drug plants. The garden offers a means of carrying on research in pharmacognosy and plant chemistry.

The School of Pharmacy is a member of the American Association of Colleges of Pharmacy and is fully accredited by the American Council on Pharmaceutical Education.

The School of Pharmacy offers the degree of Bachelor of Science in Pharmacy which can be completed in four academic years. The curriculum for the Bachelors degree has been so arranged that all students are required to take essentially the same courses in the freshman and sophomore years. However, in the junior year and particularly in the senior year, each student is encouraged to elect as far as possible those courses which will fit him best for the work he contemplates entering upon after graduation.

The Master of Science degree in Pharmacy can be completed in one academic year beyond the Bachelor of Science degree. It is possible to major in Pharmacy, Pharmaceutical Chemistry, or Pharmacology. Each graduate student is required to select a major subject and two minor subjects, one minor must be outside the School of Pharmacy. A foreign language is not required for the Masters degree. (See pages 93 to 96).

The American Foundation for Pharmaceutical Education annually offers a number of scholarships for deserving students.

For the academic year 1946-47 there will be two graduate assistantships available. For other awards and prizes, see pages 41-44.

The Montana Board of Pharmacy examines candidates for registration at least once a year. The law requires that to be entitled to examination by the Board as a pharmacist, the applicant must be a citizen of the United States, of good moral character, at least twenty-one years of age, and shall be a graduate of the School of Pharmacy of Montana State University or a college or a school of pharmacy recognized and approved by the American Association of Colleges of Pharmacy, but such applicant shall not receive a license until he has at least one year of practical experience in a pharmacy which has been approved by the Board of Pharmacy. During this year, provided the applicant has passed such examination, he shall be licensed as an assistant pharmacist only. (NOTE:) A recent ruling states that all practical experience must be obtained in a pharmacy in the State of Montana in order to qualify for registration.

Graduates of the School of Pharmacy are eligible for examination to practice pharmacy in any state, but graduates of this School who successfully pass the Montana State Board of Pharmacy examination are privileged to reciprocate with forty-five other states and with the District of Columbia, Alaska and Puerto Rico, without further examination, provided they possess the experience requirement of these states before taking the examination.

Requirements for Admission

The regular University requirements for admission apply to the School of Pharmacy. (See pages 20 to 24).

It has been found that students who graduate in the lower third of their high school class have difficulty completing the work in the School of Pharmacy.

Requirements for Graduation

Candidates for the degree of Bachelor of Science in Pharmacy must meet the following requirements:

1. The general University requirements for graduation. (See pages 24 to 30).
2. Complete a course of study which is satisfactory to the staff of the School of Pharmacy.
3. Satisfactorily pass a comprehensive examination at the end of each academic year.

Candidates for the degree of Master of Science in Pharmacy must comply with the regulations governing graduate study as set forth on pages 93 to 96 and must complete a program satisfactory to the School of Pharmacy.

Curriculum in Pharmacy

| | Freshman Year | | |
|--|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Pharm. 10ab, Principles of Pharmacy..... | 3 | 3 | -- |
| Botany 13, Pharmaceutical Botany | -- | 5 | -- |
| Pharm. 14, Pharmaceutical Chemistry | -- | -- | 3 |
| Chem. 11abc, General Chemistry or Chem. 13abc, Inorganic Chemistry and Qualitative Analysis | 5 | 5 | 5 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Zoology 10, General Zoology | 5 | -- | -- |
| *Mathematics | -- | -- | 5 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | 17-18 | 17-18 | 17-18 |

*Course entered dependent upon high school preparation.

| Sophomore Year | | | |
|--|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Pharm. 21ab, Operative Pharmacy | 5 | 5 | 5 |
| Pharm. 24ab, Pharmacognosy | 5 | 5 | 5 |
| Pharm. 26abc, History and Literature of Pharmacy | 1 | 1 | 1 |
| Chem. 101, The Carbon Compounds | 5 | 5 | 5 |
| Mathematics | 5 | 5 | 5 |
| Zoology 24, Human Physiology | 5 | 5 | 5 |
| Restricted Electives | 5 | 5 | 5 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| | 17-18 | 17-18 | 17-18 |
| Junior Year | | | |
| Pharm. 50, Manufacturing Pharmacy | 5 | 5 | 4 |
| Pharm. 52abc, Drug Analysis | 5 | 5 | 5 |
| Pharm. 77ab, Pharmaceutical Economics | 5 | 3 | 3 |
| Pharm. 114ab, Organic Medicinal Products | 3-5 | 3-5 | 5 |
| Bact. 117, General Bacteriology and Bact. 118, Immunology | 5 | 5 | 5 |
| Restricted Electives | 4 | 5 | 6 |
| | 17-19 | 16-18 | 18 |
| Senior Year | | | |
| Pharm. 75, Veterinary Pharmacy | 5 | 5 | 3 |
| Pharm. 90, Proprietary Preparations | 3 | 5 | 5 |
| Pharm. 95ab, Dispensing | 5 | 5 | 5 |
| Pharm. 97abc, Pharmaceutical Practice | 2 | 2 | 2 |
| Pharm. 140ab, Pharmacology | 4 | 4 | 5 |
| Pharm. 141, Biological Assays | 5 | 5 | 5 |
| Electives (Pharm 60, Cosmetics; Pharm 91, Hos- pital Pharmacy; Pharm 92abc, Hospital Prac- tice; Pharm 113, Drug Microscopy; Pharm 150, Advanced Manufacturing Pharmacy; Pharm 165, Advanced Analysis; Bus. Ad. 41ab, Business Law or Bus. Ad. 11ab, Accounting) .. | 4 | 7 | 8 |
| | 18 | 18 | 18 |

Note: Physics S11abc or 20abc is strongly recommended and should be completed in the junior or senior years. A foreign language is desirable, particularly for those who contemplate continuing their work beyond the Bachelors degree.

For Undergraduates

10ab. Principles of Pharmacy. 2 Q. Autumn, winter. 3 cr. each quarter. Continuous. Summer. The study of metrology and pharmaceutical techniques and processes. Mr. Waldon and Mr. Peterson.

14. Pharmaceutical Chemistry. 1 Q. Spring. 3 cr. Prerequisite, Chemistry 11b or 13b or equivalent. The pharmaceutical chemistry of the official inorganic chemicals used medicinally. Mr. Peterson.

21ab. Operative Pharmacy. 2 Q. Winter, spring. 5 cr. each quarter. Continuous. Summer, 21a. Prerequisite, Pharmacy 10 and Pharmacy 24a. The study of waters, solutions, syrups, spirits, tinctures, fluid extracts, and other pharmaceutical preparations of the U. S. Pharmacopoeia and National Formulary. Mr. Peterson.

24ab. Pharmacognosy. 2 Q. Autumn, winter. 5 cr. each quarter. Continuous. Prerequisite, Botany 13. A comprehensive macroscopic and microscopic study of the official crude plant and animal drugs, including their nomenclature, sources, preparation, identification, constituents, doses and uses. Mr. Mollett.

25. Field Pharmacognosy. 1 Q. Spring. Summer. Autumn. 3 cr. Prerequisite, Pharmacy 24 or consent of instructor. The official indigenous plants; their growth in the medicinal garden are studied as to propagation, methods of selection and preservation of the parts used in pharmacy. Mr. Suchy.

26abc. History and Literature of Pharmacy. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer. The origin, evolution and present status of the profession; the books and periodicals used in pharmacy and ethics of the profession. Mr. Mollett.

50. Manufacturing Pharmacy. 1 Q. Spring. Summer. 4 cr. Prerequisite, Pharmacy 21 and Pharmacy 24. Study and manufacture of pharmaceuticals in quantities. Mr. Peterson.

52abc. Drug Analysis. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, Pharmacy 21, Pharmacy 24, Chemistry 101, or equivalent. Quantitative analysis of official drugs and preparation according to the methods of the U. S. P. and N. F. Mr. Suchy.

60. Cosmetics. 1 Q. Winter. 5 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Chemistry 101, or equivalent. Study of the composition, manufacture and packaging of toilet preparations; laboratory instructions in the preparation of cosmetics. Mr. Peterson.

75. Veterinary Pharmacy. 1 Q. Spring. 3 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Pharmacy 114. Study of pharmaceuticals used in the treatment of diseases in animals. Mr. Waldon.

77ab. Pharmaceutical Economics. 2 Q. Winter, spring. 3 cr. each quarter. Continuous. Prerequisites, Pharmacy 21, Pharmacy 24. Lectures and recitations on the establishment, management and development of the modern drug store. Abstracts of assigned readings in current pharmaceutical literature. Mr. Mollett.

90. Proprietary Preparations. 1 Q. Autumn. 3 cr. Prerequisite, senior standing. The currently used pharmaceutical products of the various drug manufactures are considered. Mr. Mollett.

91. Hospital Pharmacy. 1 Q. Autumn. 5 cr. Prerequisite, Pharmacy 21 and junior standing. The various procedures and techniques employed in the practice of pharmacy in the hospital. Mr. Peterson.

92abc. Hospital Practice. 1-3 Q. Autumn. Winter. Spring. Summer. 3 cr. each quarter. Prerequisite, Pharmacy 91. This is a laboratory course whereby the student is offered the opportunity of working in a hospital pharmacy. Staff.

95ab. Dispensing. 2 Q. Autumn, winter. 5 cr. each quarter. Continuous. Prerequisite, senior standing in Pharmacy and Pharmacy 21. A presentation of the fundamental principles of prescription compounding by means of a detailed study of each class of preparations both in the classroom and laboratory. Mr. Peterson.

97abc. Pharmaceutical Practice. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, senior standing. Students are assigned to various pharmacies in order to acquaint them with pharmacy as it is practiced in different drug stores. Staff.

For Undergraduates and Graduates

101abc. Seminar. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Primarily for graduate students, but open to qualified seniors. Staff.

113. Drug Microscopy. 1 Q. Spring. 2 cr. Prerequisite, junior standing and Pharmacy 24. Microscopic examination of drugs, foods and spices. The detection of adulterants and impurities. Mr. Suchy.

114ab. Organic Medicinal Products. 2 Q. Autumn, winter. 3-5 cr. each quarter. Continuous. Prerequisite, Pharmacy 21 and Chemistry 101 or equivalent. Sources, methods of production, classification, properties and uses of natural and synthetic compounds used as therapeutic agents. Mr. Suchy.

140ab. Pharmacology. 2 Q. Autumn, winter. 4 cr. each quarter. Continuous. Prerequisite, Pharmacy 114 and Zoology 24, or equivalent. Actions and therapeutic uses and posology of drugs and their preparations. Mr. Waldon.

141. Biological Assays. 1 Q. Spring. 5 cr. Prerequisite, Pharmacy 140. The evaluation of the strength of drugs by biological means. Mr. Waldon.

150. Advanced Manufacturing Pharmacy. 1 Q. Winter. 3 cr. Prerequisite, Pharmacy 50. Study of more complex production techniques. Mr. Waldon. Mr. Peterson.

165. Advanced Analysis. 1 Q. Winter. 5 cr. Prerequisite, Pharmacy 52 and Pharmacy 114. A study of the more involved method of analyses as applied to food and drugs. Mr. Suchy.

For Graduates

201. Research. Credits and hours to be arranged.

205. Alkaloids. 1 Q. Any quarter. 4 cr. Prerequisite, Pharmacy 114 or equivalent. Study of the structure, synthesis, isolation, identification, and structure of the alkaloids. Mr. Suchy.

207. Sterols, Terpenes and Volatile Oils. 1 Q. Any quarter. 3 cr. Prerequisite, Pharmacy 114 or equivalent. Study of the occurrence, preparation, isolation and chemistry of the sterols, terpenes and volatile oils. Mr. Suchy.

209. Advanced Pharmacology. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 140 or equivalent. Study of the more involved actions of drugs upon cells and organs. Mr. Waldon.

210. Advanced Pharmacy. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 95 or equivalent. A study of the more difficult pharmaceutical preparations. Mr. Waldon.

Physics

PROFESSOR GARVIN D. SHALLENBERGER (CHAIRMAN); ASSOCIATE PROFESSOR C. RULON JEPPESEN.

Major Requirements: 40 or more credits in Physics. In preparation for advanced courses, a student should take General Physics (Physics 20abc) in the sophomore year. Essential courses offered in other departments: Plane Trigonometry (Math 13), College Algebra (Math 16), Plane Analytic Geometry (Math 21), Calculus I (Math 22), Calculus II (Math 23), and Inorganic Chemistry and Qualitative Analysis (Chem 13). Students planning to teach should elect General Psychology (Psych 11), Educational Psychology (Educ 25a), Principles of Education (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), and 7 additional credits in the School of Education.

Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

For Undergraduates

S11abc. General Physics. 1 Q. Summer. 5 cr. for each of the three courses. Prerequisite, a working knowledge of high school mathematics. (a) Mechanics and wave motion; (b) sound, magnetism, and electricity; (c) light and heat. Students may not receive credit in both Physics S11abc and 20abc. Mr. Jeppesen and Mr. Shallenberger.

20abc. General Physics. 3 Q. Autumn, winter, spring. 5 cr. for each quarter. Prerequisites for 20a, Mathematics 12 or 13; 20a is prerequisite for 20b, and 20b is prerequisite for 20c; high school physics is desirable. This course satisfies medical and technical school requirements in general physics. (a) Mechanics and wave motion; (b) sound, electricity, and magnetism; (c) heat and light. Mr. Shallenberger and Mr. Jeppesen.

25. Selected Topics from General Physics. 1 Q. Winter. 5 cr. Prerequisite, Physics 20a. Topics selected include heat, light, electricity, and magnetism. This course is essentially a duplication of parts of Physics S11bc and 20bc. Mr. Jeppesen.

60. Weather. 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc. Not a laboratory course. Given in 1946-47, and in alternate years. Mr. Jeppesen.

For Undergraduates and Graduates

114. Electricity. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Lectures and laboratory. Given in 1946-47, and in alternate years. Mr. Jeppesen.

122. Light. 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Lectures and laboratory. Given in 1946-47, and in alternate years. Mr. Jeppesen.

131. Selected Topics. 1 Q. Given subject to demand. 3 cr. Prerequisite, 25 credits in physics and Mathematics 23. Lectures and laboratory. Mr. Jeppesen.

146. Heat. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Not a laboratory course. Given in 1947-48, and in alternate years. Mr. Jeppesen.

152. Atomic Physics. 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 22 or concurrent registration. Lectures and laboratory. Given in 1947-48, and in alternate years. Mr. Jeppesen.

154. Analytical Mechanics. 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1947-48, and in alternate years. Mr. Shallenberger.

166. Electronics. 1 Q. Spring. 3 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Given in 1946-47, and in alternate years. Mr. Jeppesen.

170ab. Theoretical Physics. 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Mr. Jeppesen.

180. Physics Seminar. 1 Q. Spring. 1 cr. A library and discussion course required of physics majors. Mr. Jeppesen.

For Graduates

201. Research. Given subject to demand. 2-5 cr. Prerequisites, graduate standing and consent of instructor. Mr. Jeppesen.

210abc. Advanced Theoretical Physics. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, a major or the equivalent in physics. Not a laboratory course. Given subject to demand. Mr. Jeppesen. Mr. Shallenberger.

212abc. Advanced Experimental Physics. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Given subject to demand. Mr. Jeppesen. Mr. Shallenberger.

252. Radiation and Atomic Structure. Given subject to demand. 5 cr. Prerequisite, Physics 152 and graduate standing. Mr. Jeppesen.

Pre-Business Administration

Students who plan to enter the School of Business Administration should see the suggested curriculum, the requirements for graduation, and the courses in the School of Business Administration, page 55.

Pre-Education

Students who plan to enter the School of Education should complete the curriculum of the Division of Social Sciences. For further information regarding the School of Education, see page 69.

Pre-Legal

Students who plan to enter the School of Law should complete the curriculum of the Division of Social Sciences. For further information regarding the School of Law, see page 110.

Pre-Medical Course

Montana State University offers courses which prepare students for entrance to any medical school in the United States. The entrance requirements to such schools as adopted by the Council on Medical Education of the American Medical Association are as follows:

High School. Students must have completed a four-year course of at least fifteen units in a standard accredited high school or other

school of standard secondary grade, or have passed examinations for unconditional entrance to college. The subjects taken in high school should include, if possible, at least two years of work in Latin.

Colleges. The minimum requirement is two years of collegiate work extending through thirty-two weeks each and comprising ninety quarter credits. Many of the better medical schools, however, require three years of preparatory work and an increasing number require graduation from college.

Pre-Medical Curriculum

The following courses will satisfy the requirements of medical schools requiring only two years of preparatory work:

Chemistry: Fifteen credits in general chemistry which may include qualitative analysis; ten credits in organic chemistry.

Zoology. Fifteen credits in zoology and botany, but not in botany alone.

Physics: Fifteen credits in general physics.

English: Nine credits in composition.

French or German: A reading knowledge of one modern language. This includes at least one year's college work in addition to high school credits.

Electives: To make ninety credit hours, electives should be selected from non-science courses in general.

These requirements will be fulfilled in the University by completing Inorganic Chemistry & Qualitative Analysis (Chem 13), The Carbon Compounds (Chem 101), Elementary Zoology (Zool 14ab), General Physics (Phys 20abc), Language in Action (Eng 11ab or 12abc) and Intermediate French or German (Mod Lang 13b).

In a few cases the above courses somewhat more than satisfy the minimum requirements; but many medical schools require other courses in addition. Students should plan their pre-medical work to fit the demands of the particular school they wish to attend.

While the minimum requirements as outlined comprise college credits for only two years, pre-medical majors should note that the general requirements of Montana State University, which apply to all students, and the extra requirements of most medical schools take **at least one more year to complete.** Medical schools ordinarily urge students to undertake a more thorough preparation than the minimum course outlined above. However, many medical schools have announced that during the war emergency students may begin their medical training with less than the usual pre-medical requirements. If in addition pre-medical majors wish to graduate, they may complete a fourth year at Montana State University and receive the Bachelor of Arts degree with a major in Pre-Medical Sciences. The additional courses required for this degree include General Bacteriology (Bact 117), Immunology (Bact 118), Pathogenic Bacteriology (Bact 119), Quantitative Analysis (Chem 17), Physiological Chemistry (Chem 103), General Psychology (Psych 11), Comparative Vertebrate Zoology (Zool 23), and Advanced French or German (Mod Lang 15).

Aptitude Test. In addition to the work outlined above, each candidate for entrance to any medical school in the United States must pass an aptitude test. This will be given at Montana State University during the winter quarter of the regular school year.

Psychology and Philosophy

PROFESSOR E. A. ATKINSON (CHAIRMAN); ASSOCIATE PROFESSOR EDWIN L. MARVIN; ASSISTANT PROFESSOR BERT R. SAPPENFIELD.

Major Requirements: 45 or more credits, including General Psychology (Psych 11), Experimental Psychology (Psych 12), Systematic Psychology (Psych 104), Advanced General Psychology (Psych 111), Advanced Experimental Psychology (Psych 112), Psychological Testing (Psych 130), and Problems in Psychology and Philosophy (Psych 190). Elementary Zoology (Zool 14ab) and Statistics (Math 25) should be completed.

Senior examinations will be given only to candidates for honors.

For Undergraduates

11. **General Psychology.** 1 Q. Autumn. Winter. Spring. Summer. 5 cr. Open to all students. An outline study of the whole field, and an introduction to the special courses in psychology. Atkinson and Staff.

12. **Experimental Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. Laboratory methods and apparatus used in the study of basic psychological processes.

13. **Child and Adolescent Psychology.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. The psychological development of the child from birth through adolescence.

14. **Social Psychology.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. Effects of social factors on the personality and behavior of individuals. Psychology of propaganda, leadership, morale, social attitudes and related topics. Mr. Sappenfield.

15. **Psychology of Personality.** 1 Q. Spring. 3 cr. Prerequisite, Psychology 11. Principles of personality organization and processes of disorganization. The social stimulus values of modes of behavior and personality characteristics.

25a. **Educational Psychology.** See courses in Education.

30. **Applied Psychology.** 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. General principles of applied psychology. Special reference to vocational psychology and the psychology of student life. The psychology of industry, law, the arts, safety, medicine, student problems, and related subjects. Mr. Atkinson.

32. **Psychology of Business.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. Mr. Atkinson.

50. **Logic.** 1 Q. Spring. 5 cr. A study of the valid forms of reasoning, the methods of science, and the detection of fallacies. Mr. Marvin.

51. **Ethics.** 1 Q. Winter. 5 cr. Inquiry into the nature of moral values, the standards of moral judgment, and the moral problems arising in the personal life and in social relations. Mr. Marvin.

52a. **History of Ancient and Medieval Philosophy.** 1 Q. Winter. 5 cr. Prerequisite, sophomore standing, or consent of instructor. Mr. Marvin.

52b. **History of Modern Philosophy.** 1 Q. Spring. 5 cr. Prerequisite, either Psychology 55 or Psychology 52a. Mr. Marvin.

55. **Introduction to Philosophy.** 1 Q. Autumn. 5 cr. Prerequisite, sophomore standing or consent of instructor. A study of human nature and the human effort to establish standards of thought, feeling, and conduct. Topics treated will include personal ethics, social and political philosophy, the meaning of religion for man, and the endeavor to reach a unified view of the world. Mr. Marvin.

For Undergraduates and Graduates

104. **Systematic Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Psychology 12. A study of the historical development of the major psychological systems; functionalism, structuralism, behaviorism, psychoanalysis, gestalt, etc. (Given 1946-47 and alternate years). Mr. Sappenfield.

111. **Advanced General Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 12. (Given 1945-46 and alternate years.) Mr. Sappenfield.

112. Advanced Experimental Psychology. 1 Q. Winter. 5 cr. Prerequisite, Psychology 12 and junior standing. Laboratory and experimental techniques used in the study of complex psychological processes. Emphasis on methods of designing controlled experiments.

115. Abnormal Psychology. 1 Q. Autumn. Summer. 5 cr. Prerequisite, Psychology 11 and junior standing. A study of abnormal phenomena and mental disorders; sleep and dreams; the subconscious; hypnotism; psychoanalysis. Mr. Atkinson.

116. Psychology of Adjustment and Mental Hygiene. 1 Q. Winter. 4 cr. Prerequisite, Psychology 11 and junior standing. A general study of all aspects of mental hygiene and the adjustment of the personality to modern life. Some emphasis on the mental hygiene of the school room. Mr. Sappenfield.

129. Individual Differences. 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11 and junior standing. Principles of individual differences and their measurement. Emphasis on test construction and the principles of interpretation of psychological tests. Mr. Sappenfield.

130. Psychological Testing. 1 Q. Winter. 5 cr. Prerequisite, psychology 129 and junior standing. Description, application, and interpretation of specific group and individual psychological tests to measure intelligence, aptitudes, and personality. Emphasis on Stanford-Binet, Wechsler-Bellevue, and other individual clinical tests. Mr. Sappenfield.

131. Clinical Psychology. 1 Q. Spring. 5 cr. Prerequisite, Psychology 115 and 130, and junior standing. Techniques applicable to clinical problems. Emphasis on history taking, diagnostic interviewing and testing, and the therapeutic interview. Mr. Sappenfield.

156. Contemporary Philosophy. 1 Q. Autumn, 5 cr. Prerequisite, junior standing. A study of selected philosophies of the present and recent past. The content of the course will vary from year to year. Mr. Marvin.

190. Problems in Psychology and Philosophy. 3 Q. Autumn, winter, spring. Prerequisite, Psychology 11, junior standing, and permission of the instructor. Credit variable. Not more than nine credits may be applied towards graduation. Staff.

For Graduates

201. Research. Any quarter. Credit variable. Permission of instructor required. Work on selected problems under direction. Staff.

The Montana School of Religion

ASSISTANT PROFESSOR AND DIRECTOR HARVEY F. BATY.

The Montana School of Religion was organized in 1924 by a committee representing the University and several religious denominations for the purpose of making courses in religion available to the students of Montana State University. The School of Religion is not a part of the University, but is under a director who is responsible to a Board of Trustees representing the cooperating denominations and the University.

The University allows a maximum of fifteen credits toward graduation for courses taken in Religion. Additional information concerning courses may be obtained from the Director of the School of Religion at Montana State University.

The courses have grown out of the requests and suggestions of students. They are designed to meet student interests and problems. The School of Religion endeavors to relate subject matter to actual living situations and to provide maximum opportunity for student participation in planning the courses as well as in discussion.

For Undergraduates

20R. Basic Values in Religion. 1 Q. Autumn. Winter. Spring. 5 cr. Open to all students. This is a general foundation course. Course covers a wide range of subject matter including: (1) An overview of the world's

religions to find universal principles common to all. (2) A study of present day religious conditions around the world. (3) Modern religious leaders and areas of religious growth. (4) Possibility and content of a "world faith." (5) Clarification and expression of our own religious ideas.

33R. The Church in the World Today. 1 Q. Winter. 3 cr. Prerequisite, Religion 20R. A course designed to include a study of the ecumenical movement; the world missionary program of the churches in its present form; the church and world order. Contemporary student religious thought in America.

34R. Workshop in Human Relations. 1 Q. Autumn. Winter. Spring. 1-2 cr. Prerequisite, Religion 20R. A course designed to facilitate the expression of students' religious ideas or philosophy of life through a creative group discussion. Subjects for study are chosen by the students from their own field of interest. A record of the interaction of ideas is kept as a basis for more extensive study.

Wild Life Technology

Although the curriculum for majors in Wild Life Technology is tentatively outlined for four years, students desiring to elect this major are strongly urged to take advantage of the more thorough training made possible in a five-year curriculum. This major should be elected only by those who feel that they are intensely interested, since the requirements in the sciences are rather demanding and the field is highly specialized. Satisfactory completion of this course leads to the degree of Bachelor of Science in Wild Life Technology.

The curriculum for this major is as follows:

| Freshman Year | | | |
|--|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Botany 10a, Forestry Botany, and *Math 10, Intermediate Algebra or Math 13, Trigonometry | 5 | 5 | -- |
| Botany 10b, Forestry Botany | -- | -- | 5 |
| Chem 11abc, General Chemistry or Chem 13abc, Organic and Qualitative Analysis | 5 | 5 | 5 |
| English 11ab, Language in Action and *Math 10, Intermediate Algebra or Math 13, Trigonometry | 5 | 5 | 5 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | 17 | 17 | 17 |
| Sophomore Year | | | |
| General 15abc, Introduction to Humanities | 5 | 5 | 5 |
| Physics 20a, General Physics and Physics 25, Selected Topics from General Physics | 5 | 5 | -- |
| Forestry 12a, Mapping | -- | -- | 2 |
| Zoology 14ab, Elementary Zoology and Zoology 23, Comparative Vertebrate Zoology | 5 | 5 | 5 |
| Zoology 118, Forest Entomology | -- | -- | 3 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| | 17 | 17 | 17 |
| Junior Year | | | |
| General 11abc, Introduction to Social Science | 5 | 5 | 5 |
| Forestry 20a, Surveying | 4 | -- | -- |
| Botany 22, Plant Physiology and Botany 51, Plant Ecology | -- | 5 | 5 |
| Zoology 107, Aquatic Biology | 3 | -- | -- |
| Zoology 109, Mammalogy and Zoology 108, Ornithology | 4 | -- | 4 |
| Mathematics 25, Statistics | -- | 5 | -- |
| | 16 | 15 | 14 |

*Courses entered dependent on high school preparation.

| Senior Year | | | |
|---|------------------------------|------------------------------|------------------------------|
| | Autumn Quarter Credits | Winter Quarter Credits | Spring Quarter Credits |
| Zoology 125, Genetics, Zoology 103 Parasitology and Zoology 128, Animal Ecology | 5 | 3 | 5 |
| Zoology 131, Advanced Vertebrate Zoology or Zoology 132, Advanced Invertebrate Zoology.. | .. | .. | 2-5 |
| Botany 161ab, Systematic Botany | 5 | 5 | .. |
| Botany 126, Evolution | .. | 3 | .. |
| Wildlife 150, Seminar Wildlife Problems | 2-3 | .. | 2-3 |
| Forestry 120, General Range Management | .. | 5 | .. |
| Electives | 2-3 | .. | 3-5 |
| | 14-16 | 16 | 14-16 |

For five-year majors, additional courses should be elected from the following: The Carbon Compounds (Chem 101), General Bacteriology (Bact 117), Principles of Economics (Econ 14), General Geology (Geol 11ab), Human Physiology (Zool 24), General Histology (Zool 105), Composition (Eng 30ab), Forest Recreation (For 127), Wildlife Management (For 138), Mapping (For 12b), General Psychology (Psych 11).

150. Seminar in Wildlife Problems. 2 Q. Autumn, spring. 2-3 credits each quarter. Prerequisite, senior standing in Wildlife or Forestry. Designed to acquaint the student with source materials dealing with administration and modern techniques used in propagation, habitat improvement, field censusing. Mr. Severy. Mr. Wright.

Zoology

PROFESSORS GORDON B. CASTLE (CHAIRMAN), LUDVIG G. BROWMAN;
ASSISTANT PROFESSOR PHILIP L. WRIGHT.

Major Requirements: At least 40 credits including Elementary Zoology (Zool 14ab), Field Zoology (Zool 12), Comparative Vertebrate Zoology (Zool 23), Vertebrate Embryology (Zool 102), Genetics (Zool 125), Animal Ecology (Zool 128), 3 credits of Biological Literature (Zool 129), 4 credits of Advanced Invertebrate Zoology I (Zool 132) and Human Physiology (Zool 24) or 3 credits of Advanced Vertebrate Zoology IV (Zool 131). The following courses must be completed: General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Evolution (Bot 126), and General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13). Students who contemplate graduate work in Zoology should elect during the junior and senior years General Physics (Physics 20abc) and General Histology (Zool 105), and should secure a reading knowledge of French or German.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 70.

Senior examinations will not be given except to candidates for honors.

For Undergraduates

10. General Zoology. 1 Q. Autumn. Winter. 5 cr. Open to all students. Primarily for students of Forestry, Pharmacy, and Physical Education. Survey of a typical vertebrate and the application of certain biological principles.

12. Field Zoology. 1 Q. Spring. 2-3 cr. Prerequisite, Zoology 14b. A field and laboratory course in the collection, preservation, and identification of animals.

14ab. Elementary Zoology. 2 Q. Autumn, winter. 5 cr. each quarter. Summer, 14a. Open to all students. 14a is a prerequisite to 14b. A survey of the invertebrates and the prochordates. Anatomy, physiology, phylogeny and basic zoological principles. Mr. Castle.

23. Comparative Vertebrate Zoology. 1 Q. Spring. 5 cr. Prerequisite, sophomore standing and course 14ab or equivalent. Comparative anatomy, development, and phylogeny of the vertebrates.

24. Human Physiology. 1 Q. Spring. Summer. 5 cr. Prerequisite, sophomore standing. The problems of digestion, absorption, circulation, excretion, irritability, and locomotion, together with the physiological phenomena associated with tissue repair, growth, and reproduction. Mr. Browman.

For Undergraduates and Graduates

101. General Comparative Embryology. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 14ab and junior standing. The early stages of development of the invertebrates and vertebrates, including maturation of the germ cells, fertilization, cleavage, formation of germ layers, and origin of the embryo. Given in 1946-47, and alternate years. Mr. Browman.

102. Vertebrate Embryology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 14ab and junior standing. Later development especially of the vertebrates, with emphasis on birds (chick) and mammals (pig). A study of organ formation, based on prepared histological material, with a consideration of experimental evidence. Mr. Browman.

103. Parasitology. 1 Q. Winter. 3 cr. Prerequisite, Zoology 14ab and junior standing. An introduction to animal parasitology with emphasis on parasites of game animals. Given in 1946-47, and alternate years.

105. General Histology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 23 and junior standing; knowledge of chemistry is recommended. Methods of fixation, sectioning, and staining animal tissues. Use of the microscope and a study of basic tissues. Mr. Wright.

107. Aquatic Biology. 1 Q. Autumn. 3 cr. Prerequisite, Zoology 14ab, junior standing, and Botany 11ab. The plants and animals which make up the diet of fishes and the taxonomy and ecological distribution of the common game and coarse fishes. Given in 1946-47, and alternate years.

108. Ornithology. 1 Q. Spring. 4 cr. Prerequisite, Zoology 10 or Zoology 14ab, and junior standing. The life histories, habits, and distribution of birds. Mr. Wright.

109. Mammalogy. 1 Q. Autumn. 4 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of mammals, with some experience in field identification and preparation of skeletons and skins. Mr. Wright.

118. Forest Entomology. 1 Q. Spring. 3 cr. Prerequisite, Zoology 10 or 14ab, and junior standing. The more common forest insects of Western Montana from the standpoint of distribution, economic importance, and methods of control. Mr. Castle.

125. Genetics. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 23 or Botany 22, and junior standing. The facts and theories of heredity, mechanisms of heredity, involving considerations of segregation, random assortment, linkage systems, and mutations, and their relations to visible cell processes. Mr. Browman.

128. Animal Ecology. 1 Q. Spring. 5 cr. Prerequisite, Zoology 14ab and junior standing. The relationship between animals and their environment, illustrated by field studies of animal communities in Western Montana, with special emphasis on the invertebrates. Mr. Castle.

129. Biological Literature. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, senior standing and 20 credits in Zoology or Botany. Reviews of recent literature as a survey of the trend of study and experimentation in biological fields. Reports of special studies. Zoology and Botany Staffs.

131. Advanced Vertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 23, junior standing, and consent of instructor. (I) Morphology. (II) Endocrinology. (III) Ecology. (IV) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.

132. Advanced Invertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 14ab, junior standing, and consent of instructor. (I) Morphology and Taxonomy. (II) Ecology. (III) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.

For Graduates

200. Advanced Zoological Problems. 1-3 Q. Autumn, winter, spring. Credit variable. Opportunity is given graduate students with sufficient preparation and ability to pursue original investigations. Staff.

Summer Session

Note: For information pertaining to the summer session, consult the current summer session bulletin, which may be obtained upon request.

The summer session of Montana State University is a ten-weeks' session. In 1946 the session will begin June 17 and will close August 23. Students may attend the first six weeks, or the entire 10 weeks, or may take shorter programs.

Courses

All of the departments of the College of Arts and Sciences usually offer courses during the summer sessions, as do the Schools of Business Administration, Education, Forestry, Journalism, Law, Music, and Pharmacy. For information regarding courses, see the summer session bulletin.

Admission

Requirements for admission to the summer session are the same as the requirements for entrance during the regular college year (pages 20 to 24).

FEES

Fees for the Summer Session

| | |
|---------------------------------------|---------|
| For ten-week term | \$37.00 |
| For six-week term | 28.50 |
| For two-week term | 10.75 |
| For Junior Red Cross Unit Course..... | 5.75 |

Limited registrants (students who register for less than seven credits for ten weeks, or less than four credits for six weeks) pay one-half the above schedule of fees. Students who register and attend classes regularly but without credit are charged the same fees as limited registrants.

Persons who are given the privileges of "special attendants" are charged \$2.00 for each course.

Most scholarships, including high school honor scholarships, do not exempt holders from payment of the summer session fee. Certain music and military scholarships do carry such exemption.

For further information regarding summer session fees see summer session bulletin.

Credit Toward Degrees

University credit toward degrees is given to those who satisfy the regular entrance requirements. The normal schedule which may be carried during the ten weeks of the session is 15 credits, plus 1 credit in Physical Education S11 and 1 credit in applied or ensemble music or in applied acting or stagecraft or in current events; the maximum registration for six weeks is 8 credits plus 1 credit in either Physical

Education S11, or in applied or ensemble music, or in applied acting or stagecraft or in current events. Permission to carry more than this number is granted only for special reasons.

Residence requirements for the Bachelor's degree may be fulfilled by three summer sessions of ten weeks each, during which time the students must complete at least forty-five quarter credits. Of the last forty-five credits required for graduation, thirty-five credits must be earned in residence at Montana State University.

Credit Toward Teachers' Certificates

Courses required for Montana teachers' certificates will be given.

Graduate Work

During the summer session, properly qualified students may do work toward a Master of Arts or Master of Education degree. Residence requirements and other regulations governing graduate study and the granting of a Master's degree may be found on pages 93 to 96.

Certificate of Attendance

Students in the summer session who are not registered as candidates for degrees, will, upon request to the Registrar, receive a certificate of attendance for courses satisfactorily completed.

Summary of Registration by Counties States and Countries, 1945-46

| Counties in Montana | Men | Wom- en | Total | Counties in Montana | Men | Wom- en | Total |
|------------------------|-----|------------|-------|-------------------------|------|------------|-------|
| Beaverhead | 10 | 9 | 19 | Wheatland | 7 | 3 | 10 |
| Big Horn | 10 | 10 | 20 | Wibaux | 1 | 2 | 3 |
| Blaine | 8 | 7 | 15 | Yellowstone | 61 | 49 | 110 |
| Broadwater | 2 | 8 | 10 | | | | |
| Carbon | 9 | 15 | 24 | Totals | 1091 | 996 | 2087 |
| Carter | 2 | 3 | 5 | States & Territories | | | |
| Cascade | 57 | 62 | 119 | Alaska | 1 | .... | 1 |
| Choteau | 16 | 11 | 27 | Arizona | 3 | 2 | 5 |
| Custer | 14 | 13 | 27 | Arkansas | 1 | 1 | 2 |
| Daniels | 4 | 3 | 7 | California | 21 | 8 | 29 |
| Dawson | 9 | 8 | 17 | Colorado | 1 | 2 | 3 |
| Deer Lodge | 26 | 22 | 48 | Connecticut | 1 | .... | 1 |
| Fallon | 4 | 4 | 8 | Florida | 1 | 1 | 2 |
| Fergus | 21 | 25 | 46 | Idaho | 13 | 21 | 34 |
| Flathead | 46 | 39 | 85 | Illinois | 7 | 6 | 13 |
| Gallatin | 14 | 10 | 24 | Indiana | 4 | .... | 4 |
| Garfield | 2 | 3 | 5 | Iowa | 1 | 1 | 2 |
| Glacier | 19 | 18 | 37 | Kansas | 5 | 2 | 7 |
| Golden Valley | 1 | 4 | 5 | Massachusetts | 2 | .... | 2 |
| Granite | 8 | 10 | 18 | Michigan | 4 | 2 | 6 |
| Hill | 20 | 12 | 32 | Minnesota | 5 | 2 | 7 |
| Jefferson | 7 | 4 | 11 | Missouri | 4 | .... | 4 |
| Judith Basin | 5 | 10 | 15 | Nebraska | 3 | .... | 3 |
| Lake | 18 | 33 | 51 | Nevada | 1 | .... | 1 |
| Lewis & Clark | 43 | 35 | 78 | New Mexico | 1 | .... | 1 |
| Liberty | 2 | 4 | 6 | New York | 13 | .... | 13 |
| Lincoln | 10 | 8 | 18 | New Jersey | 3 | 1 | 4 |
| McCone | 4 | 3 | 7 | North Carolina ..... | .... | 1 | 1 |
| Madison | 7 | 6 | 13 | North Dakota | 17 | 32 | 49 |
| Meagher | 3 | 4 | 7 | Ohio | 4 | 3 | 7 |
| Mineral | 3 | 8 | 11 | Oklahoma | 2 | 1 | 3 |
| Missoula | 371 | 267 | 638 | Oregon | 7 | 5 | 12 |
| Musselshell | 7 | 8 | 15 | Pennsylvania | 7 | 2 | 9 |
| Park | 15 | 16 | 31 | South Dakota | 9 | 3 | 12 |
| Petroleum | 1 | 2 | 3 | Tennessee | 3 | .... | 3 |
| Phillips | 3 | 6 | 9 | Texas | 3 | .... | 3 |
| Pondera | 11 | 8 | 19 | Utah | 2 | .... | 2 |
| Powder River | 2 | 8 | 10 | Virginia | 2 | .... | 2 |
| Powell | 18 | 17 | 35 | Washington | 23 | 14 | 37 |
| Prairie | 2 | 1 | 3 | Washington, D. C. | 1 | .... | 1 |
| Ravalli | 28 | 44 | 72 | Wisconsin | 14 | 2 | 16 |
| Richland | 6 | 11 | 17 | Wyoming | 13 | 3 | 16 |
| Roosevelt | 11 | 8 | 19 | | | | |
| Rosebud | 6 | 3 | 9 | Totals | 202 | 115 | 317 |
| Sanders | 8 | 16 | 24 | Countries | | | |
| Sheridan | 11 | 7 | 18 | Canada | 1 | 1 | 2 |
| Silver Bow | 86 | 56 | 142 | Cuba | 1 | .... | 1 |
| Stillwater | 2 | 5 | 7 | Puerto Rico | 2 | .... | 2 |
| Sweetgrass | 5 | 4 | 9 | Totals | 4 | 1 | 5 |
| Teton | 3 | 16 | 19 | Counties | 1091 | 996 | 2087 |
| Toole | 12 | 8 | 20 | Other States | 202 | 115 | 317 |
| Treasure | 1 | 3 | 4 | Other Countries | 4 | 1 | 5 |
| Valley | 9 | 17 | 26 | | | | |
| | | | | Totals | 1297 | 1112 | 2409 |

Degrees Granted 1945-46*

| | Men | Women | Total |
|---|----------------------------|----------------------------|----------------------------|
| Honorary Degrees : | | | |
| Doctor of Laws | 1 | .... | 1 |
| | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> |
| Total Honorary Degrees | 1 | .... | 1 |
| Master of Arts: | | | |
| Spanish | 1 | 1 | 2 |
| | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> |
| Total Master of Arts Degrees | 1 | 1 | 2 |
| Master of Education | 16 | 3 | 19 |
| Bachelor of Arts: | | | |
| Bacteriology and Hygiene | 1 | 1 | 2 |
| Chemistry | 1 | 1 | 2 |
| Economics and Sociology | 2 | 7 | 9 |
| English ..... | .... | 3 | 3 |
| Fine Arts ..... | .... | 2 | 2 |
| French ..... | .... | 2 | 2 |
| History and Political Science | 3 | 5 | 8 |
| Home Economics ..... | .... | 8 | 8 |
| Law | 4 | 1 | 5 |
| Mathematics | 1 | 1 | 2 |
| Physical Education ..... | .... | 1 | 1 |
| Physics ..... | .... | 1 | 1 |
| Pre-Medical Sciences | 1 | .... | 1 |
| Psychology and Philosophy ..... | .... | 1 | 1 |
| Spanish ..... | .... | 8 | 8 |
| Zoology | 3 | .... | 3 |
| | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> | <hr style="width: 100%;"/> |
| Total Bachelor's Degrees, Arts and Sciences.... | 16 | 42 | 58 |
| Bachelor of Arts in Business Administration..... | 6 | 13 | 19 |
| Bachelor of Arts in Education | 4 | 4 | 8 |
| Bachelor of Science in Forestry | 6 | .... | 6 |
| Bachelor of Arts in Journalism | 3 | 6 | 9 |
| Bachelor of Science in Medical Technology ..... | .... | 1 | 1 |
| Bachelor of Music | 1 | 6 | 7 |
| Bachelor of Science in Nursing Education | | 1 | 1 |
| Bachelor of Science in Pharmacy | | 7 | 7 |
| Bachelor of Laws | 2 | 1 | 3 |
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*Spring 1945 to Winter 1946 inclusive.

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CONDENSED CALENDAR OF
UNITS OF THE UNIVERSITY OF MONTANA

MONTANA STATE UNIVERSITY, Missoula

Autumn Quarter opens September 23, 1946
Winter Quarter opens January 6, 1947
Spring Quarter opens March 24, 1947
Summer Quarter opens June 16, 1947

MONTANA STATE COLLEGE, Bozeman

Autumn Quarter opens September 23, 1946
Winter Quarter opens January 6, 1947
Spring Quarter opens March 24, 1947
Summer Quarter opens June 9, 1947

MONTANA SCHOOL OF MINES, Butte

First Term opens September 23, 1946
Second Term opens February 3, 1947

MONTANA STATE NORMAL COLLEGE, Dillon

First Semester opens September 23, 1946
Second Semester opens February 3, 1947
Summer Session opens June 9, 1947

EASTERN MONTANA STATE NORMAL SCHOOL, Billings

Autumn Quarter opens September 25, 1946
Winter Quarter opens January 6, 1947
Spring Quarter opens March 24, 1947
Summer Quarter opens June 9, 1947

NORTHERN MONTANA COLLEGE, Havre

Autumn Quarter opens September 30, 1946
Winter Quarter opens January 6, 1947
Spring Quarter opens March 24, 1947
Summer Quarter opens June 9, 1947

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OCT 27 1942

FEB 28 1949

MAR 28 1949 4: PM

APR 7 1950 11: AM

JUL 28 1950 11: AM