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# UNIVERSITY OF MONTANA BULLETIN

Montana State University Series

Number 354

## Montana State University

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

---

## CATALOGUE NUMBER

For 1936-1937

INCLUDING  
ANNOUNCEMENTS FOR  
1937-38

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MISSOULA, MONTANA  
JUNE, 1937

Published monthly at Missoula, Montana. Entered as second-class matter at the postoffice at Missoula, Montana, under Act of Congress, August 24, 1912.



## THE UNIVERSITY OF MONTANA

H. H. SWAIN, Executive Secretary of the University

The University of Montana is constituted under the provisions of Chapter 92 of the Laws of the Thirteenth Legislative Assembly, approved March 14, 1913 (effective July 1, 1913).

The general control and supervision of the University are vested in the State Board of Education. For each of the component institutions there is a local executive board.

### Montana State Board of Education

ROY E. AYERS, Governor.....	Ex-Officio President
HARRISON J. FREEBOURN, Attorney General.....	Ex-Officio
RUTH REARDON, Supt. of Public Instruction.....	Ex-Officio Secretary
WALLACE BRENNAN, 1938.....Missoula	E. E. CARRUTH, 1940.....Havre
EMMET J. RILEY, 1938.....Helena	W. S. DAVIDSON, 1940.....Bozeman
CARL D. BORTON, 1939.....Glasgow	GEORGE M. GOSMAN, 1941.....Dillon
REYN LEEDOM, 1939.....Billings	MRS. MAMIE NANCE, 1941.....Birney

The University comprises the following institutions, schools and departments:

### Montana State University, Missoula

Established February 17, 1893, and consisting of

The College of Arts and Sciences	The School of Business Administration
The School of Law	The School of Education
The School of Pharmacy	The Summer Session
The School of Forestry	The Biological Station (Flathead Lake)
The School of Journalism	The Public Service Division
The School of Music	The Graduate School

George Finlay Simmons, President

### Montana State College, Bozeman

Established February 16, 1893, and consisting of

The College of Agriculture	The School of Music
The College of Engineering	The Secondary School of Agriculture
The College of Applied Science	The Agricultural Experiment Station
The College of Household and Industrial Arts	The Agricultural Extension Service

Alfred Atkinson, President

### Montana School of Mines, Butte

Established February 17, 1893, and consisting of

The Course in Mining Engineering	The Course in Metallurgical Engineering
The Bureau of Mines and Geology	The Course in Geological Engineering

Francis A. Thomson, President

### Montana State Normal College, Dillon

Established February 23, 1893, and consisting of

The Two-years Course	The Summer Quarter
The Four-years Course	The Teachers' Service Division

Sheldon E. Davis, President

### Eastern Montana State Normal School, Billings

Established March 12, 1925, and consisting of

The Two-years Course	The Summer Quarter
----------------------	--------------------

Lynn B. McMullen, President

### Northern Montana College, Havre

Established March 8, 1913, and consisting of

The Two-years Liberal Arts and Pre-professional Courses
---

G. H. Vande Bogart, President

For publications and detailed information concerning the different schools and colleges address the Registrar of the particular institution concerned. Communications intended for the Executive Secretary of the University should be addressed to the State Capitol, Helena, Montana.

# UNIVERSITY OF MONTANA BULLETIN

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Number 354

## Montana State University

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THE GRADUATE SCHOOL

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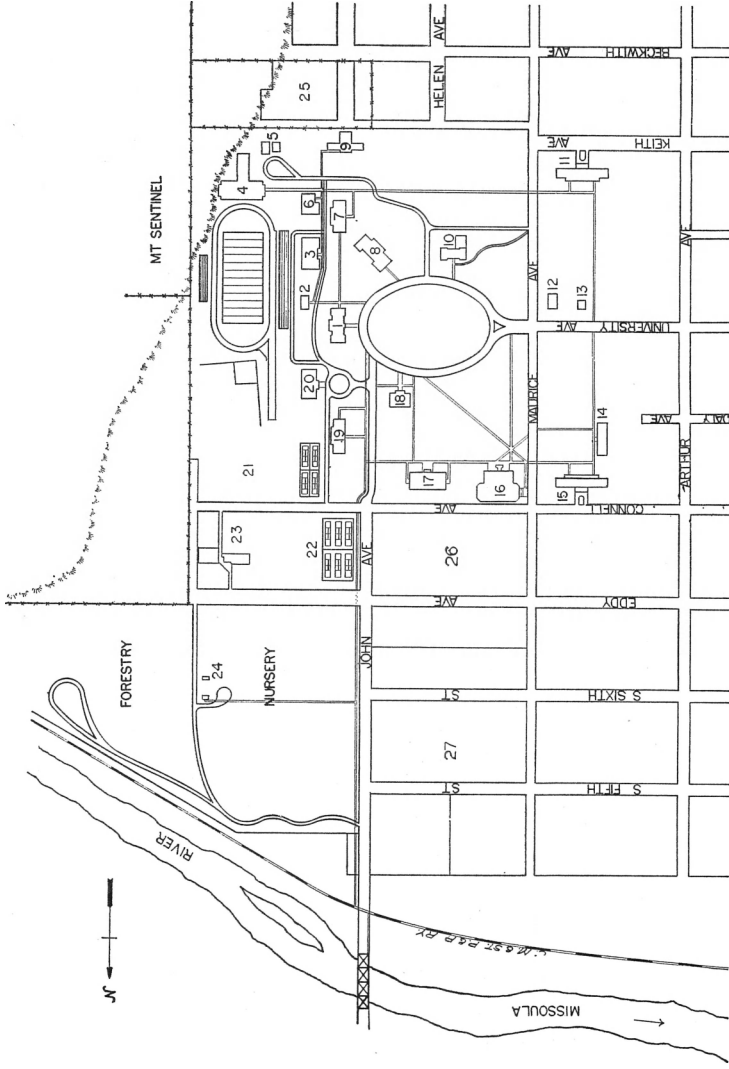
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MISSOULA, MONTANA

JUNE, 1937

Published monthly at Missoula, Montana. Entered as second-class matter at the postoffice at Missoula, Montana, under Act of Congress, August 24, 1912.

# THE CAMPUS



- |  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>1. University Hall</li> <li>2. *Old Store</li> <li>3. *Simpkins</li> <li>4. Men's Gymnasium</li> <li>5. *Carpenter Shop</li> <li>6. *Cook</li> <li>7. Forestry</li> </ul> | <ul style="list-style-type: none"> <li>9. *Military Science</li> <li>10. Craig</li> <li>11. South Hall (Men)</li> <li>12. President's House</li> <li>13. Music Practice</li> <li>14. Corbin Hall (Women)</li> <li>15. North Hall (Women)</li> <li>16. Science</li> </ul> | <ul style="list-style-type: none"> <li>16. Student Union and Theater</li> <li>17. Library</li> <li>18. Law</li> <li>19. Natural Science</li> <li>20. *Women's Gymnasium</li> <li>21. *Women's Athletic Field</li> <li>22. Tennis Courts</li> </ul> | <ul style="list-style-type: none"> <li>23. Heating Plant</li> <li>24. Forestry Nursery Cottage and Packing Shed</li> <li>25. Pharmacy Drug Garden</li> <li>26. Intramural Sports Field</li> <li>27. Experimental Grass Nursery</li> <li>*Temporary building</li> </ul> |
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# MONTANA STATE UNIVERSITY CALENDAR

## 1937-38

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**1937**

### Spring Quarter

March 23, Tuesday.....Registration of New Students  
 March 24, Wednesday.....Instruction Begins  
 May 12-14, Wednesday to Friday.....Interscholastic Track Meet  
 May 31, Monday.....For Memorial Day, a Holiday  
 June 5, Saturday.....Class Day  
 June 6, Sunday.....Baccalaureate Exercises  
 June 7, Monday, 2 p. m.....Commencement  
 June 8-11, Tuesday to Friday.....Examinations  
 June 11, Friday, 5:20 p. m.....Spring Quarter Ends

### Autumn Quarter

September 21-24, Tuesday to Friday.....Freshman Week and Registration  
 of Freshmen and New Students with Advanced Standing  
 September 24-25, Friday to Saturday.....Registration of Former Students  
 September 27, Monday.....Instruction Begins  
 November 25, Thursday.....Thanksgiving Day, a Holiday  
 December 13-16, Monday to Thursday.....Examinations  
 December 16, Thursday, 5:20 p. m.....Quarter Ends; Christmas Recess Begins

**1938**

### Winter Quarter

January 3, Monday.....Registration of New Students; Instruction Begins  
 February 17, Thursday.....Charter Day  
 March 14-17, Monday to Thursday.....Examinations  
 March 17, Thursday, 5:20 p. m.....Winter Quarter Ends

### Spring Quarter

March 22, Tuesday.....Registration of New Students  
 March 23, Wednesday.....Instruction Begins  
 May 11-13, Wednesday to Friday.....Interscholastic Track Meet  
 May 30, Monday.....Memorial Day, a Holiday  
 June 4, Saturday.....Class Day  
 June 5, Sunday.....Baccalaureate Exercises  
 June 6, Monday.....Commencement  
 June 7-10, Tuesday to Friday.....Examinations  
 June 10, Friday, 5:20 p. m.....Spring Quarter Ends

### Summer Session

June 13, Monday.....Registration  
 June 14, Tuesday.....Instruction Begins  
 July 4, Monday.....Independence Day, a Holiday  
 August 12, Friday.....Session Ends

### Autumn Quarter

September 20-23, Tuesday to Friday.....Freshman Week and Registration  
 of Freshmen and New Students with Advanced Standing  
 September 23-24, Friday to Saturday.....Registration of Former Students  
 September 26, Monday.....Instruction Begins  
 November 24, Thursday.....Thanksgiving Day, a Holiday  
 December 12-15, Monday to Thursday.....Examinations  
 December 15, Thursday, 5:20 p. m.....Quarter Ends; Christmas Recess Begins

An act of the Seventeenth Legislative Assembly provides that schools shall not be dismissed on the following days: February 12 (Lincoln's Birthday), February 22 (Washington's Birthday), second Tuesday of May (Arbor Day), June 14 (Flag Day), October 12 (Columbus Day), November 1 (Pioneer Day), November 11 (Armistice Day).

# Official Directory

WALLACE BRENNAN (term expires 1938) Missoula-Resident Member  
State Board of Education

## Executive Board

GEORGE FINLAY SIMMONS (ex-officio President).....Missoula  
S. J. COFFEE (term expires 1937).....Missoula  
J. F. S. MARSHALL (term expires 1939).....Missoula  
J. B. SPEER, Secretary.....Missoula

## Administrative Officers

H. H. SWAIN, Ph.D.....Executive Secretary of the University of  
Montana  
GEORGE FINLAY SIMMONS, Ph.D.....President  
PAUL C. PHILLIPS, Ph.D.....Executive Vice President  
RICHARD H. JESSE, Ph.D.....Dean of the Faculty and Dean of the College  
of Arts and Sciences  
J. EARL MILLER, Ph.D.....Dean of Men  
MARY ELROD FERGUSON (Mrs.), M.A.....Assistant Dean of Women  
(Acting Dean)  
JAMES B. SPEER, B.A., LL.B.....Registrar and Business Manager  
PHILIP O. KEENEY, M.A.....Librarian  
WILLIAM E. MADDOCK, M.A.....Director of Public Service Division  
GARVIN D. SHALLEMBERGER, Ph.D.....Director of Board  
of Recommendations

## The Faculty

ADAMS, HARRY F.....Assistant Professor of Physical Education  
B.A., Montana State University, 1921.  
ADAMS, WINONA.....Assistant Cataloguer and Instructor in  
Library Economy.  
B.A., Montana State University, 1926.  
\*ALBRIGHT, ROBERT E.....Professor of Social Sciences  
B.A., Nebraska Wesleyan University, 1918; M.A., University of  
Colorado, 1925; Ph.D., Stanford University, 1934.  
\*\*AMES, WALTER R.....Professor of Education and Psychology  
Ph.B., University of Wisconsin, 1917; Ph.M., 1918; Ph.D., 1926.  
ARMSBY, LUCILE JAMESON (Mrs.).....Secretary to the President  
B.A., Montana State University, 1922.  
\*\*\*ARNOLDSON, LOUISE G. (Mrs.).....Associate Professor of French  
Diplome d'Etudes Francaises de Touraine (Alliance Francaise—  
Universite de Poitiers), 1914; B.A., University of Utah, 1919;  
Docteur de l'Universite de Paris (Lettres), 1934.  
ATKINSON, ERNST A.....Professor of Psychology  
B.A., University of Denver, 1920; M.A., Montana State University,  
1922.  
†BADGLEY, E. KIRK.....Assistant Professor of Business Administration,  
Assistant Business Manager, and Athletic Manager  
B.A., Montana State University, 1924.  
BATEMAN, WILLIAM G.....Professor of Chemistry  
B.A., Stanford University, 1907; M.A., 1909; Ph.D., Yale Univer-  
sity, 1916.

\*Year 1937-38.

\*\*Professor of Education, 1937-38.

\*\*\*Professor, 1937-38.

†University Auditor, 1937-38.

- BATES, ROBERT C.....Graduate Assistant in Economics  
B.A., Montana State University, 1936.
- \*BELL, CLARENCE.....Instructor in Music  
B.S. Ed., University of Illinois, 1936.
- BENNETT, EDWARD E.....Associate Professor of History and  
Political Science  
B.A., University of Kansas, 1916; M.A., University of Wisconsin,  
1923; Ph.D., 1925.
- BERLAND, ALICE.....Graduate Assistant in Business Administration  
B.A., Montana State University, 1936.
- BISCHOFF, PAUL A.....Associate Professor of Spanish  
B.S., Montana State University, 1927; B.A., 1928; M.A., Oberlin  
College, 1932.
- \*\*BLOOM, CHARLES W.....Graduate Assistant in Forestry  
B.S., Montana State University, 1927; M.F., Syracuse University,  
1934.
- BRANTLY, MRS. THEODORE.....Social Director of North Hall
- BRIGGS, EDWIN W.....Assistant Professor of Law (and Business  
Administration)  
B.S., Oklahoma Agricultural & Mechanical College, 1927; LL.B.,  
University of Oklahoma, 1932; LL.M., Harvard Law School, 1935.
- BUSEY, MARTHA PHYLLIS.....North Hall Director  
B.A., Montana State University, 1934.
- \*CAULKINS, RALPH M.....Associate Professor of Military Science  
and Tactics  
Major, U. S. Army; B.S., North Dakota College of Agricultural and  
Mechanical Arts, 1915.
- CAREY, EUGENE F. A.....Associate Professor of Mathematics  
B.S., University of California, 1905; M.S., 1914.
- CASTLE, GORDON B.....Assistant Professor of Zoology  
B.A., Wabash College, 1928; M.A., University of California, 1930;  
Ph.D., 1934.
- \*CLAPP, MARY B. (Mrs.).....Instructor in English  
B.A., North Dakota State University, 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  
M.A., University of Richmond, 1904; Diplome d'Etudes Francaises  
(Universite de Montpellier), 1921; Ph.D., University of Chicago,  
1928.
- COGSWELL, ANDREW.....Instructor in Journalism  
B.A., Montana State University, 1927.
- COLEMAN, RUFUS A.....Associate Professor of English  
B.A., Whitman College, 1909; M.A., Columbia University, 1914.
- \*\*\*COOK, IRWIN W.....Professor of Forest Engineering and Director  
of Forest Nursery  
B.S., Washburn College, 1907; M.S.F., University of Michigan, 1910.
- CORBIN, FRANCES.....Professor Emeritus of English  
B.L., Ohio State College, 1902.
- CROWDER, JOHN B.....Professor of Music  
B.A., University of Richmond, 1925.

---

\*Year 1937-38.

\*\*Instructor in Forest Engineering, 1937-38.

\*\*\*Deceased, December 12, 1936.



- \*DAHLBERG, GEORGE P.....Instructor in Physical Education  
B.A., Montana State University, 1925.
- DAUGHTERS, FREEMAN.....Professor of Education and Dean  
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., Intermoun-  
tain Union College (Honorary), 1933.
- \*\*DAVISON, STANLEY.....Assistant in History  
B.A., Montana State University, 1932; M.A., 1935.
- \*\*\*DEISS, CHARLES.....Associate Professor of Geology  
B.A., Miami University, 1925; Ph.D., University of Michigan, 1928.
- \*DENSON, ELEY P.....Professor of Military Science and Tactics  
Lieutenant-Colonel, U. S. Army; Graduate U. S. Military Academy,  
1909; Infantry School, 1921; School of the Line, 1922; Command  
and General Staff School, 1923; Army War College, 1927.
- †DILTS, RALPH W.....Graduate Assistant in History and  
Political Science  
B.A., Montana State University, 1936.
- DUNCAN, HELEN.....Library Secretary, Instructor  
in Library Economy  
B.A., Montana State University, 1934, M.A., 1937.
- ELROD, MORTON J.....Professor Emeritus of Biology  
B.A., Simpson College, 1887; M.A., 1890; M.S., 1902; Ph.D., Illinois  
Wesleyan University, 1905.
- EPHRON, MARGUERITE HEINSCH (Mrs.).....Instructor in Latin  
B.A., Montana State University, 1931; M.A., 1932.
- EVANS, LLEWELLYN T.....Assistant Professor of Zoology  
B.A., University of Denver, 1925; M.A., 1931; Ph.D., Harvard Uni-  
versity, 1936.
- FEIGHNER, M. WINNIFRED.....Assistant Professor of Library  
Economy and Assistant Librarian  
B.A., Montana State University, 1908; B.S., Simmons College, 1909.
- FERGUSON, MARY ELROD (Mrs.).....Assistant Dean of Women  
(Acting Dean)  
B.S., Montana State University, 1911; M.A., Columbia University,  
1934.
- FESSENDEN, DOUGLAS A.....Professor of Physical Education,  
Director of Intercollegiate Athletics  
B.A., University of Illinois, 1925.
- FOSTER, MABEL (Mrs.).....Graduate Assistant in Mathematics  
B.A., Montana State University, 1924.
- FREEMAN, EDMUND L.....Professor of English  
B.A., Missouri Wesleyan College, 1915; M.A., Northwestern Uni-  
versity, 1924.
- ††GARLINGTON, JAMESBERT C.....Instructor in Law  
B.A., LL.B., Montana State University, 1930.
- GLEASON, HELEN.....Professor of Home Economics  
B.S., Columbia University, 1922; M.A., 1927.
- GRIFFITH, CAROLINE.....Assistant Business Director of  
Corbin Hall (On Leave)  
B.A., Montana State University, 1931.

\*Year 1937-38.

\*\*February 15, 1937.

\*\*\*Professor, 1937-38.

†Resigned February 15, 1937.

††February 24, 1937.

- HARDY, CHARLES W.**.....Instructor in Journalism and Press Superintendent
- HARRINGTON, DONALD**.....Instructor in English and Director of Dramatics  
B.A., Montana State University, 1928; M.A., Columbia University, 1933.
- \*HAWKINS, ELVERA**.....Corbin Hall Director and Assistant Business Director of Residence Halls  
B.A., Montana State University, 1931.
- HAZELBAKER, HOWARD**.....Assistant in Journalism  
B.A., Montana State University, 1936.
- HENRIKSON, ERNEST H.**.....Assistant Professor of Speech  
B.A., University of Oregon, 1925; M.A., University of Iowa, 1929; Ph.D., 1932.
- \*\*HERTLER, CHARLES F.**.....Instructor in Physical Education  
B.P.E., Normal College of American Gymnastic Union, 1932; M.A., Teachers' College, Columbia University, 1936.
- HESDORFFER, MEREDITH B.**.....Associate Professor of Public Health and Director of Health Service  
B.S., University of Minnesota, 1926; M.B., M.D., 1928.
- \*\*HETLER, DONALD M.**.....Associate Professor of Bacteriology and Public Health  
B.A., Kansas University, 1918; M.A., 1923; Ph.D., Yale University, 1926.
- HITCHCOCK, C. LEO**.....Associate Professor of Botany  
B.A., Pomona College, 1927; M.A., Claremont College, 1929; Ph.D., Washington University, 1931.
- \*\*HOAGLAND, TOWNSEND O.**.....Graduate Manager of Intercollegiate Athletics  
B.A., University of Washington, 1921.
- HOFFMAN, RUDOLPH O.**.....Professor of French  
Ph.C., State University, Ghent, Belgium, 1910; M.A., University of Wisconsin, 1921; Diplome Supérieur d'Etudes de Civilization Francaise (Universite de Paris), 1929.
- HOUSMAN, ROBERT L.**.....Professor of Journalism and Executive Head of the School of Journalism  
B.J., University of Missouri, 1922; M.A., 1925; Ph.D., 1934.
- HOWARD, JOSEPH W.**.....Professor of Chemistry  
B.A., Shurtleff College, 1912; M.A., University of Illinois, 1913; Ph.D., 1915.
- JESSE, RICHARD H.**.....Professor of Chemistry, Dean of the Faculty and Dean of the College of Arts and Sciences  
B.A., University of Missouri, 1902; M.A., Harvard University, 1907; Ph.D., 1909.
- JORDAN, HARRY J.**.....Assistant Professor of Economics and Business Administration  
B.A., Washburn College, 1926; M.B.A., Harvard School of Business Administration, 1930; Ph.D., Northwestern University, 1936.
- KAST, MATTHEUS**.....Associate Professor of Economics  
Ph.D., University of Munich, 1924.

\*Leave of Absence, 1937-38.

\*\*Year 1937-38.

- KEENEY, PHILIP O.....Professor of Library Economy and Librarian  
B.A., University of California, 1925; Certificate of Librarianship,  
1927; M.A., University of Michigan, 1930.
- KIRKWOOD, MAYWOOD.....Assistant in Military Science and Tactics  
Staff Sergeant, U. S. Army. Formerly Lieutenant of Infantry,  
National Army, 1918.
- KRAMER, JOSEPH.....Instructor in Botany  
B.S., University of Nebraska, 1921; M.A., 1923; Ph.D., 1936.
- LEAPHART, CHARLES W.....Professor of Law and Dean of the  
School of Law  
B.A., University of Missouri, 1905; M.A., 1906; LL.B., Harvard  
University, 1913; S.J.D., 1929.
- LECLAIRE, MRS. A. F. (R. N.).....University Nurse
- LENNES, N. J.....Professor of Mathematics  
B.S., University of Chicago, 1898; M.S., 1903; Ph.D., 1907.
- \*LEWANDOWSKI, ADOLPH J.....Instructor in Physical Education  
B.S., University of Nebraska, 1931.
- LILL, GENEVIEVE (R. N.).....Instructor in Public Health and Nursing  
Education  
B.S., Teachers' College, Columbia University, 1931; M.A., 1934.
- LINE, ROBERT C.....Professor of Business Administration and  
Dean of the School of Business Administration  
B.A., Montana State University, 1910; M.A., Harvard University,  
1912.
- LITTLE, EDWARD M.....Associate Professor of Physics  
B.S., University of Washington, 1918; M.S., 1922; Ph.D., University  
of Illinois, 1926.
- MACARTHUR, ELEANOR.....South Hall Director  
B.A., Montana State University, 1930.
- MADDOCK, WILLIAM E.....Professor of Education and Director  
of Public Service Division  
B.L., Earlham College, 1894; B.A., Harvard University, 1904; M.A.,  
Stanford University, 1922.
- \*\*MANEY, LEO C.....Graduate Assistant in Psychology  
B.A., Montana State University, 1937.
- \*\*\*MANSFIELD, MICHAEL.....Instructor in History and Secretary  
of the Committee on Admission and Graduation  
B.A., Montana State University, 1933; M.A., 1934.
- \*\*MARVIN, EDWIN L.....Instructor in Philosophy and Psychology  
B.A., Central College, 1921; M.A., Harvard University, 1923.
- MASON, DAVID R.....Professor of Law (and Business Administration)  
LL.B., University of South Dakota, 1924; B.A., 1926; S.J.D., Har-  
vard University 1927.
- \*MATSON, G. ALBIN.....Associate Professor of Bacteriology  
B.A., University of Utah, 1927; M.A., University of Kansas, 1929;  
Ph.D., Washington University, 1935.
- MERRIAM, HAROLD G.....Professor of English and Chairman  
of the Division of the Humanities  
B.A., University of Wyoming, 1905; B.A., Oxford University, Eng-  
land, 1907; M.A., 1911.

\*Resigned, effective September 1, 1937.

\*\*Year 1937-38.

\*\*\*Instructor in History and Social Sciences, 1937-38.

- MERRILL, A. S.....Professor of Mathematics and  
Chairman of the Division of Physical Sciences  
B.A., Colgate University, 1911; M.A., 1914; Ph.D., University of  
Chicago, 1916.
- MILLER, J. EARLL.....Professor of History and Political  
Science and Dean of Men  
B.A., University of Kansas, 1910; LL.B., 1912; M.A., University of  
Illinois, 1914; Ph.D., 1917.
- MIRRIELEES, LUCIA B.....Professor of English  
B.A., Stanford University, 1909; Ph. D., 1924.
- MOLLETT, CHARLES E. F.....Professor of Pharmacy and Dean of  
the School of Pharmacy  
Ph.C., University of Kansas, 1904; B.A., Montana State University,  
1920; M.S., University of Kansas, 1927.
- MORRIS, MELVIN S.....Assistant Professor of Forestry  
B.S., Colorado State College, 1930; M.S., 1932.
- MUHLICK, CLARENCE.....Nurseryman and Instructor in Forestry  
B.A., Montana State University, 1933.
- MURPHY, DENNIS.....Instructor in English  
B.A., University of Missouri, 1926; M.A., 1927; Ph.D., State Uni-  
versity of Iowa, 1936.
- NORRIS, GEORGE B.....Associate Professor of Military Science and Tactics  
Major, U. S. Army; General Staff Corps Eligible List; Infantry  
School, Battery Officers' Course, 1923; Graduate of Command and  
General Staff School, 1928.
- PARTOLL, ALBERT.....Assistant in Journalism  
B.A., Montana State University, 1929; M.A., 1930.
- PETERSON, CLARENCE W.....Assistant in Military Science and Tactics  
Sergeant, U. S. Army; Captain of Infantry, Officers' Reserve Corps,  
U. S. Army
- PHILLIPS, PAUL C.....Professor of History and Political Science  
and Chairman of the Division of Social Sciences and Executive  
Vice-President  
B.A., Indiana University, 1906; M.A., 1909; Ph.D., University of  
Illinois, 1911.
- PLATT, ANNE.....Professor of Home Economics  
B.S., University of Washington, 1917; M.S., 1927.
- \*POPE, 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
- RAMSKILL, J. H.....Professor of Forest Products  
B.A., Montana State University, 1927; M.F., Yale University, 1928.
- \*\*RICHARDS, LEON.....Assistant Professor of Pharmacy  
Ph.C., University of Washington, 1925; B.S., 1926; M.S., 1928;  
Ph.D., 1932.
- ROWE, JESSE P.....Professor of Geology  
B.S., University of Nebraska, 1897; M.A., 1903; Ph.D., 1906; D. Sc.  
(Honorary), 1935.
- RUSSELL, CHARLOTTE.....Secretary and Librarian, Law Library
- RUTHERFORD, M. ROBERT.....Graduate Assistant in History  
and Political Science  
B.A., Montana State University, 1936.

\*Leave of absence, February 24, 1937.

\*\*Associate Professor, 1937-38.

- SANFORD, EMMETT R.....Professor of Business Administration  
B.S., Campbell University, 1894; B.A., Montana State University,  
1918; M.A., University of California, C.P.A. (California), 1925.
- \*SCHEFFER, JOHN D.....Instructor in English  
B.A., University of Oregon, 1928; M.A., 1931; Ph.D., University of  
Chicago, 1934.
- \*\*SCHEUCH FREDERICK C.....Professor of Modern Languages (On Leave)  
M.E., Purdue University, 1893; A.C., 1894.
- \*\*\*SCHLUETER, RUDOLPH J.....Instructor in German  
B.A., Northwestern College, 1921; M.A., University of Wisconsin,  
1926; Ph.D., 1934.
- SCHREIBER, WILLIAM E.....Professor of Physical Education  
B.A., University of Wisconsin, 1904.
- SEVERY, JOSEPH W.....Professor of Botany and Chairman  
of the Division of Biological Sciences  
B.A., Oberlin College, 1915; M.S., Washington University, 1926;  
Ph.D., University of Wisconsin, 1931.
- SHALLEMBERGER, GARVIN D.....Professor of Physics  
and Director of Board of Recommendations  
B.S., Oklahoma Agricultural and Mechanical College, 1912; B.S.,  
Tulane University, 1917; M.S., 1919; Ph.D., University of Chicago,  
1923.
- SIMMONS, GEORGE FINLAY.....Professor of Zoology and President  
B.A., University of Texas, 1921; M.A., 1922; Ph.D., University of  
Chicago, 1934.
- †SMITH, ALLEN K.....Associate Professor of Law  
and Business Administration  
B.A., University of North Carolina, 1927; J.D., 1930; LL.M., Colum-  
bia University, 1931.
- SMITH, DELOSS.....Professor of Music and Dean of the School of Music
- SMITH, FLORENCE R. (Mrs.).....Professor of Organ
- SMITH, FRANKLIN O.....Professor of Psychology and Philosophy  
B.A., State University of Iowa, 1906; M.A., 1907; Ph.D., 1912.
- ††SMITH, GEORGE L.....Professor of Military Science and Tactics  
Lieutenant-Colonel, U. S. Army; General Staff Corps Eligible List;  
Graduate of Infantry School, Advanced Course, 1927; Command and  
General Staff School, 1928.
- †††SMITH, RUSSELL E.....Instructor in Law  
LL.B., Montana State University, 1931.
- †SNELL, HAMPTON K.....Associate Professor of Economics  
B.A., University of Wisconsin, 1925; M.A., 1928.
- SPAULDING, KENNETH.....Graduate Assistant in English  
B.A., Montana State University, 1936.
- SPAULDING, THOMAS C.....Professor of Forestry and Dean  
of the School of Forestry  
B.S., Montana State University, 1906; M.S.F., University of Mich-  
igan, 1909.
- ††††SPEER, JAMES B.....Professor of Business Administration,  
Registrar, and Business Manager  
B.A., Montana State University, 1908; LL.B., University of Mich-  
igan, 1916.

\*Year 1937-38.

\*\*Professor Emeritus, Modern Languages, 1937-38.

\*\*\*Assistant Professor, 1937-38.

†Leave of Absence, 1936-38.

††Transferred, September 1, 1937.

†††February 24, 1937.

††††Registrar and Business Manager, 1937-38.

- SPEER, LUCILE.....Assistant Cataloguer and Instructor in Library Economy  
B.A., Montana State University, 1924; M.A., University of Chicago, 1925.
- STONE, ARTHUR L.....Professor of Journalism and Dean of the School of Journalism  
B.S., Worcester Polytechnic, 1884.
- SUCHY, JOHN F.....Associate Professor of Pharmacy  
Ph.C., B.S., Montana State University, 1917; M.S., University of Colorado, 1927; Ph.D., 1933.
- SWEARINGEN, MONICA BURKE (Mrs.).....Professor of Home Economics and Director of Residence Halls  
B.A., Montana State University, 1918; M.A., Columbia University, 1924.
- SWEARINGEN, THOMAS G.....Assistant Professor of Forest Engineering and Maintenance Engineer  
B.A., Montana State University, 1920.
- TASCHER, HAROLD.....Assistant Professor of Sociology  
B.A., University of Illinois, 1925; M.A., 1926; Ph.D., 1932.
- TEEL, STANLEY M.....Assistant Professor of Music and Band Director  
B.M., Depauw University, 1925.
- 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.
- \*THOMPSON, MILTON MARSHALL.....Assistant Professor of Law  
A.B., Des Moines University, 1927; J.D., University of Michigan, 1930; LL.M., Columbia University, 1934.
- TOELLE, J. HOWARD.....Professor of Law  
B.A., Indiana University, 1913; LL.B., Columbia University, 1914; M.A., 1916; LL.M., Harvard University, 1925.
- TURNER, MRS. FRANK.....Social Director of Corbin Hall
- TURNER-HIGH, HARRY.....Professor of Anthropology and Sociology  
B.A., St. Stephens College, 1922; M.A., University of Wisconsin, 1924; Ph.D., 1928.
- VINAL, LESLEY.....Instructor in Physical Education  
B.A., Montana State University, 1928.
- WARFORD, O. R.....Professor of Religion and Director of the School of Religion  
B.A., Central College (Missouri), 1924; S.T.B., Yale Divinity School, 1928.
- WATERS, CHARLES W.....Professor of Botany  
B.S., B.L., Berea College, 1919; M.A., Ohio State University, 1921; Ph.D., University of Michigan, 1927.
- \*\*WEIDMAN, ROBERT H.....Professor of Forestry  
B.A., University of Michigan, 1914.
- WEISBERG, A. HERMAN.....Professor of Violin and Orchestra Director
- \*\*\*WEISBERG, FLORA (Mrs.).....Instructor in Modern Languages  
B.A., Montana State University, 1928.
- †WELLS, GEORGE R.....Associate Professor of Military Science and Tactics  
Major, U. S. Army; D.O., Los Angeles College of Osteopathy, 1914; Graduate of Infantry School, Company Officers' Course, 1921.

\*Year 1937-38.

\*\*January 1, 1937.

\*\*\*Assistant Professor, 1937-38.

†January 1 to April 20, 1937.

- WHICKER, H. W.....Instructor in English  
B.A., State College of Washington, 1922.
- \*WHISNER, EMONS B.....Associate Professor of Military Science  
and Tactics  
Major, U. S. Army; Graduate of Infantry School, Company Officers'  
Course, 1925; Advanced Course, 1933.
- WHITE, M. CATHERINE.....Assistant Professor of Library  
Economy and Reference Librarian  
B.A., Montana State University, 1927.
- WILHELM, HENRIETTA, L.....Assistant Registrar  
B.A., Montana State University, 1925.
- WILSON, BRENDA FARRELL (Mrs.).....Instructor in Business Administration  
B.A., Montana State University, 1932.
- YPHANTIS, GEORGE.....Assistant Professor of Fine Arts  
B.A., University of Toronto, 1926; B.F.A., Yale University, 1930.

### Special Appointments for Summer Session, 1936

- BROOKS, WENDELL S., B.A., M.A., Ph.D.....Visiting Professor of Education
- FEE, IRA B., B.A., M.A., Ed.M.....Visiting Professor of Education
- HAPNER, LEORA M., B.A., M.A.....Visiting Professor of Education
- HOOD, MARGUERITE V., B.A.....Visiting Lecturer in Music
- METCALF, LEON V., B.Mus.Ed., M.Mus.....Visiting Professor of Music
- NUTTERVILLE, CATHERINE, B.A., M.A.....Visiting Professor of Education
- PETERSON, MARTIN S., B.A., M.A., Ph.D.....Visiting Professor of English
- REELY, ANN, B.A.....Social Director of Summer Session
- TEMPLETON, PAYNE, B.A., M.A.....Visiting Professor of Education
- THACHER, W. F. G., B.A., M.A.....Visiting Professor of English
- THONSEN, LESTER V., A.B., A.M., Ph.D.....Visiting Professor of English
- TIDBALL, LEWIS C., B.A., M.A., Ph.D.....Visiting Professor of Education
- TWETO, OGDEN, B.A.....Visiting Instructor in Geology

### Special Appointments for Summer Session, 1937

- BIERMAN, B. W., B.A.....Visiting Professor, Athletic Coaching
- BOHM, WILBUR H., B.S., D.O.....Visiting Professor, Athletic Coaching
- BROOKS, W. S., B.A., M.A., Ph.D.....Visiting Professor of Education
- BROWN, MAUD A., Ph.B., M.S.....Visiting Professor of Education
- BURLINGAME, MERRILL G., A.B., A.M., Ph.D.....Visiting Professor of History
- DAEHLER, MAX, M.A.....Visiting Professor of Music
- EDMUNDSEN, C. S., B.S.....Visiting Professor, Athletic Coaching
- ERICSON, E. E. B.A., M.A., Ph.D.....Visiting Professor of English
- FEE, IRA B., B.A., M.A., Ed.M.....Visiting Professor of Education
- HOOD, MARGUERITE, B.A.....Visiting Professor of Music
- MANNING, C. G., Ph.B.....Visiting Professor of Education
- METCALF, LEON, B.Mus.Ed., M.Mus.....Visiting Professor of Music
- NUTTERVILLE, CATHERINE, B.A., M.A.....Visiting Professor of Education
- PROCTOR, AUDREY M., B.A., M.A.....Visiting Professor of Education
- REELY, ANN, B.A.....Social Director of Summer Session
- STRUPPECK, JULIUS, B.F.A.....Visiting Professor of Fine Arts
- TIDBALL, L. C., B.A., M.A., Ph.D.....Visiting Professor of Education

### Board of Examiners in Certified Public Accountancy

- ROSCOE L. THOMAS, Butte, Chairman
- HOWARD C. WALDEN, Helena, Secretary
- GEORGE F. DUVAL, Missoula

\*Autumn Quarter, 1936.



# THE UNIVERSITY OF MONTANA

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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. Dr. H. H. Swain, executive secretary of the State Board of Education, has his office in the State Capitol, Helena.

The Legislative Assembly of 1927 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, 1930, 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 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 the 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 1903, 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 vice-president and chairman of the Department 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 fall of 1934.

From 1915 to the present time nine new buildings have been erected on the campus, new equipment has been added and old equipment improved. The faculty has increased to ninety, enrollment has greatly increased, courses of instruction have been expanded and strengthened, and scholarship standards have been raised.

**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 Bitter Root and Flathead valleys. Missoula is on the Yellowstone Trail and the International Parks Highway.

Missoula is a pleasant residence city with a population of seventeen 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 town 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 grounds is approximately two and a quarter million dollars.

For buildings, see map of campus, page 2.

**The Library and Museums.** The general library, consisting of about 120,000 volumes and 34,000 pamphlets, is housed in the Library building. Admission to the shelves is restricted to the faculty, administrative officers and graduate students; other students may be admitted upon recommendation of their instructors. Students are allowed to withdraw books from the Library under reasonable regulations.

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 Main Hall.

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

The Treasure Room, for valuable historical materials, is on the third floor of the Library 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.*

(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.*

*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.*

### 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 entering after September 1, 1927\*, 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

\*Students who graduated from high school before 1927, but who did not enter college prior to September 1, 1927, will be admitted under the old requirements.

or English history, civics, community civics, economics, sociology, citizenship, economic or industrial history, occupations, high school geography; (c) laboratory science; physics, chemistry, biology, botany, zoology, physiology, agriculture, astronomy, geology, physiography, general science, domestic science; (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. For the academic year 1937-38 the examination days are September 16 and 17, and for the winter and spring quarters by special arrangement.

#### **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.

\*These fifteen units must include the required subjects listed on page 16. A student offering foreign languages as a part of his preparation must present at least two units in one language.

### **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.

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.

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 of college grade 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 22 and 27.) 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**

A student 21 years of age or more, not a candidate for a degree, may be admitted without the usual entrance units as a special student if he gives satisfactory evidence that he is prepared to pursue successfully special courses desired. Such a student shall be permitted to continue in Montana State University only in case he carries his work satisfactorily. If it becomes evident that he is unable to carry university work, his relations with the University may be severed at any time. In order to be eligible to register for his fourth or any succeeding quarter as a special student, the sum of his grade points (both positive and negative) must be at least equal to the number of credits for which he has received a grade. (See page 27.)

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 16. 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 necessary for such purpose at the rate of eight college credits for one entrance unit. In order to be eligible for a degree from the 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.*

### **Admission to Junior Class**

A student who, at the end of the quarter in which he acquired 96 credits, has 20 or more credits in excess of positive 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.

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## **Requirements for Graduation**

### **Degrees and Certificates**

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

The degree of Bachelor of Arts is conferred upon graduates of the College of Arts and Sciences. 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 Arts in Music or Bachelor of Music with a major in applied 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 four-year course in Pharmacy.

The University 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.

The Montana State University also 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 one year in work beyond that required for a Bachelor's degree provided they comply with the regulations governing graduate work set forth on page 75.

### 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 the degree of Bachelor of Arts, Bachelor of Arts in Business Administration, Bachelor of Arts in Education, Bachelor of Arts in Journalism, Bachelor of Arts in Music or 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 two summers of approved field work and 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 credits earned in survey courses given in the Division, may be counted toward graduation. These rulings do not apply in the Schools of 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 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 six 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, 5 quarters (5 credits) required of all freshmen and sophomores less than 27 years of age, unless excused for cause.
- (2) Bacteriology 26, General Hygiene, 1 quarter (2 credits) required of all freshmen. To be taken in lieu of 1 quarter of Physical Education 11bc, 12abc.
- (3) Military Drill, 6 quarters (6 credits) required of all freshmen and sophomore men less than 26 years of age, unless excused for cause.
- (4) English Composition, 2 quarters (6 credits). During Freshman Week all freshmen must take a placement examination



in English composition. Students who achieve distinction in this examination will be excused from the necessity of taking the first quarter of required composition, 11a, and during their sophomore year may enroll in any of the three courses 11b, 30, or 32. Students failing to attain an acceptable college standard in this placement examination will be required to take English A without credit during their freshman year before enrolling in English 11a during the sophomore year. Both quarters of required composition, English 11ab, must be taken in the sophomore year, preferably consecutively. No work in required composition, except English A, may be taken in the freshman year. Students who obtain a grade of A in the first quarter of required composition will be exempted from the requirement of the second quarter.

**Restricted Elective Courses.** All candidates for the Bachelor's degree, except candidates for the degree of Bachelor of Laws or Bachelor of Science in Forestry, must meet the following requirements, unless otherwise indicated:

- (1) Two of the following general courses must be completed: Social Science 11abc, Biological Science 13, Humanities 15abc, Physical Science 17. These two courses must be selected outside the field of major interest. Completion of these courses also satisfies the requirements listed under (3), (4), and (5) below.
- (2) Foreign language, 5 quarters (23 to 25 credits) in one language or a reading knowledge of it, subject to the following conditions:

Entrance credit in foreign 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 foreign 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, Journalism, and Music.

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

A candidate for a degree or certificate granted by Montana State University must obtain 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 96th credit (i. e., 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.

In the period succeeding the quarter in which the student receives his 96th credit (i. e., junior and senior years), he must obtain as many grade points as credits for which he has registered. 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 (see page 19), 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 this University as well as on his entire record.

### Residence Requirements for Graduation

1. One year of residence, or four summer sessions of nine weeks each, at Montana State University, during which the student must complete forty-five credits of college work, is the minimum requirement.
2. Thirty-five of the last forty-five credits required for graduation must be earned in residence in the University.
3. Not more than forty-five 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. Such 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 annual catalogue.

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 desires to become a candidate for honors must at the beginning of his last quarter have an average of two grade points for every credit for which a grade has been received; upon application within thirty days from the beginning of the quarter he shall be entitled to take Senior Examinations in his major department; he shall be awarded honors if he passes these examinations with a grade of A or B.

## 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 upon 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 21)††	
		In Addition to Required Phys. Ed. and Mil. Sci.	
Freshmen	3	2 courses from 2 different groups	15+2 Cr. Applied Music†
Sophomores	4	1 course	17+1 Cr. Applied Music†
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. Two courses in theoretical music to a maximum of 5 credits are counted as one course.

\*\*Juniors or seniors of distinctive ability may be permitted, by their adviser, to register for 18 credits.

†The additional work in applied music allowed only when the student maintained a C average during the previous quarter in residence.

††During a quarter in which a student is registered for required English, he may register for one less than the normal number of restricted elective courses.

## 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.*

### 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 all 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.

### 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.

### 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 the beginning of each quarter, 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.

### 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; instruction in the use of the library is given, and 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.

### 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.

The residence halls for women, one of which is reserved for freshmen, enable the Dean of Women and the social directors to give that personal attention to the individual girl which characterizes the freshman dormitory plan.

The sorority houses, in which many upper class women reside, are under the immediate social supervision of a housemother whose appointment is made with the approval of the Dean of Women. The private homes in which upper class 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 Big Sister Movement, the May Fete and the Co-ed Prom.

### 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.

All students on matriculation must indicate on the entrance blank whether married or single. Falsification or willful suppression of any information called for on the blank will be ground for cancellation of matriculation.

### 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, 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 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.

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 and courses offered by the Law School. In these cases 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 and second weeks of a quarter, with the consent of his adviser and the instructors concerned; (2) during the period from the third 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.

### 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 grade D or E; 1 grade point is deducted from his total for each credit of grade F. (See grade point requirements for graduation, page 22.)

### 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 Office of Montana State University, including charges for board and room in fraternity and sorority houses.

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## Fees

All fees must be paid at the time of registration.

Students registered for six or more credits pay the following fees which are authorized for the college year 1937-38 in all schools and departments except where otherwise specified:

Entrance (or Matriculation) Fee .....	\$ 5.00
Payable by all students on first registration.	
Registration Fee (per quarter).....	\$ 5.00
Payable quarterly by all students regardless of number of credits registered for.	
Incidental Fee (per quarter).....	\$10.00
Payable quarterly to cover laboratory supplies in all courses, locker fees, gymnasium towel service, etc. This fee does not include loss, breakage, fines, or deposits for locks.	



Building Fee (per quarter).....	\$ 5.00
Student Activity Fee (per quarter).....	\$ 5.00
Entitles to subscription to college newspaper, free admission to all intercollegiate debate and major athletic contests, dramatic productions ("Masquers"), and reduced rates to lectures and concerts during the quarter for which the fee is paid, and includes class dues. Payment of this fee for three quarters entitles to one copy of the college annual ("Sentinel").	
Student Union Building Fee (per year).....	\$ 5.00
Payable Autumn and Winter Quarters, \$1.67; Spring Quarter, \$1.66.	
Health Service Fee (per quarter).....	\$ 2.50
Payable by all students participating in classwork on the campus. (See page 33.)	
Laboratory-Incidental Fee (per quarter).....	\$ 5.00
Payable quarterly by (1) all students registered as majors in the Schools of Forestry, Journalism, or Pharmacy, and (2) students registered as majors in other departments but enrolled for five or more credits in either of these schools. Students registered as majors in other departments but enrolled for less than five credits in any one of these schools pay \$2.50. The course Journalism 12abc, Survey of Journalism, is not subject to this fee.	
Tuition Fee for Students in the School of Law (per quarter).....	\$ 5.00
Non-Resident Fee (per quarter).....	\$25.00
Payable by all persons not residents of the State of Montana during their stay in the University, not, however, exceeding twelve quarters. Part time students pay \$2 per quarter credit, with a minimum of \$10 per quarter.	
No person may register as a resident student unless his parents, if living, are legal residents of Montana. Exception is made to those students who have resided in the state for twelve months immediately prior to entrance to Montana State University (excluding time spent in an institution of learning); married students and orphans who have resided in the state for twelve months. Residents of Alaska, the Canal Zone, Hawaii, Porto Rico, and the insular possessions of the United States are exempted from payment of non-resident fees.	
The burden of registering under proper residence is placed upon the student. If there is any possible question of his right to legal residence, the matter should be brought to the attention of the Registrar and passed upon, previous to registration or the payment of fees. Any student who registers improperly under this rule not only is required to pay the non-resident fee, but is assessed a penalty of \$10.	
Late Registration Fee.....	\$ 1.00
Payable by students who complete registration after the prescribed registration days of any quarter. For each college day \$1, not exceeding a total of \$5. This fee applies to all students except those registered for less than six credits.	
Change of Enrollment Fee.....	\$ 1.00
Payable by each student for each change of enrollment card filed after the first week of the quarter; \$2 after the second week.	

Special Attendance Fee (each course, per quarter).....	\$ 2.00
Payable by adults registered only as listeners who have not been in attendance during the quarter preceding.	
Special Examination Fee.....	\$ 2.00
Payable by students for each special examination.	
Certificate Fee .....	\$ 5.00
Payable by applicants for the University Certificate of Qualification to Teach at the time the application is filed.	
Diploma Fee.....	\$ 5.00
Payable by candidates for degrees at the time the application is filed.	
Application for Degrees (Delayed).....	\$ 5.00
Applications for degrees and certificates must be filed with the Registrar on the date advertised on Official University Notices. Students who do not file such applications at the stipulated time may file the application at a later date only upon the payment of a fee of \$5.	
Removal of Incompletes or Conditions (not due to illness or fault of institution) .....	\$ 2.00
Student Handbooks (first book free).....	\$ 1.00
Transcript of Record (first transcript free).....	\$ 1.00

Reduction in fees is made for those students taking less than six credits (limited registrants) in that they pay the Registration Fee, one-half the Incidental Fee, one-half the Building Fee, \$1 Student Union Building Fee, and Health Service Fee. Majors in Forestry, Journalism, and Pharmacy pay the \$5 Laboratory Incidental Fee in addition to the above mentioned fees. In determining the number of credits for which a student is registered, Applied Music courses, Shorthand, and courses for which there is a special fee are not included. Listeners pay the same fees as students who register for less than six credits except those to whom the special attendance fee applies.

Graduate students pay the same fees as undergraduate students except that the Student Activity Fee is optional.

Honor scholarships from Montana high schools exempt holders from payment of the entrance fee, the registration fee, and the incidental fee (total of \$50) during the freshman year only. State University scholarships exempt holders from payment of the registration fee and the incidental fee (total of \$45 for college year).

For fees charged in Typing, Shorthand, Office Machines Practice, and Retail Stores, see description of those courses, pages 81 to 83.

For fees charged in the School of Music see School of Music, page 103.

For fees charged in correspondence study see Correspondence Courses, page 78.

For fees charged during the summer session see page 109 or Summer Session bulletin.

For textbook fee in the School of Education see page 85; in Introduction to Biological Science, page 42; in Introduction to Physical Science, page 62; in Introduction to Social Science, page 70.

### Refund of Fees

**The burden of notifying the University of withdrawal rests on the student.** Refunds are calculated from the date of application for refund and not from the date of last attendance of classes.

Applications for refund must be made during the quarter to which the fee applies. The Entrance, Registration, and Student Union Build-

ing Fees will not be refunded except when no classes have been attended. The Health Service Fee may be refunded to students withdrawing during the first week of instruction. The Incidental, Building, Student Activity, Laboratory Incidental, Law, Non-Resident, and text book fees will be refunded to students withdrawing during the first week of instruction and fifty per cent of these fees will be refunded after the first week of instruction but prior to the close of the third week of instruction.

Refunds in courses for which there are special fees will be made in accordance with the recommendation of the instructor concerned.

## **Expenses and Living Accommodations**

### **The Residence Halls**

Montana State University adopted the freshman dormitory plan in 1923. All freshmen whose homes are not in Missoula are required to live in North or South Halls unless permission to live elsewhere is granted for special reason.

The freshman year is the most trying of the student's college course. College standards are different from high school standards. There is more freedom and yet there is more individual responsibility. To introduce the student to these new conditions, to guide him towards pleasant mastery of them, and to give him the fullest opportunity to develop his own individuality in his own way, is the purpose of the freshman dormitory plan.

Upperclass women are advised to live in Corbin Hall, which is reserved for women students beyond the freshman year.

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 daily by the University Physician.

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

**North Hall, Corbin Hall and South Hall**, dormitories for freshman women, upperclass women and freshman men, respectively, are all three-story fireproof brick buildings. The rooms are well lighted and steam heated. Each bedroom has a lavatory; the double rooms have two clothes closets. All bathrooms have showers. Each room is furnished with a study table, chairs, single beds, mattresses, pillows, bed linen, towels, curtains and a dresser in Corbin and North Halls, or two chiffoniers in South Hall. In addition, each bed is supplied with two woolen blankets. In all dormitories, day covers for beds, drapes and a rug are to be furnished by the student. Each hall has a students' laundry and trunk room.

### **Rates**

The following rates apply to the three residence halls, Corbin and North for women, and South Hall for men:

Double rooms, \$30 per quarter for each occupant.

Single rooms, \$45 per quarter.

Board by the month, \$25.

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.

The University reserves the right to raise or lower the rates with reasonable notice. All occupants of the halls are required to board in the halls in which they reside. Application for admission to the halls must be accompanied by a deposit of \$10; the application must be made upon a form furnished by Montana State University.

### Living Accommodations for Upperclass Students

The Dean of Men has general supervision over the housing of men students and the Dean of Women, of women students.

Upperclass students have no difficulty in securing satisfactory rooms in private homes or in rooming houses near the campus at rates varying from \$7.50 to \$12 a month; for single rooms, from \$12 to \$15. Board may be obtained at boarding houses at rates varying from \$20 to \$27.50.

Student rooms must be approved by the University. A list of approved rooms in private residences may be obtained on application to the Dean of Women or the Dean of Men. Arrangements for reservation of rooms in private residences must be made directly with the landlady.

### Expenses

Minimum and average expenses of students for the college year are estimated as follows:

Books and Equipment.....	\$20.00 to \$40.00
Fees (See Note) .....	44.00 to 89.00
Room rent for one (two in a room).....	90.00 to 115.00
Board .....	210.00 to 225.00
Laundry .....	15.00 to 30.00
Total .....	379.00 to \$499.00

Note: The minimum expense of \$44 for fees is applicable only to holders of high school honor and State University scholarships registered for work in the College of Arts and Sciences and the Schools of Business Administration, Education, Music, and Religion. An additional \$15 each year is charged all students taking work in the Schools of Forestry, Journalism, Law, or Pharmacy. 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 per month. The expenditures for clothing and incidentals are similar to expenditures for those purposes at home. If a single room is desired, a minimum of \$45 additional should be provided.

Parents are advised to place all students on a fixed allowance rather than to give them an unlimited sum on which to draw.

For information about earning expenses see pages 32 and 33; student loans, page 32; scholarships and prizes, pages 34 to 36; railroad fare refund, page 31.

### 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 stage 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, and are satisfactorily 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 per cent 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 Business Manager.

### **Employment and Aid for Students**

Although many students earn all or a part of their expenses while in attendance at Montana State University, due to the economic conditions of the last few years it has become increasingly difficult to obtain employment. Those students who will find it necessary to obtain work in order to attend college should realize, also, that it is necessary to sacrifice some pleasures and to apply themselves diligently to the task before them. 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.

The Student Employment Secretary of the University keeps in close touch with all sources of employment, and is able to give considerable assistance to worthy students in finding work. Assistance and cooperation in this work is given by the Missoula Chamber of Commerce, the Missoula Women's Club and the business men and residents of Missoula in general. With a little assistance at the beginning, a student often finds it possible, after becoming somewhat acquainted, to find sufficient employment on his own initiative. Free tuition and low registration fees at the State University are also a considerable advantage to self-supporting students who are residents of Montana.

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 many calls for students to do "odd jobs" in private homes, such as garden work, window washing, furnace tending, handling coal and wood, picking apples, and general cleanup work. There are some jobs at the University, such as janitor work, waiting on tables in dining halls, stenography, and, for upper class students, employment as laboratory and library assistants. The employment policy is to assist first those most in need of employment. Other factors, however, are taken into consideration, such as the student's scholarship, ability and dependability.

Students planning to earn all or a part of their expenses are not advised to enter the University with less than \$250 or \$300. This sum is usually sufficient to take care of all necessary expenses for the first two quarters, giving the student time to get well started in his studies, and to find employment. Entering the University with less than this amount is a serious handicap to a new student, and usually results in poor scholarship, and ultimate withdrawal from the University because of a lack of funds. If, on the other hand, a student has earned and saved this amount before entering the University, that fact is a good indication that he will succeed in college.

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 Employment Secretary, who will be glad to advise them regarding employment and give them every aid possible.

### Students' Health Service

Through the Health Service, the University does all in its power to safeguard the health of its students. The Health Service accomplishes this end through protection against environment, health education, complete physical examinations for the detection of remediable defects, constant vigilance against incipient disease, and the medical treatment of acute diseases.

The Students' Health Service at Montana State University is maintained on a self-supporting basis without charge for overhead. Any student who has paid the Health Service fee of \$2.50 per quarter is entitled to advice and general medical attention for acute illness at the Students' Health Service during office hours. If his condition requires hospitalization for general medical attention, he is entitled to free care at the University infirmary not to exceed eight days in any one quarter. For a longer period, an additional charge is made. If a student expects to take advantage of his Health Service fee, it will be necessary that he report to the Health Service for care. It will be at the discretion of the Health Service to refer cases to the private physicians in Missoula, and in such an instance, the Health Service is responsible for not more than \$50.00 physician's fee in any one quarter. When a special nurse is necessary, the expense must be met by the student. All expenses of, or connected with surgical operations, or highly specialized service, must be borne by the student. A student who is too ill to come to the Health Service may be attended at his rooming house. A charge for this service may be made if the call is unnecessary. The Health Service is not responsible for injuries incurred through accidents which occur off the University campus.

The Students' Health Service is not available to members of the faculty.

**Vaccination**—All students are urged to be vaccinated before matriculation to the University. The Health Service will furnish all vaccines free of charge to any student, but will not provide medical care to those suffering from preventable diseases if they have not been vaccinated. A student not of age should bring the written consent of his parents or guardian to allow the proper health authorities to vaccinate.

**Physical Examination**—All entering undergraduate students are given a physical examination. The object of this examination is two-fold, the benefit of the individual and the protection of the group. The examination includes a tuberculin test, and a chest x-ray of all positive reactors. Any student who does not complete his tuberculin test or tests (including proper observation of the results) at the scheduled time will be required to provide at his own expense a satisfactory x-ray film of the chest. Such a film may be secured at the Health Service for a fee of \$3.00.

**Fees**—All students who participate in classwork on the University campus are required to pay the Health Service fee of \$2.50 per quarter.

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## 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 award 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 (but not more than two for any one unit of the University of Montana), to be recipients of high school honor scholarships. These scholarships exempt the holders from the payment of the matriculation fee, the registration fee, and the incidental fee, described on page 27, during their freshman year. Blanks for the nomination of scholars, with detailed statement of conditions, are furnished to principals by the Executive Secretary of the University of Montana at Helena.

**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 29.) 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 1.75 on a minimum of 40 credits. The awards are made on the basis of ability, character, and promise.

**The Edwin B. Craighead Memorial Prize in Art.** This prize is given annually to the freshman or sophomore student in the Department of Fine Arts who has shown the greatest ability in art during the year.

**Painting Prize for Upperclassmen.** A cash prize is offered for the best work done in painting by a student of junior or senior standing.



The prize may be withheld if the quality of the work is not deemed sufficiently high.

**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.

**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 high 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.

**The Bonner Scholarship.** This scholarship, amounting to approximately \$300 a year 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.

**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. Information may be obtained from Dean J. E. Miller, State University, Missoula, Montana, who is the University representative for the Rhodes Scholarship.

**The Samuel W. Fairchild Scholarship.** Second year pharmacy students are eligible to compete for a scholarship which amounts to \$500 in cash. The examinations are held annually at the State University the second Monday in June. Students desiring to compete for this scholarship should apply to the Dean of the School of Pharmacy not later than May 1.

**The Straughn Scheuch Scholarship.** This scholarship was founded in 1920 by Professor and Mrs. F. C. Scheuch in honor of their son, Straughn Scheuch, who died while a student in Montana State University. The scholarship is awarded under the following conditions:

1. It will be awarded to a man with full sophomore standing certified by the Registrar as being in line for graduation at the June Commencement two years from the time of appointment, registered in the College of Arts and Sciences. The scholarship, which amounts to \$240 each year, is tenable for two years.
2. The choice is based upon general excellence including particularly (1) character, (2) scholarship, (3) loyalty, (4) leadership, (5) physical soundness and strength, and (6) the possession of a definite and worthy purpose for life. The Committee of Selection is given full discretion in weighing these and other elements. First consideration will be given to the candidate most outstanding in the above qualities, irrespective of financial need.

The selection will be made by a committee consisting of the President of Montana State University, the Dean of Men, and Mr. Walter McLeod of Missoula.

**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 ten thousand dollars, 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 and Sociology. 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.

**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.

**American Legion Military Scholarship.** The Hell Gate Post No. 27 of the American Legion has created a scholarship to be awarded at the end of each regular quarter to a student of good scholarship and conduct who excels in military science and tactics. This scholarship, covering the regular student fees not to exceed \$30 per quarter, is to be awarded by a committee composed of a professor of Military Science and Tactics, the Dean of Men, and the commander of the Hell Gate Post of the American Legion.

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

**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 State University, on some topic pertaining to good government. No prize is awarded, however, in case the judges decide that no essay submitted is good enough to receive recognition.

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

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

**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.

**The Aber Memorial Oratorical Prizes.** A fund of \$1000 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.

**The Frontier Poetry Prizes.** Books are awarded for the first and second places upon recommendation of the Department of English.

**The Grizzly Cup.** This cup is awarded to the athlete who has been outstanding in scholarship and in service to the State University. This award is withheld in case no student meets the qualifications.

**The Pi Mu Epsilon Prize.** This prize is given bi-annually in the Department of Mathematics and the Department of Physics. It is of the same nature, and is awarded under the same conditions as the Duniway prize; it is given by the local chapter of Pi Mu Epsilon, honorary mathematics fraternity.

**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 classes.

The Lehn and Fink gold medal is awarded annually to a member of the graduating class making the highest general average in the pharmacy courses, but not to a member receiving the Kappa Psi prize.

Life membership and dues in the National Association of Drug Clerks is awarded annually to each of the three students ranking highest in the three major divisions of Pharmacy.

## 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 is one of the finest in the country. The 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 entire building is equipped with the very latest and best apparatus of all kinds.

The women's gymnasium is equipped with dressing rooms, shower rooms, rest rooms, offices, class rooms, and contains a gymnasium floor 45x90 feet in size. It is fully equipped with the best gymnastic apparatus. In the men's gymnasium is a large locker and shower room set apart for the use of women, and the natatorium is reserved for their use half of the time.

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. North of the football field is the baseball diamond. The bleachers, extending nearly the full length of the field, have a seating capacity of 7,000. 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.

### Annual Interscholastic Games

For thirty-four years Montana State University has held an annual interscholastic invitation meet for track and field contests on Dornblaser Field. Golf and tennis tournaments have recently been added to the regular program of events. Invitations to participate are extended to all fully accredited high schools in the state. In determining and administering rules of eligibility for the contests the University has the aid of the Montana High School Athletic Association.

Interscholastic week is by no means devoted entirely to athletics. The declamatory contests for both girls and boys, the essay contest, the Little Theatre tournament, the interscholastic debate, the meetings of the Interscholastic Editorial association—these events attract students from all parts of the state.

### 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. Whenever foreign teams, traveling in the United States visit the West, debates with them are scheduled if possible. 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 semi-weekly 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.

*The Frontier and Midland*, a literary magazine, is published quarterly at Montana State University.

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

There are five musical organizations—the University Glee Club, composed of men; the Women's Glee Club; A Capella Choir, composed of men and women; 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 University men who have won a letter in any branch of athletics. Its purpose is the betterment of University spirit, with athletics especially in view.

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

The Penetralia Chapter of Mortar Board is an honor organization of upperclass women devoted to advancing the interests of the University in every feasible way.

The Silent Sentinel is a similar organization of upperclass men.

Bear Paw is an organization of sophomore men which assists in entertainment of visiting teams.

Tanan-of-Spur is a society of sophomore women for the purpose of taking care of women guests at the University during the year and of assisting the Bear Paw organization in any way in University affairs.

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

# Organization of Instruction

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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 to undergraduates only; those numbered from 100 to 199 are offered to both undergraduates and graduates (the amount of graduate credit allowed is subject to the regulations listed under "Graduate School"); those numbered from 200 to 299 are offered to graduates 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 is possible to make it and it affords the student 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

PROFESSOR RICHARD H. JESSE, DEAN.

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 16 to 19.

## Requirements for Graduation

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

The general University requirements for graduation, pages 19 to 23, 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.** Candidates for the degree of Bachelor of Arts in this Division should complete the following curricula during the freshman and sophomore years:

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Chemistry 13abc or Humanities 15abc.....	5	5	5
Zoology 10 and 11ab, Botany 11abc, or Geology 11ab and Mathematics 12.....	5	5	5
*Foreign Language or *Mathematics.....	5	5	5
Physical Education 11abc or Bacteriology 26....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	17	17-18	17-18

### Sophomore Year

Humanities 15abc or Chemistry 13abc.....	5	5	5
English 11ab and Psychology 11.....	3-5	3-5	3-5
*Foreign Language and Elective.....	3-5	3-5	3-5
Social Science 11abc.....	5	5	5
Physical Education 12abc.....	1	1	1
Military Science 12abc (Men).....	1	1	1
	19-20	19-20	19-20

**Note:** Students who do not offer entrance credit in Chemistry may elect Humanities 15abc in the first year. Students who plan to major in Psychology may take Physical Science 17 instead of Chemistry 13. Electives in second year: Botany majors, Botany 22, 21, and 3 additional credits; Zoology majors, Zoology 23 and electives; Psychology majors, Psychology 12ab and 3 additional credits; Physical Education majors, Physical Education 20abc.

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

\*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 53 and 59, and Department of Mathematics, page 66.

**Freshman Year**

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Humanities 15abc or Social Science 11abc.....	5	5	5
Biological Science 13 or Physical Science 17.....	5	5	5
*Foreign Language .....	5	5	5
Physical Education 11abc or Bacteriology 26....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	<u>17</u>	<u>17-18</u>	<u>17-18</u>

**Sophomore Year**

Biological Science 13abc, Physical Science 17abc, Social Science 11abc, or Humanities 15abc....	5	5	5
*Foreign Language and Psychology 11.....	5	5	5
English 11ab (two quarters).....	3	3	3
Electives .....	3-4	2-4	3-4
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men).....	1	1	1
	<u>18-19</u>	<u>17-19</u>	<u>18-19</u>

**Note:** In the first year, English majors must take English 25ab, 57a instead of Humanities 15abc. Electives in second year: English majors, English 59abc (two quarters), and 57ab (one quarter), or 30 or 32.

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

**Freshman Year**

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Social Science 11abc .....	5	5	5
Chemistry 13abc or Humanities 15abc.....	5	5	5
*Mathematics or *Foreign Language.....	5	5	5
Physical Education 11abc or Bacteriology 26....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	<u>17</u>	<u>17-18</u>	<u>17-18</u>

**Sophomore Year**

Humanities 15abc or Chemistry 13abc.....	5	5	5
Physics 20abc .....	5	5	5
English 11ab (two quarters).....	3	3	3
*Foreign Language and Psychology 11.....	5	5	5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men).....	1	1	1
	<u>17-20</u>	<u>17-20</u>	<u>17-20</u>

**Note:** Students who do not offer entrance credit in Chemistry should elect Humanities 15abc in the freshman year. Students intending to major in Home Economics should elect a foreign language in the freshman year; others Mathematics. In the sophomore year, students intending to major in Home Economics may replace Physics 20abc with Home Economics 15ab and 14, and may replace foreign languages with Chemistry 19 and 103. The language in the freshman year and Home Economics 15ab and 14 in the sophomore year may be interchanged in case of schedule conflicts.

\*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 53 and 59, and Department of Mathematics, page 66.

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

### Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Physical Science 17abc or Biological Science 13abc	5	5	5
Social Science 11abc .....	5	5	5
*Foreign Language .....	5	5	5
Physical Education 11abc or Bacteriology 26....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	<hr/>	<hr/>	<hr/>
	17	17-18	17-18

### Sophomore Year

Humanities 15abc .....	5	5	5
Economics 14abc .....	4	4	4
English 11ab and Psychology 11.....	3-5	3-5	3-5
Elective .....	4-5	4	4
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men).....	1	1	1
	<hr/>	<hr/>	<hr/>
	18-20	18-20	18-20

**Note:** Electives in the sophomore year: 21abc; Economics majors, Economics 15 and 16. History majors, History

## DIVISION OF BIOLOGICAL SCIENCES

PROFESSOR JOSEPH W. SEVERY, CHAIRMAN.

The following course is offered as a general survey of the field of Biological Sciences:

**13. Introduction to Biological Science.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Students having 8 or more college credits in laboratory biology or botany may not receive credit in this course. A general survey of the principles and laws controlling the growth, reproduction, and maintenance of living organisms; their distribution over the world; their relations to man's economy and well being. Given conjointly by the Departments of Zoology, Botany, and Geology. A textbook fee of \$1.00 is charged each quarter. Mr. Deiss. Mr. Evans. Mr. Severy.

### Medical Technology

There is a definite need for competent and well-trained laboratory technicians in physician's offices, clinics, hospitals, medical schools, and research laboratories.

Clinical analyses are based on a knowledge of serology, bacteriology, chemistry, physics, and zoology. It is, therefore essential for the worker in this field 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.

\*Course entered dependent upon high school preparation.

The student who completes the prescribed course will be awarded a degree of Bachelor of Arts with a major in Medical Technology.

The curriculum for this course is as follows:

**Freshman Year:** Bacteriology 26; Chemistry 13; Zoology 10 and 11; Mathematics 12 or 13; \*Modern Language (French or German) 11ab; Physical Education 11abc; Military Science 11abc (Men).

**Sophomore Year:** Social Science 11abc; Physics 20abc; Chemistry 17 and 101; Zoology 103; English 11ab; Physical Education 12abc; Military Science 12abc (Men).

**Junior Year:** \*Modern Language 13ab and 15; Zoology 105, 24; Bacteriology 119ab, 120, and 121; English 57ab; Chemistry 103.

**Senior Year:** Twelve months of practical instruction is offered on a rotating service in hospital laboratories. Subjects given include: urinalysis, 2 months; hematology, 2 months; serology, 2 months; tissue sections, 2 months; parasitology and gastroenterology, 1 month; pathogenic bacteriology, 1 month; basal metabolism, intravenous solutions, electrocardiography, museum preparation, applied endocrinology (pregnancy test, etc.), 2 months.

### Wild Life Technology

In recognition of the need for competently trained men in the more technical and scientific phases of wild life problems, not only from state agencies but also from such federal agencies as the National Park Service, the U. S. Biological Survey, the Forest Service, and the Soil Conservation Service, the Departments of Botany and Zoology are offering work leading to the degree of Bachelor of Arts with a major in Wild Life Technology.

Although the curriculum is tentatively outlined for four years, students desiring to elect this major are strongly urged to take advantage of the more thorough training which would be possible in a five year curriculum. This major should be elected only by those who feel that they are intensely interested in this kind of work, since the requirements in the sciences are rather demanding and only those with a scholastic index well above average will be permitted to complete the requirements for the degree.

The tentative curriculum for this course is as follows:

**Freshman year:** Chemistry 13abc; Botany 11abc; Social Science 11abc; Physical Education 11abc; Military Science 11abc (Men).

**Sophomore year:** Zoology 10, 11ab; Economics 14a or Mathematics\*; English 11ab; Botany 22, 21, 51; Physical Education 12abc; Military Science 12abc (Men).

**Junior year:** Zoology 23, 27, 103; Forestry 21, 39ab, 42ab; Botany 161ab; English 30; Modern Language\*.

**Senior year:** Forestry 38; Zoology 28, 107, 108, 125, 126, 129; English 53, 55ab; Mathematics 25; Botany 121.

For five year majors, courses should be elected from the following list: Physics 20abc; Chemistry 101; Bacteriology 119a; Geology 11ab; Zoology 105; English 20; Modern Language\*; Forestry 41abc, 44ab; Psychology 11; Economics 14bc.

### Pre-Nursing

It is now generally recognized that the University has an important responsibility in the preparation of the nurse for the present day pro-

\*Course entered dependent upon high school preparation.



fessional fields. There is a general trend of all professional education toward institutions of higher learning for cooperation in basic preparation and for academic recognition.

Specific requests have been made of the Montana State University to assist in elevating the standards of nursing education within the state. To meet partially the demands of this professional growth the following course in pre-nursing has been worked out and approved by the committee on nursing education in Montana. This curriculum covers a period of four quarters, or approximately eleven months.

The curriculum for this course is as follows:

**Autumn:** Bacteriology 1; Social Science 11a; Chemistry 13a; Physical Education 21; Physical Education 11a.

**Winter:** Zoology 24; Chemistry 13b; Psychology 11; English 11a.

**Spring:** Home Economics 24; Social Science 11c; English 11b; Psychology 13; Physical Education 11c.

**Summer:** Chemistry 19; Bacteriology 19; Pharmacy 23; Bacteriology 26.

### The Biological Station

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 used as an out-of-door summer school for students and as a laboratory for investigation for many years. Owing to lack of funds it has not been open to students for the past several years.

For "Pre-Medical Course" see page 69.

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## Bacteriology and Hygiene

ASSOCIATE PROFESSORS MEREDITH B. HESDORFFER, DONALD M. HETLER (CHAIRMAN). GENEVIEVE LILL, INSTRUCTOR.

**Major Requirements:** The department of Bacteriology and Hygiene offers two distinct majors; one in Bacteriology and one in Medical Technology. One year of pre-nursing education is also offered in this department. (See pages 42, 43.)

Students who major in Bacteriology are required to take a minimum of 40 credits, including courses 119ab, 120, 121, 122, 126, and 3 credits of 129. Students who plan to study bacteriology with the expectation of teaching the subject, or of becoming trained technicians for public health and hospital laboratories, should complete the following courses in other departments: Zoology 10, 11, 103, and 105, and Chemistry 13, 17, 101, and 103. In addition, major students must have a reading knowledge of German or French (German preferable).

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

**For Undergraduates**

**1. Nursing Arts.** 1 Q. Autumn. 3 cr. Open only to students in pre-nursing education. A course to give the student a positive point of view in relation to health, health promotion activities, and health teaching. Lectures, observations, and health examinations. Miss Lill.

**19. Elementary Bacteriology.** 1 Q. Summer. 4 cr. A course for pre-nursing students and for majors in social work. Open also to a limited number of freshmen and sophomores who desire general information in bacteriology. Fundamentals of general bacteriology, pathogenic bacteriology, and immunology. This course applies toward the restricted elective requirement in science, but may not be applied toward a major in bacteriology. Mr. Hetler.

**26. General Hygiene.** 1 Q. Winter. Spring. Summer. 2 cr. A course required of all students in the University, preferably in the freshman year. 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. Mr. Hesdorffer.

**For Undergraduates and Graduates**

**119a. General Bacteriology.** 1 Q. Autumn. Summer. 5 cr. Prerequisite, junior standing, Chemistry 13 or equivalent, and either Botany 11abc, Zoology 10 and 11, or Pharmacy 13. Open to Home Economics students of junior standing who have completed Chemistry 19. The activities of bacteria, essential technique in laboratory methods, principles of sterilization, cultivation of bacteria, factors influencing the growth of bacteria, products of bacterial growth, general ideas of disease production and immunity; bacteriology of soil, milk, water, and foods. A course especially serviceable to students preparing for medical or technical work. Students who have taken Bacteriology 19 may not receive full credit for this course. Mr. Hetler.

**119b. Pathogenic Bacteriology.** 1 Q. Winter. 5 cr. Prerequisite, course 119a. The characteristics, etiology, prophylaxis, and control of diseases caused by microorganisms. Laboratory work deals with various pathogenic types and methods of laboratory diagnosis of diseases. Mr. Hetler.

**120. Immunology.** 1 Q. Spring. 5 cr. Prerequisite, junior standing and course 119ab. General principles of immunity, and laboratory work in serology, animal experimentation, and clinical diagnosis. Mr. Hetler.

**121. Diagnostic Bacteriology.** 1 Q. Spring. 5 cr. Prerequisite, course 119ab. Laboratory work embraces the standard diagnostic methods used in hospitals and public health laboratories. Mr. Hetler.

**122. Bacteriology of Foods and Water.** 1 Q. Winter. 5 cr. Prerequisite, Bacteriology 119a. Standard methods of water analysis. Examination of milk, oysters, meat, canned foods, etc. Laboratory. Mr. Hetler.

**126. Sanitation and Public Health.** 1 Q. Spring. 5 cr. Prerequisite, junior standing, Bacteriology 26 and 19 or 119a. Sanitation and disease prevention with relation to the community. Surveys, reports. Mr. Hesdorffer.

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

**131. Advanced Bacteriology.** 1 to 3 Q. Autumn, winter, spring. 2-5 cr. each quarter. Prerequisite, consent of instructor and course 119ab. The results of modern experimental bacteriology and hygiene. Each student may be assigned individual work for training in methods, illustration of principles, and preparation for research. Mr. Hetler. Mr. Hesdorffer.

**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. Mr. Hetler.

## Botany

PROFESSORS JOSEPH W. SEVERY (CHAIRMAN), CHARLES W. WATERS;  
ASSOCIATE PROFESSOR C. LEO HITCHCOCK. JOSEPH KRAMER, INSTRUCTOR.

**Major Requirements:** 45 credits or more including Botany 11, 21, 22, 141abc. The following courses may be applied in partial fulfillment of this credit requirement: Zoology 125, 126, and 3 cr. in 129. Additional work should be elected from the following courses: 14, 51, S61, 161, 165, 168, 171. The following courses must be completed: Zoology 10, 11, 125, 126, 3 cr. of 129, Chemistry 13. Geology 11ab is recommended. A reading knowledge of French or German (preferably German) is desirable, particularly for students who plan to do advanced work.

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

Students who plan to teach biology in high school are expected to complete Zoology 10, 11ab, Botany 11ab and either Botany 11c or S14.

**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

**11a. General Botany.** 1 Q. Autumn. 5 cr. Summer. 4 cr. No prerequisite. A presentation of the general principles of the anatomy and physiology of the flowering plants. Mr. Hitchcock.

**11b. General Botany.** 1 Q. Winter. 5 cr. No prerequisite. A presentation of the broad outlines of the classification of the plant kingdom, and the tracing of the possible stages in the evolution and development of the vegetative and reproductive structures of plants. Mr. Hitchcock.

**11c. General Botany.** 1 Q. Spring. 5 cr. No prerequisite. An introduction to the classification of the higher plants, as exemplified in the spring flora; factors governing plant distribution, variation, heredity, and evolution. Mr. Waters.

**12ab. Forestry Botany.** 2 Q. Autumn, spring. 5 cr. each quarter. (a) An introduction to morphology and anatomy, together with such physiological principles as are necessary to an understanding of morphology and anatomy. (b) Outlines of classification of plants found in the field and forest. Training in the use of a manual, methods of collecting. Mr. Hitchcock. Mr. Kramer. Mr. Waters.

**S14. Economic Botany.** 1 Q. Summer. 4 cr. No prerequisite. A treatment of plants from the standpoint of their uses and products; their geographic distribution; a consideration of the more important aspects of the methods of culture and utilization of those plants of chief economic importance. Mr. Waters.

**21. Plant Histology.** 1 Q. Winter. 5 cr. Prerequisite, Botany 11ab or 12ab. A detailed study of the origin of organs and tissues of plants, and a comprehensive survey of the anatomy of the higher plants. Methods of making microscopical slides. Mr. Severy.

**22. Plant Physiology.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 11abc or 12ab. The functions of the living plant and an attempt to interpret function in terms of chemical and physical reactions. The laboratory work consists of observations of the various processes of plants under controlled conditions. Mr. Kramer. Mr. Severy.

**31. Forest Pathology.** 1 Q. Winter. 5 cr. Prerequisite, Botany 22. The agencies of disease and decay of trees and structural timbers; problems of government forests. Mr. Kramer. Mr. Waters.

**51. Plant Ecology.** 1 Q. Spring. 5 cr. Prerequisite, Botany 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. A brief survey of plant geography. Mr. Kramer. Mr. Severy.

**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. The identification of

plants; use of a manual; methods of collecting, preserving, and mounting plants. The work deals with the summer flora of western Montana. Mr. Waters.

### For Undergraduates and Graduates

**121. Applied Histology.** 1 Q. Winter. 3 cr. Prerequisite, Botany 21 and Zoology 23. A course designed to acquaint the student with methods and procedure essential for the dissection of stomachs and identification of stomach contents, with some training in paraffin technique. Identification of contents based on stem and leaf remains and seeds. Mr. Evans. Mr. Severy.

**131. Advanced Botany.** 1 to 3 Q. Autumn, winter, spring. 2 to 5 cr. Prerequisite, Botany 22 and 31, or Botany 22 and 51, or equivalent. A course designed to give the advanced student training in research methods and individual bibliographical investigation, conferences, lectures, readings, and investigation. Botany Staff.

**141abc. Comparative Morphology.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, Botany 22. The morphology and life histories of representative types of plants belonging to the larger natural groups, the relationship and the possible evolution of these groups. Given in 1937-38, and in alternate years. Mr. Waters.

**161ab. Systematic Botany.** 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, Botany 22. Classification of the flowering plants, especially of Montana; methods of collecting, preserving, and mounting plants. Mr. Hitchcock.

**165. Mycology.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 141abc for Botany majors; Botany 31 for Forestry majors. The classification and relationships of the fungi, with training in their collection and preservation. Given in 1938-39, and in alternate years. Mr. Waters.

**168. Microtechnique.** 1 Q. Any quarter, but preferably in the spring. 2 to 5 cr. Course may be repeated during a succeeding quarter to a maximum of 5 credits. Prerequisite, Botany 21. The various methods of preparing microscopic slides; instruction in the paraffin method, venetian turpentine method, celloidin method, and the glycerine method. Largely independent laboratory work. Mr. Kramer. Mr. Severy. Mr. Waters.

### For Graduates

**200. Advanced Botanical Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, Botany 131 or equivalent and consent of instructor. Opportunity is given graduate students with sufficient ability to pursue original investigations individually. Botany staff.

## Physical Education

PROFESSORS DOUGLAS A. FESSENDEN, WILLIAM E. SCHREIBER (CHAIRMAN); ASSISTANT PROFESSOR HARRY F. ADAMS (Intra-Mural Director). GEORGE P. DAHLBERG, CHARLES F. HERTLER, LESLEY VINAL (Director of Women's Division), INSTRUCTORS.

**Major Requirements:** 45 or more credits in Physical Education, in addition to courses 11abc and 12abc. Physical Education 15abc and 20abc must be completed. The following courses should be completed: Zoology 10 and 11 or Bacteriology 119ab, 10 cr.; Zoology 105, 106, 5 or 10 cr.; 24, 5 cr.; Bacteriology 26, 2 cr. The requirements of the School of Education for the Certificate of Qualification to Teach should be completed. A course in physics and chemistry is advised.

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

**General Information.** All students taking part in the work of the Department are required to take the physical and medical examinations provided by the Department. This examination is given to every student entering the freshman or sophomore year.

All students enrolled in the State University for eight or more credits are required to take 1 credit hour each quarter until 5 credits of Physical Education 11abc, 12abc have been completed. During the

quarter in which a student is registered for Bacteriology 26, General Hygiene, he does not take Physical Education 11bc or 12abc. Students who are physically unable to take the regular class work are given excuses or exemptions by the Chairman of the Department 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 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, hockey, basketball, baseball, track, tennis, cross-country running, indoor baseball, boxing, wrestling, handball, gymnastics and swimming.

### For Undergraduates

**S2. Training and Athletic Injuries.** 1 Q. Summer. 1 cr. Handling and conditioning the athlete for contests; treatment of some of the common athletic injuries. Mr. Schreiber.

**S5. Athletic Administration.** 1 Q. Summer. 2 cr. Theory of correlating competitive sports. Organization and administration; budgeting, financing, purchasing, and care of equipment; scheduling of contests; general planning of a program of interscholastic sports. Mr. Fessenden.

**11abc, 12abc. Freshman and Sophomore Physical Training (Men).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. 1 cr. each quarter. Practical work in: swimming, floor work, apparatus work, competitive games, track, boxing, wrestling, tennis, golf, fencing and cross-country running. 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. Schreiber and Staff.

**11abc, 12abc. Freshman and Sophomore Physical Training (Women).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. 1 cr. each quarter. Practical work in hockey, tennis, recreative games, mass class drills, apparatus work, elementary and advanced dancing, swimming, fencing, basketball, volley ball, baseball, track, tennis and golf. No student will be given a final grade in the last quarter of this course until she has passed the elementary swimming examination. Miss Vinal and Staff.

**15abc. Advanced Gymnastics.** 3 Q. Autumn, winter, spring. 1 cr. each quarter for major and minor students. Students may enter any quarter. Prerequisite, 12abc or marked gymnastic ability. Open for credit only to major and minor students. Gymnastic mass floor drills in the German and Swedish systems; apparatus work and military marching tactics; outdoor work in recreative games and athletics; class leading is also required in advanced swimming, diving and life saving. Mr. Schreiber. Miss Vinal.

**20abc. Human Anatomy.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. Students may enter either 20b or 20c after completing 20a. Mr. Schreiber.

**21. Human Anatomy.** 1 Q. Autumn. 4 cr. Open only to student nurses. Students who have completed Physical Education 20abc may not receive credit in this course. Mr. Schreiber.

**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. Red Cross certification may be secured on completion of the course. Mr. Schreiber.

**35a. Systems and Methods.** 1 Q. Autumn. 3 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. Miss Vinal.

**35b. Systems and Methods.** 1 Q. Winter. 3 cr. Prerequisite, Education 35a. A continuation of Education 35a. Miss Vinal.

**45abc. Gymnastic Dancing.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Physical Education 12abc and junior standing. Students may enter any quarter. Folk, gymnastic, and natural dancing given especially from the standpoint of the teacher. Miss Vinal.

\*60. **Coaching of Basketball.** 1 Q. Autumn. 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. Open to junior men. (a) Theory. (b) Practice. Mr. Adams.

\*62ab. **Coaching of Football.** 2 Q. Spring, winter. 2 cr. each quarter. 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. Prerequisite, Education 18 or concurrent registration. Principles of coaching basketball, hockey, indoor baseball, playground ball, volleyball, and association football. Miss Vinal.

### For Undergraduates and Graduates

134. **Playgrounds.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing. History, construction, equipment, problems, management, methods of conducting and practical work in supervision of playgrounds; theory of play. Miss Vinal.

136. **Kinesiology.** 1 Q. Winter. 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. Adams.

137. **School Gymnastics.** 1 Q. Spring. 4 cr. Prerequisite, Physical Education 35b. Methods of handling gymnastics in the graded and high schools. Types of work suitable for each grade. Miss Vinal.

139. **Laws of Growth and Development.** 1 Q. Spring. 1 cr. Prerequisite, Physical Education 149. Open to major students only. The laws of growth and development of the child from birth to adult years; the application of physical education to these laws. Mr. Schreiber.

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. Mr. Schreiber.

142. **Equipment and Management.** 1 Q. Spring. 2 cr. Open only to major students. Best methods of construction of gymnasiums, athletic fields, swimming pools, tennis courts, running tracks, and their management in schools and colleges. Mr. Schreiber.

146. **Massage.** 1 Q. Spring. 2 cr. Prerequisite, Physical Education 20ab. Open only to major students. The place of massage in therapeutics and physical education. Methods and use of the various types of massage. Practical application. Mr. Schreiber. Miss Vinal.

148. **Physiology of Exercise.** 1 Q. Autumn. 2 cr. Prerequisite, Biology 24. Open only to major students. The physiological effects of the different types of exercises on the functions of the human body. Mr. Schreiber.

149. **Anthropometry and Diagnosis.** 1 Q. Autumn. 3 cr. Prerequisite, Physical Education 20ab. 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. Schreiber.

150. **Organization and Administration.** 1 Q. Winter, 4 cr. Open to junior major students. Mr. Hertler.

## Psychology and Philosophy

PROFESSORS WALTER R. AMES, ERNST A. ATKINSON, FRANKLIN O. SMITH (CHAIRMAN). EDWIN L. MARVIN, INSTRUCTOR. LEO C. MANEY, GRADUATE ASSISTANT.

**Major Requirements:** 45 or more credits, including Psychology 11, 12ab, 14, 104, 130, and 190.

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

### For Undergraduates

11. **General Psychology.** 1 Q. Autumn. Winter. Spring. 5 cr. Summer. 4 cr. Entering freshmen may not register for this course in the autumn quarter. An outline study of the whole field, and an introduction to the special courses in Psychology. Psychology Staff.

\*Students who completed courses 143abc, Principles of Coaching, may not receive full credit for this course.

**12ab. Experimental Psychology.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Psychology 11. Laboratory methods and apparatus used in the study of some of the laws of mental processes, and their application. Mr. Atkinson.

**13. Child Psychology.** 1 Q. Autumn. 3 cr. Summer. 4 cr. Prerequisite, Psychology 11. The development of the child; comparative studies with animal intelligence and behavior. Mr. Ames.

**14. Social Psychology.** 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. A study of the social aspects of mental life; the psychological processes of groups. Mr. Smith.

**15. Psychology of Personality.** 1 Q. Spring. 3 cr. Summer. 4 cr. Prerequisite, Psychology 11. Mr. Smith.

**S16. Folk Psychology.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing. Psychology of social human nature; language, custom, public opinion, morals, war, family, caste, nationalism, religion. Students may not receive credit in both Psychology 14 and S16. Mr. Smith.

**19. 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 and avocational psychology; the psychology of law, medicine, industry, music, religion, art, literature. Mr. Atkinson.

**32. Psychology of Business.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. Mr. Atkinson.

**33. Vocational Psychology.** 1 Q. Winter. 4 cr. Prerequisite, Psychology 11. A study of the psychological principles in determining vocational fitness; theory and technique of objective methods of selection and guidance; special and general aptitude tests, trade tests, and rating scales, with special reference to the student's occupational problems. Mr. Ames.

**50. Logic.** 1 Q. Spring. 5 cr. Prerequisite, sophomore standing, Mr. Marvin.

**51. Ethics.** 1 Q. Spring. 5 cr. Prerequisite, sophomore standing. Inquiry into the nature of moral life, the evolution of ethics, the psychology of conduct, the meaning of moral values, with applications to current problems in the fields of law and justice, peace and war, marriage and the family, property, and business. Given in 1937-38, and in alternate years. Mr. Marvin.

**52abc. History of Philosophy.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, sophomore standing. Mr. Marvin.

### For Undergraduates and Graduates

**101. Advanced Experimental Psychology.** 1 Q. Autumn. 3 cr. Prerequisite, Psychology 11 and consent of instructor. A study of special problems of quantitative psychology. Mr. Smith.

**104. Systematic Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. A study of the psychology of William James and other contemporary psychologists. Mr. Smith.

**115. Abnormal Psychology.** 1 Q. Autumn, 5 cr. Summer. 4 cr. Prerequisite, junior standing and Psychology 11. A study of abnormal phenomena and mental diseases; sleep and dreams; the subconscious; hypnotism; psychoanalysis. Mr. Atkinson.

**130. Mental Measurements.** 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and Psychology 11. Designed for those preparing for work in education and social service; methods of measuring intelligence. Mr. Ames.

**190. Problems in Psychology.** 3 Q. Autumn, winter, spring. Credit variable. Open to junior students who are qualified to do creditable work on special problems or intensive reading in some field of current psychological literature. Not more than nine credits may be applied towards graduation. Psychology Staff.

### For Graduates

**201. Research.** Any quarter. Credit variable. Prerequisite, Psychology 11 and 130 or equivalent. Work on selected problems under direction. Psychology Staff.

**Colloquium.** In cooperation with members of the faculty of other departments in the University. No credit. Meets twice each month from October to May. Open to members of the faculty, graduate and senior students.

The object of the colloquium is to afford opportunity for the study and discussion of topics of general interest in a more comprehensive and inclusive manner than is possible in the restricted departmental courses.



## Zoology

PROFESSOR GEORGE FINLAY SIMMONS; ASSISTANT PROFESSORS GORDON B. CASTLE (ACTING CHAIRMAN), LLEWELLEN T. EVANS.

**Major Requirements:** A minimum of 45 credits, including courses 10, 11, 23, 101, 105, 125, 126, 3 cr. of 129. In addition, major students must complete three quarters of Botany 11, Chemistry 13, and must have a reading knowledge of German or French (German preferable). Geology 11ab is advised.

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

Students who are to receive the recommendation of the department for teaching Biology in high schools are expected to complete Zoology 10, 11, Botany 11ab and either Botany 11c or S14.

### For Undergraduates

**10. General Zoology.** 1 Q. Autumn. 5 cr. Survey of a representative animal (the frog), emphasizing organ systems and their functions. Introduction to cellular structure and organization, mitosis, maturation, histology, and embryology. Mr. Castle.

**11. Elementary Zoology.** 2 Q. Winter, spring. Continuous. 10 cr. Summer, 11a. 5 cr. Open to all students; course 10 recommended. Morphology, physiology, and phylogeny. (a) Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, Annelida, Mollusca. (b) Echinodermata, Arthropoda, and lower Chordata; introduction to genetics and evolution. Mr. Castle.

**S14. Eugenics.** 1 Q. Summer. 3 cr. Open to all students. The fundamental principles involved in the better development of man and animals. This is not a laboratory course and does not fulfill the restricted elective requirement. Mr. Castle.

**23. Comparative Vertebrate Zoology.** 1 Q. Autumn. 5 cr. Prerequisite, course 10, 11, or equivalent. Comparative anatomy, development, and phylogeny of the vertebrates. Mr. Evans.

**24. Human Physiology.** 1 Q. Winter. 5 cr. Prerequisite, course 10, 11, and Chemistry 13 or equivalent. A consideration of the problems of absorption and excretion, digestion and translocation of food materials, respiration, irritability, and locomotion, together with the physiological phenomena underlying growth.

**27. Entomology.** 2 Q. Winter, 4 cr.; spring, 1 cr. Continuous. Prerequisite, course 11 or equivalent. Insects, their structure, classification, distribution, benefits, and injurious effects; their relation to animals and man through disease. Mr. Castle.

**28. Animal Ecology.** 1 Q. Spring. 5 cr. Prerequisite, course 11 or equivalent and consent of instructor. General survey of the relations between animals and their environment, illustrated by field and laboratory studies on the nature and evolution of animal communities in Western Montana. Mr. Castle.

### For Undergraduates and Graduates

**101. General Comparative Embryology.** 1 Q. Winter. 5 cr. Prerequisite, course 23 or equivalent. The early stages of development of invertebrates and vertebrates, including maturation of the germ-cells, fertilization, cleavage, formation of the germ layers, and origin of the embryo. Mr. Evans.

**102. Vertebrate Embryology.** 1 Q. Spring. 5 cr. Prerequisite, course 23 or equivalent; course 101 recommended. Later development, especially of the vertebrates, with emphasis on birds (chick) and mammals (pig). A study of the organ formation, based on prepared histological material, with a consideration of experimental evidence. Mr. Evans.

**103. Parasitology.** 1 Q. Autumn. 2 cr. Prerequisite, course 23. To acquaint the student with the common types of parasites found in game animals and fishes and an introduction to methods of control of disease, where methods are known. Mr. Castle.

**105. General Histology.** 1 Q. Winter. 5 cr. Prerequisite, course 23 or equivalent; a knowledge of chemistry is recommended. Preparation of animal tissues for microscopical examination; methods of fixation; sectioning with the microtome, and staining; use of the microscope. Mr. Evans.



**106. Comparative Histology.** 1 Q. Spring. 5 cr. Prerequisite, course 23 or equivalent; course 105 recommended. The structure of the cell and of the more complex organs and tissues in the vertebrates. Mr. Evans.

**107. Aquatic Biology.** 1 Q. Spring. 3 cr. Prerequisite, course 23 and Botany 11bc or 12b. A study of the plants and animals which make up the diet of fishes, and the taxonomy and ecological distribution of the common game and coarse fishes. Mr. Castle. Mr. Waters.

**108. Vertebrate Zoology.** 1 Q. Autumn. 4 cr. Prerequisite, course 23. Study of the life histories, geographic distribution, habits, and classification of common game birds and mammals.

**111. Advanced Invertebrate Anatomy.** 2 Q. Winter, spring. Credit variable. Prerequisite, course 10, junior standing, and consent of instructor. Intensive work in morphology, physiology, and phylogeny of invertebrates. Mr. Castle.

**118. Advanced Entomology.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, course 27, junior standing, and consent of instructor. For advanced students who are prepared to take individual problems or study special insect groups. Mr. Castle.

**122. Advanced Histology.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, courses 105 and 106 and consent of instructor. Special work and problems in tissue structure. Mr. Evans.

**123. Advanced Vertebrate Anatomy.** 1 Q. Autumn. 5 cr. Prerequisite, courses 10 and 11, junior standing, and consent of instructor. Intensive work in comparative anatomy, development and phylogeny of the vertebrates. Mr. Evans.

**125. Genetics.** 1 Q. Autumn. 4 cr. Prerequisite, course 23 or Botany 11abc and junior standing. The facts and theories of heredity; the mechanism of heredity; involving consideration of segregation, random assortment, linkage systems, and mutations, and their relations to visible cell processes.

**126. Evolution.** 1 Q. Winter. 3 cr. Prerequisite, course 125. A consideration of the theories of evolution from the historical point of view; the nature of the evolutionary processes, the evidence for evolution, and the factors of evolution. This is not a laboratory course and does not fulfill the restricted elective requirements. Mr. Severy.

**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 Zoology.** 1 to 3 Q. Autumn, winter, spring. 2-5 cr. Prerequisite, consent of instructor, course 101 or 102; and 105 or 106. The results of modern experimental biology; lectures, conferences, and readings. Each student may be assigned individual work intended as training in methods, illustration of principles, and preparation for research. Mr. Castle. Mr. Evans.

### For Graduates

**200. Advanced Zoological Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, course 131 or equivalent, and consent of instructor. Opportunity is given graduate students with sufficient ability to pursue original investigations individually. Mr. Castle. Mr. Evans.

## 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, music, 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, Modern and Classical Languages, and the School of Music. Mr. Clark. Mr. Coleman. Mr. Crowder. Mrs. Ephron. Mr. Freeman. Mr. Merriam. Mrs. Weisberg. Mr. Weisberg. Mr. Yphantis.

Students who expect to do major work in English must register for English 25ab (see page 41) instead of Humanities 15abc.

## Classical Languages

PROFESSOR WESLEY P. CLARK (CHAIRMAN). MARGUERITE HEINSCH EPHRON, INSTRUCTOR.

**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. Humanities 15abc and History 15 and 16 are recommended.

Senior examinations will be required of all students who major in Latin.

**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 Latin 13a; those offering four units, 15a, subject, however, to the placement examination. The Restricted Elective requirement is fulfilled upon completion of course 13a for students who present entrance units in Latin.

### Latin

#### For Undergraduates

**11abc. Elementary Latin.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Summer. 4 cr. For students who enter with no credit in Latin. Mr. Clark.

**13abc. Intermediate Latin.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Summer, 13a. 4 cr. Prerequisite, Latin 11c or equivalent. (a) Selections from Cicero and other studies for literary and historical value. (bc) Vergil's Aeneid I-VI. Introduction to poetry; reading of hexameter, appreciation of permanent values of the Aeneid. Mrs. Ephron.

**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) The Odes of Horace. Reading of the commonest metrical forms; outline of Roman literature. Mr. Clark.

#### For Undergraduates and Graduates

**101. Pliny and Martial.** 1 Q. Any quarter. 5 cr. Prerequisite, Latin 15b and junior standing. Not given in 1937-38. Mr. Clark.

**102. Catullus and Terence.** 1 Q. Any quarter. 5 cr. Prerequisite, Latin 15b and junior standing. Not given in 1937-38. Mr. Clark.

**115. Advanced Latin.** 1 Q. Winter. 5 cr. Prerequisite, Latin 15b and junior standing. The philosophy of the Greeks and Romans based on the Tusculan Disputations of Cicero; selections from Seneca. Mr. Clark.

**139. Lucretius.** 1 Q. Spring. 5 cr. Prerequisite, Latin 15b and junior standing. Reading and appreciation of portions of De Rerum Natura. Not given in 1937-38. Mr. Clark.

**140. Tacitus, Minor Works and Histories.** 1 Q. Spring. 5 cr. Prerequisite, Latin 15b and junior standing. Mr. Clark.

**141. The Annals of Tacitus, I-VI.** 1 Q. Autumn. 5 cr. Prerequisite, Latin 15b and junior standing. Not given in 1937-38. Mr. Clark.

**143. Life and Works of Vergil.** 1 Q. Autumn. 5 cr. Prerequisite, Latin 15b and junior standing. Selected Eclogues: parts of the Georgics; review of Aeneid I-VI; reading of Aeneid VII-XII. Mr. Clark.

**145. Roman Comedy.** 1 Q. Autumn. 5 cr. Prerequisite, Latin 15b and junior standing. Not given in 1937-38. Mr. Clark.

**147. Latin of the Late Empire.** 1 Q. Winter. 5 cr. Prerequisite, Latin 15b and junior standing. Selections from late pagan and early Christian writings. Not given in 1937-38. Mr. Clark.

**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 1938-39, and in alternate years. Mr. Clark.

#### 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. Mr. Clark.

## 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. Mr. Clark.

**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. Mr. Clark.

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

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.

**S99. Things New and Old.** 1 Q. Summer. 1 cr. Lectures on selected interesting men, books, and ideas of the past and present. This course does not apply toward the restricted elective requirements. Mr. Clark.

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## English

PROFESSORS EDMUND L. FREEMAN, HAROLD G. MERRIAM (CHAIRMAN), LUCIA B. MIRRIELES; ASSOCIATE PROFESSOR RUFUS A. COLEMAN; ASSISTANT PROFESSOR ERNEST H. HENRIKSON. MARY B. CLAPP, DONALD HARRINGTON, DENNIS MURPHY, JOHN D. SCHEFFER, H. W. WHICKER, INSTRUCTORS.

**Major Requirements:** 32 credits in addition to English 11ab and English 25ab. The required courses in English are listed in the four outlines given below, which are designed for students of four different types of needs and interests. By the beginning of his junior year the student should have decided definitely which of the four schedules he is to follow. Fine Arts 31abc, Music 35abc and at least two quarters of study in each of the fields of psychology and sociology are strongly recommended. A reading knowledge in the literature of some foreign language, classical or modern, is recommended.

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

Any student who plans to teach English in high school is expected to complete at least twelve credits of courses in literature.

### Required in all Schedules

Freshman Year: English 25ab.

Sophomore Year: 11ab and 30 or 32, or either 11a or 11b and 30 or 32.

#### A. For Students Who Expect to do Graduate Work or to Teach English in a High School.

Junior and Senior Years: 59abc (two quarters); a year's sequence of courses 189abc, or 187, 165, 164, or 173, 174, 180; 192 (one quarter); 199 (two quarters). Education 105 and English 69 required of prospective teachers.

#### B. For Students Who Desire Literary Information and Appreciation.

Junior and Senior Years: 75, 76 (one quarter); 77, 83, 178 (one quarter); 189abc, 187, 165, 164, 173, 174, 180 (two quarters); 169.

#### C. For Students Primarily Interested in Creative Writing.

Junior and Senior Years: 72abc, 160abc, 163 (eight credits); 187; 75, 76, 77, 178 (two quarters); 169.

### D. For Students Primarily Interested in Speech, Dramatics, and Drama.

Freshman and Sophomore Years: 20, 43, 57a. Required in Speech, 21 and 42.

Junior and Senior Years: 62, 69, 187 (two quarters); 169. Required in Drama, in addition, 77, 83, 178, 173 (three quarters).

#### For Undergraduates

**A. Preparatory Composition.** 1 Q. Autumn. Winter. Spring. 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.

**11ab. English Composition.** 2 Q. Autumn, winter. Winter, spring. 3 cr. each quarter. Summer 11a, 3 cr. Required of all students in the sophomore year. Freshmen who place high in the placement examination may be exempted from 11a and in the sophomore year proceed at once to 11b. The gathering and organization of material for the writing of papers, and the development of personal ideas. Study of words and syntax. The English Staff.

**20. Principles of Speech.** 1 Q. Autumn. Winter. Spring. 5 cr. Open to all students. A beginning course in public speaking. Mr. Henrikson.

**21. Argumentation.** 1 Q. Winter. 5 cr. Open to freshmen, but only with the consent of the instructor. Lectures and class discussions upon the principles of thinking, research, testing of evidence, and brief drawing. Mr. Henrikson.

**S23b. Extempore Speaking.** 1 Q. Summer. 4 cr. Open to freshmen, but only with the consent of the instructor. A course stressing preparation for and delivery of the extemporaneous speech. Mr. Henrikson.

**24. Debate.** 1 Q. Winter. 2 cr. Prerequisite, English 21. For varsity debaters only. This course may not be repeated for credit. Mr. Henrikson.

**25ab. World Literature.** 2 Q. Autumn, winter. 5 cr. each quarter. Open only to probable English major students, preferably in the freshman year. Students will attend the lectures of Humanities 15ab, but will meet in separate discussion groups and will have different reading and examinations. Mr. Merriam.

**26. Speech Clinic.** 1 Q. Autumn. Winter. Spring. No credit. Open to any student who has a voice or speech defect. Classes limited to five persons. Mr. Henrikson.

**S29. Lectures.** 1 Q. Summer. 1 cr. Open to all students.

**30. Composition.** 1 Q. Autumn. Spring. Summer. 4 cr. Open to sophomores who have made a grade of A in English 11a and to any student who has completed 11b successfully. A study of exposition. On an average two essays a week will be written. Mr. Freeman.

**32. Narration and Description.** 1 Q. Winter. 4 cr. May be taken in lieu of English 11b or 30 by sophomores who have made a grade of A in 11a or by any student who has completed 11b. A beginner's course in the writing of fiction. Mr. Murphy.

**42. Extempore Speaking.** 1 Q. Spring. 4 cr. Prerequisite, English 20. Open to freshmen, but only with the consent of the instructor. A study of the principles of composition and delivery involved in extemporaneous speaking. Extensive practice in delivery. Mr. Henrikson.

**43. Advanced Public Speaking.** 1 Q. Autumn. 4 cr. Prerequisite, English 20 and sophomore standing. Advanced training in effective methods of preparation and delivery of speeches. Study of the more finished and formal types of address. Mr. Henrikson.

**53. Contemporary Magazines.** 1 Q. Autumn. 4 cr. Prerequisite, sophomore standing. Reading of contemporary periodicals. Miss Mirrieles.

**55ab. Contemporary Literature.** 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. Students may enter either quarter. 55a deals chiefly with fiction. 55b deals with biography, fiction, drama. Some verse and essay reading is required in each quarter. Miss Mirrieles.

**57a. Shakespeare.** 1 Q. Autumn. Spring. 4 cr. Prerequisite, sophomore standing. Open, however, to first year major students in the Spring quarter. A chronological study of fourteen of the plays of Shakespeare. Mr. Murphy.

**57b. Shakespeare.** 1 Q. Winter. 4 cr. Prerequisite, sophomore standing. An intensive study of two or three plays. Mr. Murphy.

**558. General Literature.** 1 Q. Summer. 4 cr. Open to sophomores, or to freshmen who intend to major in English. The aims and values in types of literature. Mr. Freeman.

**59abc. American Literature.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 59b. 4 cr. Prerequisite, sophomore standing. American thought and feeling as reflected in our literature from the earliest to present days. Mr. Coleman.

**62. Dramatic Presentation.** 1 Q. Autumn. Summer. 4 cr. Open to all English major students of junior standing; to others only with consent of the instructor. The fundamentals of direction, staging, lighting, make-up. Mr. Harrington.

**69. Oral Interpretation of Literature.** 1 Q. Winter. Summer. 4 cr. Open to all English major students of junior standing; to others only with consent of the instructor. Practice in reading aloud, with criticism. Mr. Henrikson.

**72abc. Literary Composition.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, English 30 or 32 or consent of the instructor on the basis of submitted writings. Section I will do fiction writing; Section II will write verse, sketches, possibly essays. Mr. Merriam. Mr. Whicker.

**75. English Novelists.** 1 Q. Winter. 4 cr. Prerequisite, junior standing. A course designed to develop a sense of prose style, some critical standards for fiction, and an intelligent interest in and sympathy with all sorts of people, by the reading and discussion of the novels of Fielding, Austen, Thackeray, Eliot, Trollope. Given in 1938-39, and in alternate years. Mr. Murphy.

**76. Masters of Fiction.** 1 Q. Spring. 4 cr. Prerequisite, junior standing. Study of novels, either of the present or the past, by the great novelists of the world—Balzac, Flaubert, Hugo, Tolstoi, Turgenyev, Howells, James, Meredith. Given in 1938-39, and in alternate years. Mr. Murphy.

**77. Modern Drama.** 1 Q. Winter. 4 cr. Prerequisite, junior standing. From Ibsen to contemporary dramatists. Given in 1937-38, and in alternate years. Mr. Harrington.

**83. World Drama.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing. A study primarily, of comedy, social drama, and melodrama. Given in 1937-38, and in alternate years. Mr. Harrington.

**88. General Reading.** 1 Q. Spring. 2 cr. Open to junior and senior men only. Reading and discussion of ten books. Mr. Whicker.

### For Undergraduates and Graduates

**105. The Teaching of English.** 1 Q. Winter. 3 cr. Prerequisite, senior standing and consent of instructor. Miss Mirrielees.

**121. Conference on Speech and Debate Methods.** 1 Q. Summer. 3 cr. Prerequisite, junior standing and consent of instructor. Emphasis is given to the conduct of speech work in the high school. Coaching of declamation is considered. Handling of speech defectives is discussed. Mr. Henrikson.

**160abc. Imaginative Writing.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer. 1-3 cr. May be entered any quarter. Prerequisite, English 30, 32, 72abc (two quarters); or consent of instructor on the basis of a submitted manuscript. Experiments in writing; laboratory work. Mr. Merriam.

**163. Playwriting.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer. 2½ cr. Continuous for two quarters. Prerequisite, consent of the instructor. Theory and practice of dramatic writing. Mr. Harrington.

**164. Chaucer.** 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and English 165; 187 recommended. Chaucer considered as a storyteller, poet, voice of the fourteenth century. Given in 1937-38, and in alternate years. Miss Mirrielees.

**165. Middle English Literature.** 1 Q. Winter. 4 cr. Prerequisite, junior standing; English 187 recommended. Thought of the Middle Ages. Brief consideration of: the beginnings of prose, drama, metrical romance; Wyclif, Langland, Caxton; social, religious, and political verse. Given in 1937-38, and in alternate years. Miss Mirrielees.

**169. Literary Criticism.** 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing and 12 credits of literature. Study of several important critical documents in English to build bases for critical judgment. Mr. Merriam.

**173. The Renaissance in English Literature.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and English 57a or b; English 165 and History 13a recommended. Study of the new learning and new feeling as expressed in the poetry of Wyatt, Surrey, Spencer, and Sidney. The educational ideal and ethical function of literature as expressed in the prose fiction of the period. Representative drama, exclusive of Shakespeare. Given in 1938-39, and in alternate years. Mr. Coleman.

**174. Literature of the Seventeenth Century.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and English 173 or History 13a. Cavalier lyricists; religious poets: Bacon, Milton, Bunyan, Dryden. Given in 1938-39, and in alternate years. Mr. Freeman.

**178. Tragedy.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and a course in drama. Study of the nature of tragedy; reading of great tragedies in the world's literature. Given in 1937-38, and in alternate years. Mr. Merriam.

**S179. Comedy.** 1 Q. Summer. 2½ cr. Prerequisite, junior standing. Consideration of humor, wit, the comic in the world's literature. Mr. Merriam.

**180. Literature of the Eighteenth Century.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and two courses in literature. The verse and prose writers; beginnings of the romantic revolt; Johnson and his circle. Given in 1938-39, and in alternate years. Miss Mirrielees.

**S181. Recent Poetry.** 1 Q. Summer. 4 cr. Prerequisite, junior standing. A critical survey of the leading poetic movements and techniques of the past forty years. Mr. Murphy.

**187. History of the English Language.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, junior standing. Growth of the English language and the development of modern English grammar and syntax. Given in 1937-38, and in alternate years. Miss Mirrielees.

**189abc. Currents in Nineteenth Century Literature.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 189b. 3 cr. Prerequisite, junior standing and two courses in literature. Students may enter any quarter. Intention is to gain acquaintance with social conditions and activity, social theories of literary men, the changing philosophical and religious attitudes, and changes in literary aims, standards, and taste. Given in 1937-38, and in alternate years. Mr. Freeman. Mr. Merriam.

**192. Major Writers.** 1 Q. Autumn. Winter. Spring. 3 cr. Summer. 2 cr. Prerequisite, senior standing and consent of instructor. Subject and instructor change from year to year: 1937-38, Autumn, Miss Mirrielees; Winter, Mr. Merriam; Spring, Mr. Merriam; Summer, Mr. Merriam.

**196. English Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to English major students in the senior year. Discussion of literary terms and forms; current trends in literature; papers. Mr. Merriam.

**198abc. Studies in English.** 3 Q. Autumn, winter, spring. 2-3 cr. each quarter. Open to seniors who are English major students and who have a good scholarship record, after consultation with Mr. Merriam. Independent work, guided by instructors, and tested upon completion by both written and oral examinations. The English Staff.

**199. Seminar.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer. 2 cr. Continuous for any 2 quarters. Prerequisite, senior standing and consent of instructor. First instruction and practice in research. Mr. Merriam.

### For Graduates

**299. Seminar.** 3 Q. Autumn, winter, spring. 1-3 cr. each quarter. Open only to graduate students after consultation with the instructor. Mr. Freeman and the English Staff.

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## Fine Arts

ASSISTANT PROFESSOR GEORGE YPHANTIS.

**Major Requirements:** 50 or more credits, including courses: Fine Arts 23, 30abc, 31abc, and five credits of 123. One quarter's work in sculpture may be substituted for the work of one quarter in painting.

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

### For Undergraduates

**S12. Elementary Drawing.** 1 Q. Summer. 2 cr. Open to all students. Freehand drawing from indoor and outdoor objects, still life, and costumed model, in various media including pencil, crayon, ink, and water color.

**S13. Color and Design.** 1 Q. Summer. 3 cr. Open to all students. Analysis of the decorative properties of line, value, color, area, pattern; abstract and naturalistic problems of design and the study of historical ornament.

**221. Fundamentals of Art Appreciation.** 1 Q. Summer. 1½ cr. Open to all students. Lectures and discussions on the essentials in architecture, painting, and sculpture.

**23. Drawing.** 3 Q. Autumn, winter, spring. 15 cr. Continuous any two quarters. Open to all students in the autumn quarter. An intensive course in the fundamentals of drawing taught from indoor and outdoor subjects, still life, casts, models, in various media including pencil, charcoal, crayon, water color, and oil. Perspective is taught in the autumn quarter; artistic anatomy in the winter quarter, by lectures illustrated with diagrams, the skeleton, anatomical casts, and the living model; portrait composition is included in the work of the spring quarter. Mr. Yphantis.

**30abc. Painting.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, Fine Arts 23 or consent of instructor. Theory of color, still life painting and composition, painting from the cast, and landscape. Mr. Yphantis.

**31abc. History of Art.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, junior standing or consent of instructor. (a) Pre-historic art to Roman art. (b) Art of the Middle Ages through the art of the Italian Renaissance. (c) Late Renaissance and Modern art. Oriental art. A comprehensive treatment of every important art movement related to corresponding social and mental backgrounds, with the analysis and appreciation of the fundamentals of painting, sculpture, and architecture. Mr. Yphantis.

**349. Sculpture.** 1 Q. Summer. 3 cr. Prerequisite, five credits of drawing or consent of instructor. Clay modeling, wood carving, and composition problems in sculpture.

### For Undergraduates and Graduates

**123. Advanced Painting.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, Fine Arts 30abc, or 10 credits of 30abc and consent of instructor. Portrait, figure, and landscape painting and composition. Graduates may repeat this course for credit with consent of instructor. Mr. Yphantis.

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## Library Economy

ASSISTANT PROFESSORS M. WINNIFRED FEIGNER, M. CATHERINE WHITE. WINONA ADAMS, HELEN DUNCAN, LUCILE SPEER, INSTRUCTORS.

**Major Requirements:** 42 or more credits, including Library Economy 14ab, 16, 18, 20abc, 22ab, 24, 26, 28ab. Twenty credits are required in both French and German.

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

Students who major in this department are required, either in their freshman or sophomore year, to do field work in some county or city library of the state which contains 10,000 volumes. Not less than fifteen hours a week for a period of not less than ten weeks must be spent at this work. No credit will be given for such work.

Ability to use a typewriter is necessary.

In the autumn quarter, 1937, no major students will be accepted in this department.

### For Undergraduates

**14ab. Classification.** 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, junior standing. History of classification; comparison of the common systems; a detailed study of the Dewey decimal system. Choice of subject headings for a dictionary catalogue. Offered in 1936-37. Miss Adams.

**16. Cataloguing.** 1 Q. Winter. 3 cr. Prerequisite, junior standing. Principles of dictionary cataloguing with special reference to choice of forms in author headings. Practice in cataloguing. Offered in 1936-37. Miss Speer.

- 18. Cataloguing and Classification.** 1 Q. Spring. 3 cr. Prerequisite, junior standing. Cataloguing and classification of material which illustrates the problems of this work with special reference to different types of libraries. Offered in 1936-37. Miss Adams.
- 20abc. Reference.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing. Introduction to common and specialized reference works in English and the common works in foreign languages. Problems pertaining to the practical work in the reference department based upon a working knowledge of reference works. Offered in 1937-38. Miss White.
- 22abc. Book Selection.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing. Principles and practice in book selection. Reading and reviewing of selected books; practice in the use of aids, in the making of selected lists, in the writing of book notes. Offered in 1937-38. Miss Feighner.
- 24. History of Libraries.** 1 Q. Autumn. 1 cr. Prerequisite, junior standing. Extent and growth of libraries.
- 26. Library Practice.** 3 Q. Autumn, winter, spring. 1 to 3 cr. each quarter. Prerequisite, sophomore standing and consent of instructor. Students may enter any quarter. Not more than four credits may be earned in one year. Majors in Library Economy must offer four credits in this course. Specially planned practice work under the supervision of the librarians of the city, county, and university libraries. Miss Feighner.
- 28ab. Library Administration.** 2 Q. Autumn, spring 3 cr. each quarter. Prerequisite, junior standing. An outline of all the phases of librarianship showing the relationship of the various departments within a library. Attention given to all problems of administration. Offered in 1936-37. Miss Feighner.
- 31. Book Buying, Ordering, and Trade Bibliography.** 1 Q. Spring. 2 cr. Prerequisite, junior standing. Routine of ordering; lectures on the importation of books; book dealers; allocation of book funds; trade discounts. Offered in 1936-37.
- 39. Public Documents.** 1 Q. Winter. 2 cr. Prerequisite, junior standing. Acquisition, care, and reference use of federal publications. Practical problems dealing with document catalogues, indexes, and check lists. Offered in 1937-38. Miss Speer.
- 41. History of the Book.** 1 Q. Winter. 2 cr. Prerequisite, junior standing. The evolution of the book; emphasis on the important development of printing in the occidental world after 1450. Offered in 1937-38.

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## Modern Languages

PROFESSORS LOUISE G. ARNOLDSON, RUDOLPH O. HOFFMAN, BART E. THOMAS, (ACTING CHAIRMAN); ASSOCIATE PROFESSOR PAUL A. BISCHOFF; ASSISTANT PROFESSORS RUDOLPH J. SCHLUETER, FLORA B. WEISBERG.

**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 20. Students who have one high school unit in a modern language should enter course 13a; those with two units, 15; those with three units, courses number 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: History 29, 30ab, 33, 34, 35.

### For Undergraduates

11. **Elementary French.** 2 Q. Autumn, winter. Winter, spring. Continuous. 10 cr. Summer. 4 cr. French Staff.

13a. **Intermediate French.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, French 11 or equivalent. French staff.

13b. **Intermediate French.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, French 13a or equivalent. French staff.

15. **Advanced French.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, French 13b or equivalent. French staff.

### For Undergraduates and Graduates

115. **Practical Phonetics.** 1 Q. Autumn. Spring. 1 cr. Prerequisite French 15 or equivalent. Mr. Hoffman.

117. **French Grammar Review and Composition.** 1 Q. Autumn. Winter. Spring. 4 cr. Prerequisite, French 15 or equivalent. French Staff.

119. **General Survey of French Literature.** 1 Q. Autumn, Spring. 4 cr. Prerequisite, French 117 or equivalent. Mrs. Arnoldson.

121. **The 17th Century French Literature.** 1 Q. Autumn. 3 cr. Prerequisite, French 117 or equivalent. Given in 1937-38, and in alternate years. Mr. Hoffman.

123. **The 18th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 117 or equivalent. Given in 1937-38, and in alternate years. Mrs. Arnoldson.

125. **French Culture and Life.** 1 Q. Autumn. 3 cr. Prerequisite, French 117 or equivalent. Given in 1938-39, and in alternate years. Mr. Hoffman.

126. **French Poetry.** 1 Q. Spring. 3 cr. Prerequisite, French 117. Given in 1937-38 and in alternate years. Mr. Hoffman.

127. **The 19th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 117 or equivalent. Given in 1938-39, and in alternate years. Mrs. Arnoldson.

131. **Advanced French Composition.** 1 Q. Spring. 3 cr. Prerequisite, French 117 and one more course numbered over 100, or equivalent. Given in 1938-39, and in alternate years. Mr. Hoffman.

132. **Studies in Outstanding Writers.** 1 or 2 Q. Winter. Spring. 1 to 3 cr. Prerequisite, French 117, senior standing, and consent of instructor. Writer and instructor change from quarter to quarter, and from year to year. Treated as a seminar. Not more than six credits may be applied towards graduation. 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 selected from the courses numbered from 121 to 130 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: History 29, 30ab, 33, 34, 35.

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

### For Undergraduates

- 11. Elementary German.** 2 Q. Autumn, winter. Winter, spring. Continuous. 10 cr. Summer, 11a. 4 cr. German staff.
- 13a. Intermediate German.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, German 11 or equivalent. German staff.
- 13b. Intermediate German.** 1 Q. Autumn. Winter. 4 cr. Prerequisite, German 13a or equivalent. German staff.
- 15. Advanced German.** 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, German 13b or equivalent. German Staff.
- 16. Newspapers and Periodicals.** 1 to 6 Q. Any quarter. 1 cr. each quarter. Prerequisite, German 15 or equivalent. A course enabling students to keep in touch with the language of the day; of particular interest to students expecting to work for advanced degrees in science. Mrs. Weisberg.

### For Undergraduates and Graduates

- 117. German Grammar, Composition, Conversation.** 1 Q. Spring. 4 cr. Prerequisite, German 15 or equivalent. Mr. Schlueter. Mrs. Weisberg.
- 119. General Survey of German Literature.** 1 Q. Autumn. 3 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 120. Lessing.** 1 Q. Autumn. 2 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 121. Goethe and Schiller (Early Works).** 1 Q. Winter. 3 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 122. German Lyrics.** 1 Q. Winter. 2 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 123. Goethe and Schiller (Classical Drama).** 1 Q. Spring. 3 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 124. Goethe's Faust.** 1 Q. Spring. 3 cr. Prerequisite, German 15 or equivalent. Given in 1937-38, and in alternate years, Mr. Schlueter. Mrs. Weisberg.
- 125. Cultural Background of German Literature.** 1 Q. Autumn. 3 cr. Prerequisite, German 15 or equivalent. Given in 1938-39, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 126. Heine.** 1 Q. Autumn. 2 cr. Prerequisite, German 15 or equivalent. Given in 1938-39, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 127. Contemporary German Prose Writers.** 1 Q. Winter. 3 cr. Prerequisite, German 15. Given in 1938-39, and in alternate years. Mr. Schlueter. Mrs. Weisberg.
- 128. Contemporary German Drama.** 1 Q. Winter. 2 cr. Prerequisite, German 15. Given in 1938-39, and in alternate years. Mr. Schlueter. Mrs. Weisberg.

### Spanish

The Spanish courses offer preparation (1) for prospective teachers or for those interested in literary information and (2) for students contemplating consular service, commercial work in Spanish-American countries, or governmental work.

**Major Requirements:** For (1) above, courses 11 to 119 inclusive, or equivalent, 15 credits selected from courses 121 to 133 inclusive, and History 23ab (Hispanic-American).

For (2) above, during the first two years students should complete courses 11 through 117, or equivalent, Social Science 11abc, History 21 (two quarters), Economics 14abc, and Psychology 11. The curriculum outlined should be completed during the second two years.

**Junior year:** English 59abc, or 189abc, or 20, 69, and 76; Spanish 131 and 125; Economics 15 or 16; History 23ab; Business Administration 152 (Foreign Trade), 41 (Business Law), or History 106ab (International Law).

**Senior year:** English 83, or 55b; Spanish 132; Journalism 36; Economics 145 (Ethnography of the Americas), or 141 (Archaeology of North America).

Note: The total number of college credits required in Spanish varies with the student's high school preparation; the minimum requirement is 18 credits. Students who intend to complete the work in this field should consult early with the adviser of Hispanic studies.

### For Undergraduates

- 11. Elementary Spanish.** 2 Q. Autumn, winter. Winter, spring. 10 cr. Continuous. Summer, 11a. 4 cr. Spanish staff.
- 13a. Intermediate Spanish.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, Spanish 11 or equivalent. Spanish staff.
- 13b. Intermediate Spanish.** 1 Q. Autumn. Winter. 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.

### For Undergraduates and Graduates

- 117. Spanish Grammar, Composition, Conversation.** 1 Q. Autumn. Spring. 4 cr. Prerequisite, Spanish 15 or equivalent. Mr. Thomas.
- 119. General Survey of Spanish Literature.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 117. 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 117. Given in 1937-38, and in alternate years.
- 123. Spanish Novel and Drama of the Nineteenth Century.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 117. Romanticism, the novel, and the drama of this century. Given in 1937-38, and in alternate years.
- 125. Spanish American Literature.** 1 Q. Spring. 3 cr. Prerequisite, Spanish 117. Given in 1938-39, and in alternate years. Mr. Thomas.
- 127. Contemporary Spanish Drama.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 117. Given in 1938-39, and in alternate years. Mr. Bischoff.
- 129. Contemporary Spanish Novel.** 1 Q. Winter. 3 cr. Prerequisite, Spanish 117. Given in 1938-39, and in alternate years. Mr. Bischoff.
- 131. Commercial Spanish.** 1 Q. Winter. 2 cr. Prerequisite, Spanish 117. Writing of Spanish commercial letters and a study of commercial practices in Spanish America. Designed for students in Hispanic studies. Given in 1937-38, and in alternate years.
- 132. Spanish American Civilization.** 1 Q. Spring. 3 cr. Prerequisite, Spanish 117 for majors in Spanish or Hispanic studies who will do their collateral readings in Spanish; for other students, junior or senior standing. A study of the ideals, habits, and present social conditions of the peoples of Spanish America. 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.

## DIVISION OF PHYSICAL SCIENCES

PROFESSOR A. S. MERRILL, CHAIRMAN.

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

**17. Introduction to Physical Science.** 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. A text-book fee of seventy-five cents is charged each quarter. Given conjointly by the Departments of Chemistry, Mathematics, and Physics. Mr. Jesse. Mr. Little. Mr. Merrill. Mr. Shallenberger.

## Chemistry

PROFESSORS WILLIAM G. BATEMAN, JOSEPH W. HOWARD, RICHARD H. JESSE (CHAIRMAN).

**Major Requirements:** 50 credits, including Chemistry 13, 15 cr.; 15, 5 cr.; 17 and at least 2 cr. of 111, 7 to 10 cr.; 101, 10 cr.; 106, 10 cr.; 113, 3 cr. At the time of his graduation, a major student in Chemistry should have acquired a reading knowledge of German or French, and a working knowledge of English Composition, College Physics, Algebra, Trigonometry, Analytic Geometry, Calculus, and Elementary Mineralogy.

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

### For Undergraduates

**11. General Chemistry.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Open to freshmen Forestry majors.

**13. Inorganic Chemistry and Qualitative Analysis.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Prerequisite, one year of chemistry in high school or sophomore standing. The fundamental laws of chemistry; properties and relations of the non-metallic and metallic elements; theory and methods of inorganic qualitative analysis. Mr. Bateman. Mr. Howard.

**15. Qualitative Analysis.** 1 Q. Winter. 5 cr. Prerequisite, Chemistry 13. A continuation of course 13c. Mr. Bateman.

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

**19. Organic Chemistry.** 1 Q. Winter. Summer. 5 cr. Prerequisite, Chemistry 13. Briefer survey of the field of organic chemistry. Intended for students of Pharmacy and Home Economics. Mr. Howard.

### For Undergraduates and Graduates

**101. The Carbon Compounds.** 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, Chemistry 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 majors and premedical 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, and enrollment in college physics. A knowledge of calculus is desirable. 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 17 and 101. The chemistry of industrial and engineering materials and the discussion of technical chemical processes. Given in 1937-38, and in alternate years. Mr. Howard.

**110. Organic Industrial Chemistry.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13 or 15 and 101. Given in 1938-39, and in alternate years. Mr. Howard.

**111. Technical Analysis.** 1 Q. Autumn. Winter. Spring. Summer. 2 to 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. Jesse. Mr. Howard.

**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 upper classmen and the departmental staff. This course may be repeated for credit. The Chemistry Staff.

### For Graduates

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

## Geology

PROFESSORS JESSE P. ROWE (CHAIRMAN), CHARLES DEISS.

**Major Requirements:** 50 or more credits, including Geology 11ab, 22, 23, 24, 26, 35, and 121. Major students should have the equivalent of 25 credits in Modern Languages, and should have a reading knowledge of German or French. Forestry 41abc, Mathematics 12, Chemistry 13, and Physics 20ac should be completed. Students emphasizing Economic Geology and Petrology should take in addition: Chemistry 15, 17, 19, and 106. Mathematics 13, 21, 22, and 23; those emphasizing Stratigraphy and Paleontology should take: Zoology 10 and 11 and 23 (Comparative Vertebrate Zoology), Botany 11b, and Economics 15 (Anthropology).

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

### For Undergraduates

**11ab. General Geology.** 2 Q. Autumn, winter. 5 cr. each quarter. Summer S11a. 3 cr. 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. Mr. Rowe. Mr. Deiss.

**14. Forestry Geology.** 1 Q. Spring. 3 cr. Open to students who have not completed Geology 11a. A general discussion of physical geology with reference to forestry problems. Mr. Rowe.

**16. Geography and Natural Resources of Montana.** 1 Q. Autumn. Winter. Spring. Summer. 3 cr. This course does not apply toward the restricted elective requirement in science unless credit is offered in Geology 11ab. Mr. Rowe.

**17. Gem Stones.** 1 Q. Winter. Summer. 2 cr. Open to all students. The properties, occurrence, history and determination of precious, semi-precious, and ornamental stones; methods of determining imitation and synthetic stones from real ones. Mr. Rowe.

**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. Mr. Deiss.

**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. Mr. Deiss.

**24. Mineralogy.** 2 Q. Autumn, winter. Continuous for geology majors. 10 cr. Chemistry 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. Mr. Rowe.

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

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

### For Undergraduates and Graduates

**101. Economic Geology.** 1 Q. Autumn. 5 cr. Prerequisite, Geology 11b and 24. A study of the non-metallic mineral deposits of North America. Mr. Rowe.

**102. Petroleum Geology.** 1 Q. Winter. 3 cr. Prerequisite, Geology 11b and 26. Primarily the application of geologic principles to the discovery of petroleum, with a careful study of the features of the chief oil and gas fields of the United States. Mr. Rowe.

**103. Mineral Deposits.** 2 Q. Winter, spring. Continuous. 10 cr. Prerequisite, Geology 26 and 101. A course in the more theoretical aspects of the geology of metallic mineral deposits. Mr. Rowe.

**105. Mining, Mineral, and Geological Law.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and permission of instructor. Given in 1938-39, and in alternate years. Mr. Rowe.

**111. Invertebrate Paleontology.** 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11b; Zoology 10 and 11 recommended. An introduction to the understanding of fossil organisms with equal emphasis placed on anatomy, evolution, and faunas. Given in 1937-38, and in alternate years. Mr. Deiss.

**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. Given in 1937-38, and in alternate years. Mr. Deiss.

**131ab. Optical Mineralogy and Petrography.** 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Geology 26. (a) Optical mineralogy; the identification of rock-making minerals. (b) The microscopic study of the principal rock types and a discussion of their origin and classification. Given in 1937-38. Mr. Rowe.

**135. Geological Surveying.** 1 Q. Spring. 3 to 5 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. Mr. Rowe. Mr. Deiss.

### For Graduates

**201. Research.** Any quarter. Credits variable. The department is prepared to arrange for properly qualified students to do independent investigation in advance and research courses in paleontology, stratigraphy, structural geology, mineralogy, petrography, and economic geology. Mr. Rowe. Mr. Deiss.

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## Home Economics

PROFESSORS HELEN GLEASON (CHAIRMAN), ANNE PLATT, MONICA BURKE SWEARINGEN (Director of Residence Halls).

**Major Requirements:** 55 or more credits in Home Economics; these credits should include the courses listed in one of the three groups outlined below.

1. Home-making: 14, 15ab, 16, 21, 117, 119, 120, 122, 123, and 124.
2. Institutional Management: 14, 15ab, 16, 21, 117, 119, 122, 123, 124, 133, 135, and 139. Course 138 may be substituted for one of the advanced courses.
3. Teaching: 14, 15ab, 16, 21, 117, 119, 120, 122, 123, 124, 139, and 141. Course 138 may be substituted for one of the advanced courses. In addition, a major student qualifying to teach must take Chemistry 13, 19, and 103. Bacteriology 119a and Economics 16 are recommended.

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

### For Undergraduates

**14. Clothing.** 1 Q. Autumn. Spring. 3 cr. A course for students who wish to acquire ability in clothing selection and construction. Miss Gleason.

**15. Foods.** 2 Q. Autumn, winter. Continuous. 10 cr. Foods from a scientific and economic aspect with emphasis placed on selection and place in diet. Miss Platt.

**16. Clothing Design.** 1 Q. Autumn. 4 cr. Composition and color through the use of masterpieces and the application of art principles to clothing. Miss Gleason.

**21. Foods.** 1 Q. Winter. 3 cr. Prerequisite, Home Economics 15 or its equivalent. Chemistry 13 is recommended. Meal planning, serving, marketing. Miss Platt.

**24. Elementary Foods and Nutrition.** 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13ab and Zoology 24. Open only to student nurses. Miss Platt.

**28. Child Development.** 3 Q. Autumn, winter, spring. 3 to 5 cr. each quarter. Prerequisite, 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.

**33. Methods of Teaching Home Economics.** 1 Q. Summer. Prerequisite, consent of instructor. Miss Gleason.

### For Undergraduates and Graduates

**117. Textiles.** 1 Q. Spring. 4 or 5 cr. Prerequisite, Home Economics 14, or 14 taken concurrently. Fibers, their manufacture and use; physical and chemical tests to aid in the selection of clothing and household furnishings. Miss Gleason.

**119. House Planning and Furnishing.** 1 Q. Winter. 5 cr. Summer. 4 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 14 and 16; 117 recommended. The clothing problem of the family studied from the economic and social point of view. Miss Gleason.

**122. Nutrition.** 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 15 and Chemistry 103. A study in dietetics given in the light of 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. Home Administration.** 1 Q. Autumn. 5 cr. Home Economics 122 is prerequisite, or must be taken simultaneously; 119 is recommended. Problems in the profession of home-making, emphasizing family care and welfare. Miss Gleason.

**133. Institutional Cookery.** 1 Q. Autumn. 5 cr. Home Economics 122 is prerequisite, or must be taken simultaneously. The application of scientific, economic and sociological principles to the feedings 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. Foods.** 1 Q. Spring. 4 cr. Prerequisite, Home Economics 21 and Chemistry 19. Special problems are assigned for individual investigation. Miss Platt.

**139. Readings in Nutrition.** 1 Q. Autumn. Winter. Spring. 2 to 4 cr. Course may be repeated during the succeeding quarters to a maximum of 4 cr. Prerequisite, Home Economics 122. Miss Platt.

**141. Advanced Clothing Design.** 1 Q. Spring. 4 cr. Prerequisite, Home Economics 120. The application of all the art principles in the carrying out of original designs in materials. Miss Gleason.

**150. Clothing.** 1 Q. Any quarter. 4 cr. Prerequisite, Home Economics 120 and 141. Special problems in costume design which deal with the historical development of dress are designed for individual investigation. Originality in design is emphasized. Given subject to demand. Miss Gleason.

**191. Problems in Nutrition.** 1 to 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Home Economics 122. Students may enter any quarter. Experimental work in nutrition with rat colony. Miss Platt.

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## Mathematics

PROFESSORS N. J. LENNES (CHAIRMAN), A. S. MERRILL; ASSOCIATE PROFESSOR EUGENE F. A. CAREY.

**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: Mathematics 12, 13, 14, 16, 19, 21, or 25. Courses 10, 11 and A11 may not be counted toward a major in Mathematics. Students majoring in Mathematics must complete Physics 20abc or the equivalent.

Students who plan to teach mathematics in high schools are expected to complete Mathematics 21 as a minimum.

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

**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 mathematical journals, and several of the most important foreign journals, such as *Crelle*, *Annalen*, *Liouville*, *Fortschritte*. Important new books are constantly added.

Courses 17, 31, and those numbered over 100 (except 101 and 107ab) are offered subject to demand.

### For Undergraduates

**A. Business Arithmetic.** 1 Q. Autumn. Winter. Spring. No credit. A sub-freshman course designed to meet the needs of students in Pre-Business Administration and in Business Administration. Required of such students who fail to qualify on the basis of criteria determined by the Dean of the School of Business Administration. Mr. Lennes.

**10. Intermediate Algebra.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, 1 entrance unit of Algebra. For students entering with only one year of Algebra this is a prerequisite for all other courses in Mathematics. Students entering with  $1\frac{1}{2}$  units of Algebra cannot take course 10 for credit. Mr. Carey. Mr. Merrill.

**11. Solid Geometry.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 10, and one entrance unit in Plane Geometry. Students who present entrance credit in Solid Geometry cannot take this course for credit. Given in 1937-38, and in alternate years. Mr. Lennes. Mr. Carey. Mr. Merrill.

**12. Survey of College Mathematics.** 1 Q. Autumn. Winter. Spring. 5 cr. Summer. 4 cr. Prerequisite, 1 entrance unit of Algebra and 1 entrance unit of Plane Geometry and Mathematics 10 or equivalent. A prerequisite for all courses in Mathematics except courses 10, 11, 19, 25, and 35abc. Mr. Lennes. Mr. Carey. Mr. Merrill.

**13. Plane Trigonometry.** 1 Q. Winter. Spring. 5 cr. Summer. 4 cr. Prerequisite, Mathematics 10 or equivalent, and Mathematics 12. Students who present entrance credit in Trigonometry cannot take this course for credit. Mr. Lennes. Mr. Carey. Mr. Merrill.

**14. Advanced Trigonometry.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 12. Spherical Trigonometry and certain topics in Plane Trigonometry. Mr. Carey.

**16. College Algebra.** 1 Q. Autumn. Spring. 5 cr. Summer. 4 cr. Prerequisite, Mathematics 12. Students who present 2 entrance units of high school Algebra cannot take this course for credit. Mr. Lennes. Mr. Carey. Mr. Merrill.

**19. Mathematics of Investments, Elementary Course.** 1 Q. Winter. 5 cr. Prerequisite, 1 entrance unit of Algebra and Mathematics 10 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. Mr. Lennes. Mr. Carey. Mr. Merrill.

**20. Mathematics of Investments, Advanced Course.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 19 or 25 credits in the department of Mathematics. Given in 1938-39, and in alternate years. Mr. Merrill.

**21. Plane Analytic Geometry.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 12. Mr. Lennes. Mr. Carey. Mr. Merrill.



- 22. Differential Calculus.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 21, and, with certain exceptions, Mathematics 16. Mr. Lennes. Mr. Carey. Mr. Merrill.
- 23. Integral Calculus.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Mr. Lennes. Mr. Carey. Mr. Merrill.
- 25. Statistics.** 1 Q. Spring. 5 cr. Summer. 4 cr. Prerequisite, Mathematics 10, or equivalent. Mr. Merrill.
- 26. Advanced Statistics.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 12 and 25, or 25 credits in Mathematics. Given in 1937-38, and in alternate years. Mr. Merrill.
- 31. Teaching of Secondary Mathematics.** 1 Q. Summer. 4 cr. Prerequisite, consent of instructor. Aims, purposes, and possible curricula for high school mathematics. Mr. Carey. Mr. Merrill.
- 35abc. Forestry Mathematics.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, 1 entrance unit of Algebra and one of Plane Geometry. Mathematics 35a, or equivalent, is a prerequisite for mathematics 35b and for 35c, but mathematics 35b is not a prerequisite for 35c. Students who have completed Mathematics 10 or the equivalent may not receive credit in 35a; those who have completed Mathematics 13 or the equivalent may not receive credit in 35b; those who have completed Mathematics 25 may not receive credit in 35c. Mr. Merrill.

### For Undergraduates and Graduates

- 101. Ordinary Differential Equations.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 23. Mr. Lennes. Mr. Carey.
- 103. Synthetic Projective Geometry.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 21. Mr. Merrill.
- 104. Theory of Equations.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Mr. Lennes. Mr. Carey. Mr. Merrill.
- 107ab. Selected Chapters in Calculus.** 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Mathematics 23. Mr. Lennes. Mr. Carey.
- 125. Solid Analytic Geometry.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 22. Mr. Lennes. Mr. Carey.
- 126ab. Analytic Mechanics.** 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Mathematics 23. Mr. Carey.
- 150. Seminar.** 1 Q. Any quarter. Credit variable. Registration on consultation with instructor. This course provides guidance in special work for advanced students. Mr. Lennes. Mr. Carey. Mr. Merrill.

### For Graduates

- 240abc. Functions of a Real Variable.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Mr. Lennes.
- 241. Functions of a Complex Variable.** 1 Q. 5 cr. Mr. Lennes. Mr. Carey. Mr. Merrill.
- 243. Vector Analysis.** 1 Q. 5 cr. Mr. Carey.
- 245. Theory of Sets of Points.** 1 Q. 5 cr. Mr. Lennes.
- 246. Advanced Projective Geometry.** 1 Q. Spring. 5 cr. Prerequisites, elementary projective geometry and a certain mathematical maturity. Mr. Lennes.

### Astronomy

- A11. Descriptive Astronomy.** 1 Q. Spring. 5 cr. Summer. 4 cr. This course does not apply toward the restricted elective requirement in science. Mr. Lennes. Mr. Merrill.
- A101. Celestial Mechanics.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 101 and 126a. Mr. Merrill.

## Physics

PROFESSOR GARVIN D. SHALLENBERGER (CHAIRMAN); ASSOCIATE PROFESSOR EDWARD M. LITTLE.

**Major Requirements:** 40 or more credits in Physics. In preparation for the advanced courses, a student should take Physics 20abc in the sophomore year. Essential courses offered in other departments: Mathematics 13, 16, 21, 22, 23 and Chemistry 13. Students planning

to teach should elect Psychology 11, and courses 18, 19, 22, 26, and 7 additional credits in the School of Education.

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

### For Undergraduates

**51abc. General Physics.** 1 Q. Summer. 4 cr. for each of the three courses. Prerequisite, a working knowledge of high school mathematics. (a) Mechanics and heat. (b) Sound, magnetism, part of electricity. (c) Electricity, light, modern physics. Students may not receive credits in both Physics 11abc and 20abc. Mr. Shallenberger.

**20abc. General Physics.** 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, sophomore standing and Mathematics 12 or 13; high school physics is desirable. This course satisfies medical school and technical requirements in general physics. (a) Mechanics and heat; (b) sound, electricity and magnetism; (c) light and modern physics. Mr. Shallenberger.

**60. Weather.** 1 Q. 3 cr. Offered subject to demand. Prerequisite, Physics 20abc. Not a laboratory course. Mr. Little.

### For Undergraduates and Graduates

**114. Electricity.** 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1938-39, and in alternate years. Mr. Little.

**122. Light.** 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1938-39, and in alternate years. Mr. Little.

**131. Selected Topics.** 1 Q. Offered subject to demand. 3 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Mr. Little.

**141. Sound.** 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1937-38, and in alternate years. Mr. Little.

**146. Heat.** 1 Q. Winter. 3 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1937-38, and in alternate years. Mr. Little.

**152. Modern Physics.** 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1937-38, and in alternate years. Mr. Shallenberger.

**162. Properties of Matter.** 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Lectures and laboratory. Given in 1938-39, and in alternate years. Mr. Shallenberger.

**166. Electronics.** 1 Q. Offered subject to demand. 3 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Mr. Little.

**170. Theoretical Physics.** 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1937-38, and in alternate years. Mr. Little.

**180. Physics Seminar.** 1 Q. Spring. 1 cr. Given in 1937-38, and in alternate years. A library and discussion course required of Physics majors. Mr. Little.

### For Graduates

**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. Offered subject to demand. Mr. Little. Mr. Shallenberger.

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## 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' work in Latin.

**College.** The minimum requirement is two years of collegiate work extending through thirty-two weeks each and comprising ninety quarter credits. Many of the best medical schools, however, require three years of preparatory work and a few require graduation from college.

#### Pre-Medical Curriculum

The following courses will satisfy the requirements of all 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 Chemistry 13 and 101, Zoology 10 and 11, Physics 20abc, English 11ab and either 30 or 32, French 13b or German 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, take another year to complete. But all medical schools of high standing urge students to undertake a more thorough preparation than the minimum course outlined above. 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 Bacteriology 119ab, and 120; Chemistry 17, 103; Psychology 11; Modern Language 15 (French or German); Zoology 23.

**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.

## DIVISION OF SOCIAL SCIENCES

PROFESSOR PAUL C. PHILLIPS, 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. Given conjointly by the Departments of Economics and History. A text-book fee of \$1.00 is charged each quarter. Mr. Miller. Mr. Albright. Mr. Turney-High. Mr. Bennett. Mr. Kast. Mr. Tascher. Mr. Mansfield.

## Economics and Sociology

PROFESSOR HARRY TURNER-HIGH (CHAIRMAN); ASSOCIATE PROFESSOR MATTHEUS KAST; ASSISTANT PROFESSORS HARRY J. JORDAN, HAROLD TASCHER.

**Major Requirements:** 50 or more credits in Economics and Sociology, including courses 14, 15, 16, and 18. The following courses in other departments may be applied in partial fulfillment of this credit requirement: Business Administration 133, 151, 154, 156; Mathematics 25; Psychology 14.

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

**THE RYMAN ECONOMICS FOUNDATION.** The Ryman Foundation in Economics and Sociology was founded in 1927 by the late J. H. T. Ryman, Esq., of Missoula. The gift included 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 1938.

In calculating credits for prerequisites, Social Science 11abc may not be counted.

### For Undergraduates

**13.** Survey of Economics. 1 Q. Summer. 4 cr. Prerequisite, sophomore standing. May not be used as a prerequisite to advanced courses in Economics. Students who complete this course may not receive credit in Economics 14abc. Mr. Kast.

**14a.** Principles of Economics. 1 Q. Autumn. 4 cr. Prerequisite, sophomore standing. Students who have completed Economics 14bc may not register for credit in this course. Staff.

**14bc.** Principles of Economics. 2 Q. Winter, spring. Continuous. 8 cr. Summer, 14c. 4 cr. Prerequisite, sophomore standing. The entire course, Economics 14abc, is required of students who major in Economics and Sociology; all three quarters are necessary for admission to courses listing Principles of Economics as a prerequisite. Staff.

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

**16.** Principles of Sociology. 1 Q. Winter. Summer. 4 cr. Prerequisite, sophomore standing. A general introduction to the study of social relations. Mr. Tascher. Mr. Turney-High.

**18.** Social Science Methods. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. An introduction to the methods used in the studies included in the Social Science Division. Mr. Turney-High and Staff.

**S99.** Introduction to Tourist Traffic Economics. 1 Q. Summer. 4 cr. Open to all students. Analysis of reasons for tourist traffic, together with its social, economic, and political consequences. Mr. Kast.

### For Undergraduates and Graduates

#### Economics

**101.** Money and Banking. 1 Q. Winter. Summer. 4 cr. Prerequisite, course 14abc. Theories of money and the movement and international distribution of gold; principles of monetary regulation, commercial banking institutions. Federal Reserve system, agricultural banks, and other financial institutions. Mr. Kast.

**102. Transportation.** 1 Q. Autumn. 4 cr. Prerequisite course 14abc. The principles of railway, ocean, and waterway, motor truck and bus, and air transportation; problems of operation and public regulation. Mr. Jordan.

**103. Public Utilities.** 1 Q. Winter. 4 cr. Prerequisite, course 14abc. Problems of electric, communication, gas, water, and city transportation industries; franchises, rate structures, problems and methods of control. Mr. Jordan.

**104. Taxation and Public Finance.** 1 Q. Spring. Summer. 4 cr. Prerequisite, course 14abc. The expenditures, revenues, credit, and taxation policies of political bodies. Mr. Jordan.

**110. Agricultural Economics.** 1 Q. Winter. 3 cr. Prerequisite, course 14abc. A systematic discussion of the economic problems which confront the citizens of an agricultural community and the means applied or advocated as solutions. Mr. Kast.

**112. Development of Economic Theory.** 1 Q. Autumn. 4 cr. Prerequisite, 20 credits in Economics, or course 14abc and consent of instructor. A history and analysis of economic theories, emphasizing the Classical, Historical, and Austrian schools. Mr. Kast.

**113. Labor Economics.** 1 Q. Spring. 3 cr. Prerequisite, course 14abc. Survey of the main forces which give rise to modern labor conditions; the philosophy, methods, and history of organized labor; labor legislation; social insurance. Mr. Kast.

### Sociology

**120. Population Problems.** 1 Q. Winter. 3 cr. Prerequisite, course 16. Given in 1937-38. Mr. Turney-High.

**121. Trends in American Social Life.** 1 Q. Winter. 5 cr. Not given in 1937-38. Mr. Turney-High.

**122. Criminology and Penology.** 1 Q. Winter. 4 cr. Prerequisite, course 16. A study of the causes, prevention, and correction of crime and delinquency. Not given in 1937-38. Mr. Turney-High.

**125. Development of Social Theory.** 1 Q. Spring. 4 cr. Prerequisite, ten credits in Economics and Sociology for majors; for others, senior standing. Social theories from earliest times until the present, and the forces which produced them. Mr. Turney-High.

**130. Principles of Social Case Work.** 1 Q. Autumn. 4 cr. Prerequisite, course 16, and Psychology 11. The principles of modern organized poor relief, with emphasis on the analysis of actual case histories dealing with the settlement of family problems. Mr. Tascher.

**134. Laboratory in Social Case Work.** 1 Q. Any quarter. 5 cr. Prerequisite, course 130 and consent of instructor. Course may be repeated for credit; not more than 10 credits may be applied towards graduation. A field course in social case work. Mr. Tascher.

**135. Problems of Child Welfare.** 1 Q. Winter. Summer. 4 cr. Prerequisite, course 16. A study of the social problems involving children. Mr. Tascher.

**136. Systems of Public Welfare.** 1 Q. Spring. 4 cr. Prerequisite, course 16. The history, methods, and policies of the social work activities of government. Mr. Tascher.

### Anthropology

**140. The Rise of Old World Civilization.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The development of our culture and civilization from the Neolithic Age to the dawn of history. Given in 1937-38. Mr. Turney-High.

**141. The Archaeology of North America.** 1 Q. Winter. 4 cr. Prerequisite, junior standing and course 15. The study of the origins of pre-Columbian North American races and cultures. Given in 1938-39. Mr. Turney-High.

**145. The Ethnography of the Americas.** 1 Q. Spring. 4 cr. Not given in 1937-38. Mr. Turney-High.

**146. The Ethnography of Africa.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 15. Comparative study of peoples and cultures of Africa. Given in 1937-38. Mr. Turney-High.

**147. The Ethnography of Oceania.** 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 15. The comparative study of peoples and cultures of Polynesia, Melanesia, and Micronesia. Not given in 1937-38. Mr. Turney-High.

**180. Archaeological Survey.** 1 Q. Any quarter. 1 to 4 cr. Prerequisite, course 141 or 145. A field course in Montana archaeology. Mr. Turney-High.

**190. Independent Work.** Any quarter. 2 cr. Prerequisite, senior standing and consent of instructor. The department makes provision for tutorial instruction of a limited number of qualified students. A reasonable amount of such independent, advanced study is expected of departmental major students, and is required of those who wish to graduate with honors. No regularly scheduled course may be done by independent work. Economics and Sociology Staff.

#### For Graduates

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

## History and Political Science

PROFESSORS ROBERT E. ALBRIGHT, J. EARLL MILLER, PAUL C. PHILLIPS (CHAIRMAN); ASSOCIATE PROFESSOR EDWARD E. BENNETT. MICHAEL MANSFIELD, INSTRUCTOR.

**Major Requirements:** 45 credits in History and Political Science; 15 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 Social Science 11abc. Major students must elect either History or Political Science as a special field of study. Constitutional Law offered in the Law School, and Economics 103, 104, and 125 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 teach history in high school should complete History 21bc and 12 credits in European history.

### History

#### For Undergraduates

**13abc. English History.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 13b. 4 cr. Prerequisite, sophomore standing. Students may enter any quarter. The political, economic, and social history of England and the British Empire. Mr. Bennett.

**15ab. History of Greece.** 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, junior standing. The cultural, social, and political development of ancient Greece from prehistoric times to the Roman conquest. Mr. Mansfield.

**16. History of Rome.** 1 Q. Spring. 3 cr. Prerequisite, junior 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. Mansfield.

**21abc. United States History.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 21b. 4 cr. Prerequisite, sophomore standing. Students may enter any quarter. (a) 1492-1789. Colonial beginnings and types of governments, with attention to social and economic conditions. Causes of the Revolution; the Confederation and formation of the national government. (b) 1789-1876. The development of nationality and democracy; the western movement; the slavery and nullification controversy; Civil War and reconstruction. (c) 1876-1938. The new West; agricultural and industrial development; influence of business and organized labor; movements for reform; the World War, the Golden Age, the depression, the New Deal and after. Mr. Albright. Mr. Bennett. Mr. Phillips.

**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. Mr. Phillips.

**23ab. Hispanic-American History.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. History 23a is recommended as preparatory to 23b. (a) A survey of Spanish and Portuguese explorations; institutional developments in Latin-America to the close of the 18th century. (b) The political and economic development of Hispanic-American nations in the 19th and 20th centuries. Mr. Mansfield.

**29. French Revolution and Napoleonic Era.** 1 Q. Autumn. 4 cr. Prerequisite, Social Science 11a or History 35, and junior standing. Economic, social, political and religious developments, and the international reaction to the Revolution. Mr. Bennett.

**30ab. Europe in the 19th Century.** 2 Q. Winter, spring. 3 cr. each quarter. Summer. 30a. 4 cr. Prerequisite, Social Science 11bc or History 29, and junior standing. The internal, economic, social, political and religious development of France, Germany, Austria, and Italy. (a) To 1870. (b) After 1870. Mr. Miller.

**33. Medieval Europe.** 1 Q. Autumn. 3 cr. Prerequisite, 10 credits in European history and sophomore standing. The political, social, economic, and institutional development of Europe from the barbarian invasions to 1300. Mr. Mansfield.

**34. Renaissance and Reformation.** 1 Q. Winter. 3 cr. Prerequisite, History 33. The political and social history of Europe from 1300 to 1600; emphasis on the history of ideas. Mr. Bennett.

**35. Background of the French Revolution.** 1 Q. Spring. 3 cr. Prerequisite, Social Science 11ab or History 34, and sophomore standing. The history of Europe from about 1600 to the outbreak of the French Revolution. Mr. Bennett.

**40. Teaching of History.** 1 Q. Spring. 3 cr. Prerequisite, 25 credits in history. The problems of history teaching; emphasis upon historical method; objectives in history teaching; the history curriculum; assignments and class room procedure; general and special methods. Mr. Bennett.

### For Undergraduates and Graduates

**102ab. History of the Northwest.** 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, History 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 Twentieth Century (1900-1919).** 1 Q. Summer. 4 cr. Prerequisite, History 30 or equivalent. International rivalries and relationships on the eve of the Great War; the War and its immediate results. Mr. Miller.

**104abc. Seminar in American History.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 25 credits in history, including 8 credits in United States history, and senior standing. Individual work adapted to the needs of the student. Mr. Phillips.

**105abc. Seminar in European History.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 25 credits in history and junior standing. Individual work adapted to the needs of the student. Mr. Bennett.

**110. History of the British Empire Since 1783.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and History 13bc. 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 dependent empire and the British Commonwealth of Nations; recent developments and the outlook for the future. Mr. Bennett.

**111. Medieval Civilization.** 1 Q. Summer. 4 cr. Prerequisite, 10 credits in European history and junior standing. Europe from the fall of the Roman Empire to the end of the Middle Ages. Not given in 1937-38. Mr. Miller.

**113. Representative Americans.** 1 Q. Spring. Summer. 4 cr. Prerequisite, History 21abc. Studies in American biography. Mr. Phillips.

**114. History of Russia.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 6 credits in European history. The earlier period of Russian history and the modern regime of the Czars, with special emphasis on the Soviet regime. Not given in 1937-38.

**117abc. History of the Far East.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, junior standing and 15 credits in history. The social, political, and economic aspects of the modernization of China, Japan, and the Philippine Islands, with some attention given to Asiatic Russia and its position in Far Eastern affairs. Mr. Mansfield.

### For Graduates

**200. Seminar in American History.** 1 Q. Summer. 2-4 cr. Open to graduates who have a major or minor in history or political science, including History 21abc. An intensive study of a special period in American history according to standards of historical criticism. Mr. Phillips.

**201. Seminar in European History.** 1 Q. Summer. 2-4 cr. Prerequisite, 30 credits in history. A study of special problems in European history. Mr. Bennett.

### Political Science For Undergraduates

**17. American Government and Politics.** 1 Q. Autumn. 4 cr. Prerequisite, 8 cr. in history. The organization and functions of federal government and the problems of the present time. Mr. Albright.

**18. State and Local Government.** 1 Q. Winter. 4 cr. Prerequisite, course 17 or 21b. A study of state, county, and municipal governments and their relation to the federal government. The vanishing functions of the states. State and federal control of local relief. Mr. Phillips.

**20. Comparative Governments.** 1 Q. Spring. 4 cr. Prerequisite, Social Science 11bc, or course 17. A study of representative types of government, constitutional beginnings, organization, methods of legislation and administration. Soviets, Fascists, and other programs of reform. Mr. Albright.

### For Undergraduates and Graduates

**106ab. International Public Law.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, junior standing. The law of nations in relation to peace, war, and neutrality. Not given in 1936-37. Mr. Miller.

**107ab. Diplomatic History of Europe.** 2 Q. Winter, spring. 3 cr. each quarter. Summer. 4 cr. Prerequisite, junior standing, and one college course in modern European history. Students may enter either quarter. International relations and world politics from the congress of Vienna to the World War. Not given in 1936-37. Mr. Miller.

**108. Present World Problems.** 1 Q. Spring. 3 cr. Summer. 4 cr. Prerequisite, History 103. The present European situation, reparations, disarmament, the decline of democracy, the world court, the League of Nations. Mr. Miller.

**109. American Political Problems.** 1 Q. Summer. 4 cr. Prerequisite, History 21abc. Present day political problems, such as governmental reorganization, depression cures, relation of government and business, and foreign problems. Mr. Phillips.

**112abc. Seminar in Political Science.** 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 18 credits in political science and senior standing. Mr. Miller.

### 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, pages 79 to 83.

### Pre-Education

Students who plan to enter the School of Education should complete the required curriculum of the Division of Social Sciences. For further information regarding the School of Education, see pages 83 to 87.

### Pre-Legal

Students who plan to enter the School of Law should complete the required curriculum in the Division of Social Sciences. For further information regarding the School of Law, see pages 96 to 98.

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## GRADUATE SCHOOL

### Admission

Candidates for admission to the Graduate School must hold a Bachelor's degree from Montana State University or from another institution of approved standing. In order to become a candidate for a Master's degree, the student must offer evidence of completion of satisfactory undergraduate work in the field he has selected for graduate study. 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.

### Courses

Graduate work is offered in the following departments or schools: Bacteriology, Botany, Business Administration, Chemistry, Economics and Sociology, Education, English, Fine Arts, Foreign Languages, Forestry, Geology, History and Political Science, Home Economics, Journalism, Mathematics, Pharmacy, Physical Education, Physics, Psychology and Philosophy, and Zoology.

Undergraduate courses of advanced character are accepted for graduate work. Such courses, however, must be of at least junior character and should have a prerequisite of not less than eight credits in the same field. Normally, courses numbered from 100 to 199 will meet this requirement. In such courses, however, the student must do extra work equal to fifty per cent of the regular assignments in order to receive full graduate credit. Such extra work must be of distinctly advanced character. In case students do not do the extra work required for graduate credit they may, with the approval of the Graduate Committee, count two-thirds of the course credit as graduate credit.

### Requirements for a Master's Degree

Candidates for a Master's degree must present thirty credits of graduate work and a thesis. Candidates must be registered for a full graduate course for three quarters. The residence requirements may be met by carrying a normal graduate course for three summer sessions of nine weeks each and preparing the thesis *in absentia*. In the case of students transferring graduate credits from other institutions, the residence requirements are three quarters or summer sessions and not less than twenty-two credits at Montana State University. Students of superior ability may earn the degree within a year if they give all their time to graduate study. Twenty credits must be in the major subject, and with the approval of the Graduate Committee, ten credits may be offered in a minor field. Candidates for the Master's degree are expected to earn a "B" average (an index of 2.00) on credits offered for the Master's degree.

Before receiving the Master's degree the candidate must present evidence of intensive study and investigation in some field of interest. In connection with this study he must prepare a thesis. The subject of this thesis must receive the approval of the major professor and the chairman of the Graduate Committee. Finally he must pass an examination over the whole field of his special study, and this examination 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 over the special field of study. The examination may be oral or written or both. Before the degree is conferred, two copies of the thesis must be deposited in the library. The thesis must be prepared in the form prescribed by the Graduate Committee.

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## PUBLIC SERVICE DIVISION

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

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

### **Bacteriology and Public Health**

General Hygiene.

### **Botany**

Problems in Systematic Botany.

### **Business Administration**

Industrial Geography, Elementary Accounting, Intermediate Accounting, Advanced Accounting, Auditing, Income Tax, Cost Accounting, Credits and Collections, Corporation Finance, Foreign Trade, Marketing, Salesmanship.

### **Classical Languages**

Elementary Latin, Intermediate Latin, Writing Latin (Elementary), College Freshman Latin, The Odes and Epodes of Horace, Second Year College Latin, the Annals of Tacitus, Life and Works of Vergil. More advanced work upon request.

### **Economics and Sociology**

Principles of Economics, Money and Banking, Public Finance, Introduction to Sociology, Problems of Child Welfare, Social Problems, Transportation, Principles of Social Case Work.

### **Education**

School Management, History of Education, Principles of Education, Educational Psychology, The High School, School Supervision, History of American Education, Educational Administration, Fundamentals of School Health.

### **English**

English Composition, Advanced Composition, American Literature, English Novelists, Masters of Fiction, Contemporary Literature.

### **Geology**

General Geology, Geology and Natural Resources of Montana.

### **History and Political Science**

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

### **Home Economics**

Elementary Dietetics, House Planning and Furnishing, Textiles.

### **Mathematics**

Elementary Algebra, Plane Geometry, Intermediate Algebra, Solid Geometry, Survey of College Mathematics, College Algebra, Plane Trigonometry, Mathematics of Investments, Analytic Geometry, Differential Calculus, Integral Calculus, Seminar.

### Modern Languages

Elementary French, Intermediate French, Advanced French, General Survey of French Literature, Advanced French Grammar and Composition, The Seventeenth Century French Literature, The Eighteenth Century French Literature, French Poetry, The Nineteenth Century French Literature, Elementary German, Intermediate German, Advanced German, Advanced German Grammar and Composition, Elementary Spanish, Intermediate Spanish, Advanced Spanish, Advanced Spanish Composition, General Survey of Spanish Literature, Spanish Drama of the Golden Age, Spanish Novel and Drama of the Nineteenth Century, Contemporary Spanish Drama, Commercial Spanish, Spanish-American Literature, Contemporary Spanish Novel.

### Music

History of Music, Elementary Harmony, Advanced Harmony, Counterpoint.

### Psychology

General Psychology, Social Psychology, Abnormal Psychology, Mental Measurements, Ethics, Child Psychology, Psychology of Business, Psychology of Personality, Applied Psychology, Psychology of Handicapped Children, Logic.

### Religion

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

### Zoology

Economic Zoology, Entomology, Eugenics.

### Correspondence Study Fees

The fees for correspondence courses are payable in advance.

For each quarter credit.....\$2.50

To cover cost of postage on returned assignments, per course .....\$1.00

For transferring from one course to another.....\$2.00

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.

In case books are borrowed from the University Library a deposit of \$4.00 should be sent to the Correspondence Study Department. When the student no longer desires books, \$3.00 of the deposit is returned, less postage and fines for delay in returning books. The other \$1.00 is retained as a rental charge.

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## Public Lectures

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

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.

## Board of Recommendations

The University endeavors to assist school authorities in need of trained teachers, principals and superintendents; and, in like manner, to assist teachers, principals and superintendents in finding positions which they, by training, ability and experience, are fitted to fill successfully. This work is carried on by the Board of Recommendations of which Professor Garvin D. Shallenberger is chairman. Confidential information is collected showing the preparation, character, ability and success of persons interested in school positions, and this information is furnished school authorities upon application. A registration fee of \$5.00 is charged teachers 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.

Students who pay the fee of \$5.00 for the Certificate of Qualification to Teach after July 13, 1936, will not be required to pay the \$5.00 fee for the services of the Board of Recommendations.

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## SCHOOL OF BUSINESS ADMINISTRATION

PROFESSORS ROBERT C. LINE (DEAN), DAVID R. MASON, EMMETT R. SANFORD; ASSISTANT PROFESSORS HARRY J. JORDAN, EDWIN R. BRIGGS. BRENDA F. WILSON, INSTRUCTOR.

The School of Business Administration offers preparation for secretarial work and for clerical positions and, in its advanced courses, prepares for administrative positions in industry, commerce, and public service. It also has an intensive training course in Retailing and Wholesaling.

### Requirements for Admission

The course in business requires a solid foundation in non-technical subjects. In addition to the University requirements for admission (pages 16 to 19), a student must have completed two years of approved college work.

For regulations regarding admission of special students see page 18.

### Requirements for Graduation

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

- (1) The general University requirements for graduation (see pages 19 to 23), except in foreign languages.
- (2) A minimum of 53 credits in Business Administration. The following courses, described under the Department of Economics, are accepted as Business Administration subjects: Economics 101, 102, 103, 104.
- (3) The following courses must be completed: Economics 14abc, Psychology 11, Business Administration 12ab, 41, 133 and 151.
- (4) The following courses should be completed: Mathematics 19 and 25.

In addition to the above requirements, each student should be able to typewrite at a minimum rate of 40 words a minute and should be able to take dictation at a reasonable rate of speed.

The School of Business Administration may refuse to recommend a student for a degree until he has shown a satisfactory knowledge of arithmetic, use of English, and use of certain business machines.

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

### Cooperating Schools

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 Bachelor of Laws. This is a very desirable combination for those expecting to enter the legal profession.

The School of Business Administration cooperates with the School of Education in order that those who expect to teach commercial subjects in secondary schools may obtain a University Certificate of Qualification to Teach and a special commercial teaching certificate. In order to qualify for this certificate, students should take Psychology 11 in the sophomore year; Education 18 and 19 in the junior year; and Education 22, 26, 32 and 66 in the senior year. They are also required to take Business Administration 22c or its equivalent and meet a typing requirement of 50 words per minute in a 15 minute test with no more than 5 errors.

### C. P. A. Examinations

The laws of the State of Montana provide for the certification of public accountants. The University grants the C. P. A. certificate to legally qualified persons who have successfully passed a written examination in "Theory of Accounts," "Practical Accounting," "Auditing," and "Commercial Law." Graduates of the School of Business Administration who have taken the courses suggested in the accounting group will have had the fundamental education required for these examinations. Further intensive study is suggested. One year's residence in Montana is prerequisite for admission to the examination for a certificate.

### Suggested Curricula for Majors in Business Administration

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Physical Science 17abc or Biological Science 13abc .....	5	5	5
Humanities 15abc.....	5	5	5
Mathematics 10, 19, 25.....	5	5	5
Physical Education 11abc or Bacteriology 26.....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	<u>17</u>	<u>17-18</u>	<u>17-18</u>
Sophomore Year			
Business Administration 11 and 12ab.....	5	5	5
Business Administration 21 .....	0	0	0
Economics 14abc .....	4	4	4
Psychology 11 and 32.....	5	.....	5
English 11ab.....	.....	3	3
Elective .....	3	4	.....
Physical Education 12abc.....	1	1	1
Military Science 12abc (Men).....	1	1	1
	<u>19</u>	<u>18</u>	<u>19</u>

## ACCOUNTING

		Junior Year		
		Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Business Administration 41ab.....	.....	.....	3	3
Business Administration 133 and 132.....	.....	5	.....	2
Business Administration 154 or Economics 103....	.....	.....	3-4	.....
Business Administration 113abc .....	.....	4	4	4
Business Administration 124.....	.....	.....	.....	3
Economics 101 .....	.....	.....	4	.....
Elective .....	.....	7	.....	4
		16	14-15	16
		Senior Year		
Business Administration 151 and 129.....	.....	3	2	.....
Business Administration 114, 145 and 115.....	.....	4	4	4
Economics 102 and 104.....	.....	4	.....	4
Elective .....	.....	5	9	7
		16	15	15

## GENERAL BUSINESS AND COMMERCIAL TEACHING

		Junior Year		
		Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
*Business Administration 22abc.....	.....	5	5	5
Business Administration 41ab.....	.....	.....	3	3
Business Administration 133 and 132.....	.....	5	.....	2
Business Administration 154 or Economics 103....	.....	.....	3-4	.....
Business Administration 124.....	.....	.....	.....	3
Economics 101 and 104 .....	.....	.....	4	4
Elective .....	.....	7	.....	.....
		17	15-16	17
		Senior Year		
Business Administration 151, 150 and 156.....	.....	3	3	3
*Business Administration 23ab or Elective.....	.....	5	5	5
Business Administration 131 and 129.....	.....	2	2	.....
Economics 102 and 103.....	.....	4	4	.....
Business Administration 154.....	.....	.....	3	.....
Elective .....	.....	3	.....	8
		17	17	16

## For Undergraduates

**51. Industrial Geography.** 1 Q. Summer. 4 cr. Open to all students but may be applied toward graduation by freshmen and sophomores only. The distribution, development and utilization of raw materials in industry and trade; the influence of economic resources upon business life. Mr. Sanford.

**11. Elementary Accounting.** 1 Q. Autumn. 5 cr. Summer. 4 cr. Prerequisite, sophomore standing. A student may be exempted from this course upon passing a placement examination admitting him to 12a. Students will be given a test in simple arithmetic at the first class meeting. Those failing to pass such a test satisfactorily must complete Mathematics A, Business Arithmetic. Fundamental principles of accounting as applied to the single proprietorship. Mr. Sanford.

**12ab. Intermediate Accounting.** 2 Q. Winter, spring. 5 cr. each quarter. Summer. 12b. 4 cr. Prerequisite, Business Administration 11 or placement examination, and sophomore standing. (a) Methods of modern accounting practice, with classification of accounts for a partnership. (b) The corporate type of accounting records, controlling accounts, consignments, joint ventures and related topics. Mr. Sanford.

**21. Typewriting.** 3 Q. Autumn, winter, spring. Summer. No credit. Three times per week. Beginning: Keyboard drills and copy work. Advanced: Letter forms, tabulation, legal forms, speed work. Fee, \$5.00 per quarter. No additional fee if taken with Business Administration 22 or 23ab. Mrs. Wilson.

\*No more than 15 credits earned in Business Administration 22 and 23ab may be applied toward graduation. Required only of students preparing for Commercial Teaching.

**\*22. Stenography.** 3 Q. Autumn, winter, spring. Continuous. 15 cr. Summer, 4 cr., toward the degree of Bachelor of Arts in Business Administration only. However, credit in Stenography may be included in the 25 credits required for a teaching minor in Business Administration. Combined shorthand and transcription practice; principles and dictation, reading, speed work, and teaching methods. Fee, \$17.50 per quarter. Mrs. Wilson.

**\*23ab. Advanced Stenography.** 2 Q. Autumn, winter. 5 cr. each quarter toward a major or teaching minor in Business Administration only. Prerequisite, (a) dictation speed of 80 words a minute in a five minute test; (b) dictation speed of 100 words a minute in a five minute test. Combined transcription and shorthand practice. Fee \$17.50 per quarter. Mrs. Wilson.

**25. Office Machines Practice.** 1 Q. Any quarter. 2 cr. Prerequisite, two quarters of shorthand and 40 words per minute typing speed. No additional fee for students who are registered for stenography or typing; for others the fee is \$5.00. Mrs. Wilson.

**32. The Teaching of Commercial Subjects in Secondary Schools.** 1 Q. Spring. 3 cr. Summer. 2½ cr. Prerequisite, Business Administration 22b. The purpose, methods, and trends in teaching commercial work in high schools. Mrs. Wilson. Mr. Sanford.

**41. Business Law.** 2 Q. Winter, spring. Continuous. 6 cr. Prerequisite, junior standing. (a) Introduction; Contracts; Sales. (b) Agency, Negotiable Instruments; Partnerships; Corporations. Mr. Briggs. Mr. Mason.

**50. Retail Stores.** 1 Q. Winter. 3 cr. Prerequisite, Economics 14a or Pharmacy 27. Types of retail stores, location, buying, pricing, merchandise display, store selling, types of display advertising and store costs. Mr. Line.

**52. Salesmanship.** 1 Q. Autumn. 3 cr. Mr. Line.

### For Undergraduates and Graduates

**113abc. Advanced Accounting.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 4 cr. Prerequisite, Business Administration 12ab. (a) Corporation accounting; theory of balance sheets; valuation of assets on the balance sheet; depreciation; profits; reserves; dividends; surplus. (b) Sinking and other funds; income summaries; analysis of balance sheets; liquidations; consolidations; mergers and branch house accounting. (c) Consolidated statements, bankruptcy, reorganizations, and estates. Mr. Sanford.

**114. Cost Accounting.** 1 Q. Autumn. 4 cr. Prerequisite, Business Administration 113abc. 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. Mr. Sanford.

**115. Auditing.** 1 Q. Spring. 4 cr. Prerequisite, Business Administration 113abc. 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. Sanford.

**124. Insurance.** 1 Q. Spring. 3 cr. Prerequisite, Economics 14abc. Methods of meeting risk; fundamental principles of life, fire, marine, and other insurance. Mr. Line.

**129. Principles of Organization and Management.** 1 Q. Winter. 2 cr. Prerequisite, junior standing. Principles of organization and management as applied to the office.

**131. Real Estate.** 1 Q. Autumn. 2 cr. Prerequisite, Economics 14abc. Mr. Line.

**132. Credits and Collections.** 1 Q. Spring. 2 cr. Prerequisite, Economics 14abc. 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. 5 cr. Summer. 4 cr. Prerequisite, Economics 14abc. 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. Jordan.

**145. Income Tax.** 1 Q. Winter. 4 cr. Prerequisite, Business Administration 113abc and 41. The accounting requirements of the law, the

\*No more than 15 credits earned in Business Administration 22 and 23ab may be applied toward graduation.

regulations and a digest of the law, with practical problems in the preparation of returns for individuals, partnerships and corporations. Mr. Sanford.

**150. Business Ethics.** 1 Q. Winter. 3 cr. Prerequisite, senior standing. Mr. Line.

**151. Marketing.** 1 Q. Autumn. 3 cr. Prerequisite, Economics 14abc. 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. Spring. 3 cr. Prerequisite, Economics 14abc and 101, or consent of instructor. Theories, principles and methods of international trade. Economic resources and products of the principal countries, their chief exports and imports. Mr. Jordan.

**154. Investments.** 1 Q. Winter. 3 cr. Prerequisite, Business Administration 133. Investment principles and plans; kinds of securities; tests of investment values; outline of financial analysis of industrial, public utility, railroad, financial, real estate, governmental and foreign securities; the mechanics of investment. Mr. Jordan.

**156. Business Cycles.** 1 Q. Spring. 3 cr. Prerequisite, Economics 101. Business cycles with special reference to their history, causes, duration and effects; business forecasting is considered. Mr. Line.

**160. Retail Store Management.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, Business Administration 151 or consent of instructor. A special training course in the principles and practice of the management of retail stores. Fee, \$15.00 per quarter. Mr. Line.

**191. Business Administration Seminar.** 3 Q. Autumn, winter, spring. 1 to 3 cr. each quarter. Prerequisite, senior standing. An intensive study of specific problems in Business Administration. Mr. Line.

**192. Retail Store Seminar.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, consent of instructor. A study of retail problems, particularly those arising from the student's practical store experience. Fee, \$15.00 per quarter. Mr. Line.

## SCHOOL OF EDUCATION

PROFESSORS WALTER R. AMES, FREEMAN DAUGHTERS (DEAN), WILLIAM E. MADDOCK.

The School of Education has the following objectives: (1) To train superintendents, principals and supervisors for the public schools of Montana; (2) to train teachers for the junior and senior high schools, and teachers of special subjects such as music, art, physical education and home economics; (3) to provide assistance to the schools of the state in the form of testing programs, extension work and expert counsel; (4) to encourage investigation and research in the schools of the state; and (5) to unify and coordinate the agencies of the University which contribute to the preparation of those who expect to enter school work.

### Requirements for Admission

In addition to the regular University requirements for admission (pages 16 to 19), a student must complete two years of college work. Pre-Education students should follow the required curriculum in the Division of Social Sciences except that the taking of a foreign language is elective for students majoring in Education. (See page 42.) A minimum of four credits in general psychology is prerequisite to all courses in Education, except 14 and 66, and should be taken in the sophomore year.

### 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 19 to 23), except in foreign languages.



- (2) A minimum of 40 credits in Education, including Education 18, 19, 22, 26, 130, 134, 150ab, 152, 154, 156 and 158 or 162 or equivalents.
- (3) Three minors must be completed in subjects usually taught in high schools if the certificate is desired.

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

Candidates for the degree of Master of Arts must comply with the regulations governing graduate work set forth on page 75. In addition to these regular requirements, the candidate must take a general written examination on the field of Education early in the period of his candidacy. This is designed to separate his general examination on the field from his special examination on his thesis which comes shortly before the granting of the degree. For further information candidates should write or consult the Dean of the School of Education.

### The University Certificate of Qualification to Teach

Montana State University issues to its graduates a certificate of qualification to teach which is a license to teach in grades 6 to 12, inclusive, of the public schools of the state. Its jurisdiction may be extended downward to include the lower grades by meeting the conditions prescribed in the state law.

This certificate meets the North Central Association requirement of 22½ quarter credits of preparation in Education. Many states require from 25 to 36 quarter credits in Education as a prerequisite to high school certification. To hold an administrative position in Montana the candidate must have approximately a major in Education.

A candidate for the University Certificate of Qualification to Teach is required:

- (1) To offer either a Bachelor's or Master's degree from Montana State University.
- (2) To submit either major or minor preparation in three fields usually taught in Montana high schools. Subjects such as Education, Journalism, Law, German, and Psychology are, therefore, not accepted as meeting this requirement. A candidate may not be held by a department or school for more than 25 credits for a minor. His work must be of such quality as to secure from the minor department a recommendation as to his ability in the subject. He must also be recommended as to character and scholarship by his major department.
- (3) To offer 23 credits in Education in addition to four credits in General Psychology. The credits in Education shall include Education 18, 19, 22, 26, and two electives. For one of these electives the candidate may offer, if he desires, a methods course to the extent of three credits in one of his fields of preparation. The methods courses from which these credits may be offered are Mathematics 31, Business Administration 32, Home Economics 33, Physical Education 35a, History 40, English 105, and Music 124.
- (4) To demonstrate his ability to teach successfully.
- (5) To be a citizen of the United States at the time of receiving the certificate.

In addition to the above requirements the candidate for the certificate must be in good health, free from such defects as would prevent

successful teaching; his character must be above doubt; he must show reasonable intelligence in any standards or tests that the University may prescribe; his scholarship must be satisfactory; and he must possess such favorable attitudes, interests and ideals as to justify certification. The University reserves the right to withhold the certificate for failure to meet adequately any of these standards.

*Candidates for the certificate should confer with the Dean of the School of Education not later than the beginning of the sophomore year.*

### 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, may specialize in the subjects to be taught.

The special methods courses are taught by specialists in the respective fields and are designed for candidates planning to teach special subjects. The courses are numbered 31, 32, 33, 35a, 40, 41, 105, 124, respectively.

A text-book fee of \$1 is charged for each course taken in the School of Education, except in seminar courses, in which case the fee is \$1.50 per course. The object of this fee is to make it unnecessary for students to purchase texts for particular courses.

### For Undergraduates

**S12. School Law.** 1 Q. Summer. 1½ cr. Prerequisite, sophomore standing or teaching experience. A study of the Montana School Law.

**14. History of Education.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing or teaching experience.

**\*18. Principles of Education.** 1 Q. Autumn. Spring. 3 cr. Summer. 4 cr. Prerequisite, Education 19, unless 18 and 19 are taken simultaneously in the junior or senior year. Mr. Ames.

**\*19. Educational Psychology.** 1 Q. Autumn. Spring. Summer. 4 cr. Prerequisite, sophomore standing and Psychology 11. Mr. Ames.

**S20. School Management.** 1 Q. Summer. 2½ cr. Prerequisite, sophomore standing, or teaching experience. A study of the managerial problems of the average teacher.

**S21. Montana Courses of Study.** 1 Q. Summer. 4 cr. Prerequisite, sophomore standing or teaching experience. Montana courses of study, elementary and secondary.

**\*22. The High School.** 1 Q. Autumn. Winter. Summer. 4 cr. Prerequisite, senior standing and 7 credits in Education. The history, organization, management and problems of the high school. Mr. Daughters.

**\*26. Observation and Teaching.** 1 Q. Autumn. Winter. Spring. 5 cr. Education 22 is prerequisite or must be taken simultaneously. Not more than 40 students will be registered in the spring quarter. Reservations for a place in this course in the spring quarter must be made prior to the winter quarter in any year. If there are more than can be accommodated in any one quarter, those without reservations will not be permitted to take the work. 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. Daughters. Mr. Maddock.

**31. Teaching of Secondary Mathematics.** See Mathematics 31.

**32. Teaching of Commercial Subjects in Secondary Schools.** See Business Administration 32.

**33. Methods of Teaching Home Economics.** See Home Economics 33.

**35a. Systems and Methods.** See Physical Education 35a.

**S36. Speech Defects as a School Problem.** 1 Q. Summer. 4 cr. Prerequisite, Education 18 and 19. Diagnostic ground work, case study, and remedial exercises. Emphasis placed on the relationship to oral reading.

\*Courses required for University certificate.

40. Teaching of History. See History 40.

S42. Character Education. 1 Q. Summer. 4 cr. Open to all students. Physical, intellectual and social adjustments. The functions of the home and the school.

66. History of American Education. 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing. Mr. Maddock.

### For Undergraduates and Graduates

105. The Teaching of English. See English 105.

124. Junior High School Music. See Music 124.

130. Fundamentals of School Health. 1 Q. Spring. Summer. 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. Mr. Daughters.

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

S135. High School Supervision. 1 Q. Summer. 2½ cr. Prerequisite, teaching experience and Education 22, or equivalent. The problems involved and the means, methods, and plans of improving instruction in the high school.

S136. Education of Atypical Children. 1 Q. Summer. 4 cr. Prerequisite, junior standing and 10 credits in education. Provisions made for atypical children; civic and sociological implications of such work.

S138. Diagnostic and Remedial Instruction. 1 Q. Summer. 4 cr. Prerequisite, junior standing and teaching experience.

S139. Progressive Education. 1 Q. Summer. 4 cr. Prerequisite, junior standing and 12 credits in education. The progressive education movement, its philosophy, practices, methods, and typical progressive schools.

S140. Educational and Vocational Guidance. 1 Q. 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.

S141. General Methods of Teaching in High School. 1 Q. Summer. 4 cr. Prerequisite, senior standing, 15 cr. in Education, or teaching experience. The general procedures used in junior and senior high schools. Mr. Daughters.

150ab. Educational Administration. 2 Q. Winter, spring. 3 cr. each quarter. Summer. 4 cr. Prerequisite, 7 credits in Education. Students may enter either quarter. (a) City school organization and administration. (b) Federal, state, county and rural school organization and administration. Mr. Maddock.

152. Educational Measurements. 1 Q. Winter. Summer. 4 cr. Prerequisite, Education 19. Statistical methods. Development and use of scales, and measurement of educational products. Mr. Ames.

154. Seminar in Education. 1 Q. Autumn. Spring. Summer. Credit variable. Prerequisite, senior standing and 18 credits in Education, or extensive teaching experience and consent of instructor. Original investigations. Mr. Daughters.

156. School Finance. 1 Q. Winter. Spring. Summer. 4 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. Mr. Maddock.

158. Educational Sociology. 1 Q. Winter. Summer. 4 cr. Prerequisite, junior standing and 6 credits in Education. The social aspects of education, the relation of the school to society, institutional adjustment and change, and the social objectives of the curriculum. Mr. Daughters.

162. Problems in Elementary Education. 1 Q. Autumn. Summer. 4 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. Maddock.

170. Seminar in Secondary Education. 1 Q. Spring. 3 to 5 cr. Summer. 4 cr. Prerequisite, 20 credits in Education, including Education 22 or equivalent. Special investigations, reports, critical discussions, surveys, readings, and term paper or report. Mr. Daughters.

### For Graduates

**266. Seminar in History of American Education.** 1 Q. Winter. Summer. 1 to 5 cr. Prerequisite, 12 credits in Education, including Education 66 or equivalent. Special fields in American educational history; special problems and research. Mr. Maddock.

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

**285. Educational Research and Thesis Writing.** 1 Q. Winter. Summer. 3 cr. Prerequisite, graduate standing in the School of Education. Research problems: Their statement, organization, techniques, tabulation of materials and summary. A study of many type theses. Mr. Daughters. Mr. Ames.

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## SCHOOL OF FORESTRY

PROFESSORS FAY G. CLARK, J. H. RAMSKILL, THOMAS C. SPAULDING (DEAN); ASSISTANT PROFESSORS MELVIN S. MORRIS, THOMAS G. SWEARINGEN. CHARLES W. BLOOM, INSTRUCTOR, CLARENCE V. MUHLICK, INSTRUCTOR AND NURSERYMAN.

The School of Forestry provides instruction along two distinct lines: (1) Undergraduate courses allowing specialization in General Forestry, Forest Engineering, Range Management or Wild Life Management; (2) A graduate course with opportunities for research in Silviculture, Management, Forest Engineering, Range Management or allied subjects.

**Undergraduate Course.** The undergraduate curricula have been arranged to provide a broad training in the profession of Forestry, with particular reference to the various lines of scientific and administrative work in federal and state forest services, and the problems of management in the lumber industry. Special emphasis is laid on the forestry of the West. That the student may grasp both the practice and theory of forestry, technical instruction should be supplemented by at least two summers' field practice or its equivalent and one summers' training in Forestry methods and technique.

### Forestry Wild Life Specialization

An opportunity is offered students in the School of Forestry to obtain a minor in Wild Life Management. This combined course is offered in cooperation with the Department of Zoology of the State University. See pages 43 and 51.

**Graduate Course.** The School of Forestry offers opportunity for graduate and research work, to a limited number of students, leading to the degree of Master of Science in Forestry in the fields of Silviculture, Forest Management, Wood Technology, Forest Products, Lumbering and Logging, and Range Management, in the forest stands of the Northern Rocky Mountains.

### Requirements for Admission

The regular University requirements for admission apply to the School of Forestry (see pages 16 to 19). Since it is desired to limit the undergraduate registration, applications, with transcripts of high school or previous college work, must be filed in advance.

Placement examinations in Mathematics may be required at the time of entrance.

### Requirements for Graduation

**Note:** Students failing to maintain a scholarship index of one (average grade of "C") may not be permitted to continue in the School of Forestry.

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

- (1) The general University requirements for graduation (see pages 19 to 23).
- (2) A minimum of 186 credits of work, not including credits obtained in Military Science, Physical Education and approved summer field work.
- (3) A Forestry curriculum which is satisfactory to the staff of the School.
- (4) Two summers of regularly approved field work. Should a student fail to offer this field work, he may be allowed to substitute credits earned in residence in the ratio of 3 credits for each summers' work.
- (5) Candidates for the degree of Bachelor of Science in Forestry may be required to complete satisfactorily one summer quarter's instruction in the field technique and methods of forest management, administration, and research. This field instruction and practice will normally be required the summer immediately preceding the academic year in which the candidate receives his degree.
- (6) The increasing complexity of the forest problem requires a broader basic preparation on the part of the student. Students entering the School of Forestry on or after the Autumn quarter, 1937, will be afforded an opportunity to elect a five year curriculum in forestry that they may be more adequately equipped to meet the future demands of the profession and its fields of specialization. The content of the five year curriculum will be announced later.

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

Candidates for either the degree of Master of Sciences in Forestry, or Master of Science with a combined major in Botany and Forestry, must comply with the regulations governing graduate work set forth on page 75.

### Summer Camp

Beginning with the summer quarter, 1939, a field camp devoted to instruction in the field technique and methods of forest management, administration, and research may be offered to undergraduates in the Montana School of Forestry.

A period of 10 weeks will be devoted to the analysis of forestry problems of the northern Rocky Mountain regions during which trips to study adjoining forest regions and forest ranges will be made.

This summer instruction will immediately precede the student's last year of professional instruction. His knowledge of western forest and range conditions will thus be augmented by his own personal investigations, as these are guided by the staff of the School of Forestry and cooperating Federal, State, and private forestry officials.

### Summer Work

One of the features of the Montana School of Forestry is the opportunity students have had for summer work. Each student is expected to spend at least two summers, of not less than three months

each, in gaining field experience in some type of forestry work. The United States Forest Service, the United States Indian Service, State Forestry Services, and lumber companies and the lumber industry have all assisted, in the past, in making temporary positions available as summer work for the student.

Heretofore, students have had such opportunities to earn while gaining field experience. Positions for summer work cannot, however, be guaranteed, and the securing of such positions, as well as promotions through succeeding vacations and positions after graduation are dependent on the student's character and physical ability, and the availability of positions.

### Field Work

As much of the technical instruction as possible is carried on in the field. The school forest with its 2,000 acres of fir, larch, and yellow pine, varying in size from reproduction to over-maturity, national and private timber holdings, logging operations and sawmills offer excellent laboratories in the practice of the various phases of Forestry and Range Management.

*Field trips of from one to several weeks duration are required. Students should be prepared to bear the personal expenses of such trips. These do not normally exceed \$75 per academic year.*

### General Information

The School of Forestry possesses a marked advantage in location and equipment. Every forest type of the inland Northwest is found within a few miles of the campus. Two transcontinental and three branch railroads, as well as interurban bus lines, place the School within easy reach of extensive logging, lumbering and lumber manufacturing operations. Mills, with a normal annual cut of 120,000,000 feet B. M., are located within thirty minutes of the campus. These mills and plants are available for the use of the School for laboratory purposes.

The School of Forestry maintains its own forest nursery with a potential capacity of 1,000,000 trees a year. In addition, a valuable school forest of some 2,000 acres of timber and range land is immediately adjacent to the campus.

The headquarters of the Northern Region of the United States Forest Service, the Northern Rocky Mountain Forest and Range Experiment Station, the Lolo National Forest, and the State Forester are located in Missoula. The boundaries of the Lolo National Forest and the Blackfoot Forest Protective Association surround the School. These include more than 3,000,000 acres of government and privately owned timber lands under forest management. Within 100 miles of the campus are ten national forests, two other government timber reserves, several state forests, a national park, and two forest protective associations.

The Forestry Club has established a loan fund for the benefit of upperclass students of forestry. The fund now contains approximately \$3300, available to juniors and seniors who have been active members of the club for at least one year.

### Required Curricula for Majors in Forestry

	Freshman Year		
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Botany 12ab .....	5	....	5
*Mathematics 35ab .....	4	4	....
Chemistry 11abc .....	5	5	5
Forestry 11ab and 15 .....	1	4	2
Forestry 42 (1 quarter) .....	2	2	2
Physical Education 11abc or Bacteriology 26.....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	17-19	15-18	14-17

Sophomore Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Botany 22, 31, and 51.....	5	5	5
English 11ab .....	---	3	3
Economics 14a .....	4	---	---
Forestry 33 and 44ab.....	5	2	2
Forestry 41abc .....	3	3	3
Forestry 14 .....	---	3	---
Mathematics 35c .....	---	---	4
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men).....	1	1	1
	<u>19</u>	<u>18</u>	<u>19</u>

## GENERAL FORESTRY AND FOREST ENGINEERING

Junior Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Forestry 21 and 23ab .....	5	5	5
Forestry 24 and 28 .....	3	3	5
Forestry 25ab .....	5	5	---
Forestry 31 and 32 .....	3	---	4
Forestry 34 .....	---	---	3
Forestry 46 .....	---	4	---
	<u>16</u>	<u>17</u>	<u>17</u>
Senior Year			
Forestry 12 and 37 .....	3	5	---
Forestry 13ab .....	3	3	---
Forestry 26abc .....	5	5	2
Forestry 36ab .....	4	---	4
Forestry 45 and 27 .....	---	3	5
	<u>15</u>	<u>16</u>	<u>11</u>

## GENERAL FORESTRY AND RANGE MANAGEMENT

Junior Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Forestry 21 and 23ab .....	5	5	5
Forestry 24ab and 28 .....	3	3	5
Forestry 25ab .....	5	5	---
Forestry 39ab .....	4	---	4
Botany 161ab .....	---	5	5
	<u>17</u>	<u>18</u>	<u>19</u>
Senior Year			
Forestry 12 .....	3	---	---
Forestry 13ab .....	3	3	---
Forestry 31 and 32 .....	3	---	3-4
Forestry 26abc .....	5	5	2
Forestry 40abc .....	4	4	2
Forestry 45 and 27 .....	---	3	5
	<u>18</u>	<u>15</u>	<u>12-13</u>

## For Undergraduates

**11ab. Survey of Forestry.** 2 Q. Autumn, 1 cr.; spring, 2 cr. The field of forestry as a profession; functions and characteristics of forests, their benefits, use, distribution, and importance. Mr. Spaulding.

**12. Economics of Forestry.** 1 Q. Autumn. 3 cr. Prerequisite, Economics 14a or equivalent. Economic history of the forest industries. Mr. Clark.

**13ab. Forest Policy.** 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, Forestry 13a for 13b. Forest Law and forest policy of the United States and other nations; public relations. Mr. Spaulding. Mr. Stone.

\*Students who present 1½ entrance units in Algebra may not receive college credit for 35a; those who present entrance credit in Trigonometry may not receive college credit for 35b.

- 14. Fire Protection.** 1 Q. Winter. 3 cr. Fire prevention, detection, and suppression. Mr. Spaulding.
- 15. Conservation.** 1 Q. Winter. 4 cr. The conservation of natural resources. Mr. Spaulding and staff.
- 21. Silvics.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 51 and consent of instructor. The foundations of silviculture from 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. Mr. Morris.
- 23ab. Silviculture.** 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, Forestry 21. Principles underlying the regeneration, care, and protection of forest stands. The silvicultural systems of harvesting and re-producing the final crop and the intermediate treatments such as weeding, thinning, and improvement cuttings. Application of silvicultural methods in the various forest regions in America. Artificial reproduction of the forest, including sowing, planting, and nursery practice.
- 24. Forest Mensuration.** 2 Q. Autumn, winter. Continuous. 6 cr. Prerequisite, Surveying 41abc or equivalent; Mathematics 35bc, or equivalent; Forestry 23ab (may be taken concurrently). The elements of forest mensuration. Mr. Clark.
- 25ab. Dendrology.** 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Botany 22 or consent of instructor. Study of the microstructural and systematic relationships of the principal forest trees of the United States and Canada. Mr. Ramskill. Mr. Muhlick.
- 26. Forest Management.** 3 Q. Autumn, 5 cr.; winter, 5 cr.; spring, 2 cr. Continuous 12 cr. Prerequisite, Forestry 24 and 28; Forestry 12 (may be taken concurrently), or equivalent. Preparation of a complete timber management plan from data secured in Forestry 28. A field trip of from one to ten days may be required during any quarter. Mr. Clark.
- 27. Forest Recreation.** 1 Q. Spring 5 cr. Prerequisite, Forestry 26. Economic and social aspects of recreation on forest lands; principle of landscape design for summer home development and public camp grounds. Field trips from one to ten days may be required. Mr. Clark.
- 28. Valuation Surveys.** 1 Q. Spring. 5 cr. Prerequisite, Forestry 24. Study of yields. Field technique in securing data for a forest management plan. Trips from one to three days duration may be required. Mr. Clark.
- 31. Wood Technology.** 1 Q. Autumn. 3 cr. Prerequisite, Botany 22. The physical, chemical, and mechanical properties of wood. Mr. Ramskill.
- 32. Forest Products.** 1 Q. Spring. 3-4 credits. Prerequisite, Forestry 31. Character, extent, and value of the products from the forests of the world, particularly those of the United States. Mr. Ramskill.
- 33. Logging.** 1 Q. Autumn. 5 cr. Prerequisite, sophomore standing. Methods and equipment used in logging in the forest regions of the United States, with special reference to the Rocky Mountain and Inland Empire terrain; comparative European methods. Field trips when practical. Mr. Bloom.
- 34. Lumbering.** 1 Q. Spring. 3 cr. Prerequisite, Forestry 24 and 33. The lumbering industry of the United States, with special reference to the western states; sawmill and equipment in use; mill scale studies and practice in grading in nearby mills. Mr. Ramskill.
- 36ab. Logging Engineering.** 2 Q. Autumn, spring. 4 cr. each quarter. Prerequisite, Forestry 24 and 33. Application of engineering principles to logging operations; timber appraisals. Visits to nearby logging operations. Mr. Bloom.
- 37. Timber Mechanics.** 1 Q. Winter. 5 cr. Factors governing the strength and utility of wood; the determination of stresses in wooden structures. Mr. Ramskill.
- 38. Wild Life Management.** 1 Q. Winter. 3 cr. The management of forest wild life—game, fish, and predatory—with particular reference to their utilization, and destruction of forest resources. Mr. Morris.
- 39ab. Range Management.** 2 Q. Autumn, spring. 4 credits each quarter. Prerequisites, Botany 51, and Botany 161a for 39b; Forestry 21, Forestry 23ab (may be taken concurrently). Suitability of various breeds of livestock to forest range use; factors in forest range livestock production, economics of forest range use. Forest range types, distribution, forage value; evaluation, range surveys, and appraisals. Mr. Spaulding. Mr. Morris.
- 40abc. Range Management.** 3 Q. Autumn, 4 cr.; winter, 4 cr.; spring, 2 cr. Prerequisite, Forestry 39ab. Range utilization; forage production, regulation, improvement, poisonous plant control. Correlation with other forest land uses. Management plans. Mr. Morris. Mr. Spaulding.
- 41abc. Surveying.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, Mathematics 35b. Use, care, and adjustment of instruments; tape, compass, and traverse board surveys; land surveys, computation



closure and area by latitude and departure and double meridian distance; transit and stadia surveys; differential, profile and reciprocal leveling; primary and secondary triangulation for control in mapping large areas; plane table and traverse board methods of making topographic and type maps; United States land survey methods. Mr. Swearingen. Mr. Bloom.

**42. Elementary Mapping.** 1 Q. Any quarter. 2 cr. Elementary lettering. Mr. Ramskill. Mr. Swearingen. Mr. Bloom.

**44ab. Advanced Mapping.** 2 Q. Any quarter. 2 cr. each quarter. Prerequisite, Forestry 42 and 41b (may be taken concurrently). Advanced lettering; map compilation; tracings. Mr. Ramskill. Mr. Swearingen. Mr. Bloom.

**45. Soil Erosion.** 1 Q. Autumn. 3 cr. Prerequisite, junior standing. The problem of soil erosion and its relation to conservation of land resources; factors causing destructive soil erosion; methods of control by mechanical means and by vegetation. Mr. Morris.

**46. Survey of Range Management.** 1 Q. Winter. 4 cr. Prerequisite, junior standing. Methods of handling stock under range conditions; range evaluation; range improvement. Required of all majors in general Forestry and Forest Engineering. Not open to those electing the general Forestry and Range Management curriculum. Mr. Spaulding. Mr. Morris.

### For Undergraduates and Graduates

**101. Forestry Problems and Research.** 3 Q. Any quarter. 2 to 5 cr. each quarter. Prerequisite, junior standing. Forestry Staff.

**102. Research Technique.** 1 Q. Spring. 3 cr. Prerequisite, junior standing. Development of research technique; methods used in forest research, in collection of field data, compilation and analysis and organization of results. Mr. Morris and Forestry staff.

**103. Pro-Seminar.** 1 to 3 Q. Any quarter. 2 cr. each quarter. Prerequisite, senior standing. A study of the newer developments in the various fields of Forestry and forest soil use. A review of current literature. Mr. Spaulding and Forestry Staff.

### For Graduates

**201. Problems in Forest Production and Utilization.** 1 to 3 Q. Any quarter. 3 to 5 cr. each quarter. Prerequisite, undergraduate work of sufficient competence to permit graduate study in the field selected. Forestry Staff.

**202. Problems in Range Management.** 1 to 3 Q. Any quarter. 3 to 5 cr. each quarter. Prerequisite, undergraduate work acceptable to the staff. Forestry Staff.

## SCHOOL OF JOURNALISM

PROFESSORS ARTHUR L. STONE (DEAN), ROBERT L. HOUSMAN (EXECUTIVE HEAD). ANDREW COGSWELL, CHARLES W. HARDY, INSTRUCTORS.

The School of Journalism gives practical training in the work of newspaper making. Professional training is combined with academic work in the College of Arts and Sciences so that graduates of the School may obtain a broad and comprehensive preparation.

For special laboratory-incidentals fee see page 28.

### Requirements for Admission

The regular University requirements for admission apply to the School of Journalism (see pages 16 to 19).

### 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 (see pages 19 to 23), except in foreign languages.
- (2) A minimum of 45 credits in Journalism not including courses 10abc or 11abc.

- (3) The curriculum for majors, page 93.
- (4) A comprehensive examination over the major field of study. An additional examination will be required of candidates for honors.

Candidates for the degree of Master of Arts must comply with the regulations governing graduate work set forth on page 75.

### General Information

The School's course is four years; the first year's work carries no credit toward the journalism major, but is planned to provide a foundation for the courses of the following three years. These years are arranged to present the features of newspaper work under conditions which parallel those existing in a newspaper office.

The Montana Kaimin, giving news of Montana, its campus, and items of national collegiate interest, is issued throughout the University year. On this newspaper the students supplement class instruction by work in the gathering, handling and presentation of news, as well as in advertising, business management and editorial interpretation and comment.

The School receives the leading newspapers, professional publications and public relations materials from organizations the country over, in addition to copies of "flimsy" donated by the Associated Press, the United Press and the International News Service.

The relationship between the School of Journalism and the Montana State Press Association is close and pleasant. The School furnishes to the newspapers of the state a news service from the University. The State Press Association has appointed an advisory board for the School of Journalism.

*Students who do major work in Journalism are required, at the beginning of their second year, to provide themselves each with a "desk library" consisting of a copy of The Bible, Webster's Collegiate Dictionary and a World Almanac (or its equivalent).*

### Curriculum for Majors in Journalism

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 10abc .....	2	2	2
Journalism 11abc .....	3	3	3
Social Science 11abc .....	5	5	5
Physical Science 17abc .....	5	5	5
Physical Education 11abc or Bacteriology 26.....	1	1-2	1-2
Military Science 11abc (Men) .....	1	1	1
	16-17	16-18	16-18
Sophomore Year			
Journalism 21abc .....	3	3	3
Journalism 22abc .....	2	2	2
Humanities 15abc .....	5	5	5
English 11ab and Geology 16.....	3	3	3
Biological Science 13abc.....	5	5	5
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men).....	1	1	1
	19-20	19-20	19-20

		Junior Year		
		Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 24	and 25ab .....	3	3	3
Journalism 31	.....	2	2	2
Journalism 45	.....	2	2	.....
Journalism 38	.....	3	.....	.....
*Electives	.....	6	9	11
		16	16	16
		Senior Year		
Journalism 39	and 47 .....	1	1	2
Journalism 49	.....	2	2	2
Journalism 50	.....	.....	.....	2
*Electives	.....	13	13	10
		16	16	16

**Note:** Students who wish to specialize in Advertising should complete Journalism 46ab in the junior year, and 46c in the senior year; those specializing in Rural Journalism should complete Journalism 23 in the junior year, and 45 and 46abc in the senior year.

### For Undergraduates

**10abc. Journalistic Sources, Styles, and Forms.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Open only to first year students in School of Journalism. Credits in this course do not count toward a major. Introduction to journalistic sources, development of journalistic style, and practice in journalistic forms. Mr. Cogswell.

**11abc. Elements of Journalism.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Open only to first year students in School of Journalism. Credits in this course do not count toward a major. Introduction to the field of journalism; history and elements of journalism; the profession of journalism; the ethics of journalism; backgrounds of state and national journalism. Current events. Mr. Stone.

**12abc. Survey of Journalism.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, sophomore standing. Not open to students who have had Journalism 10abc or 11abc. A course for non-majors in Journalism. Newspaper practice and usage; publicity and public relations; news writings; news evaluating; history of the newspaper; current events, combined with practice in reporting. This course is not subject to the laboratory-incidental fee. Mr. Housman.

**S13. The Press as a Social Instrument.** 1 Q. Summer. 2½ cr. Open to all students. The newspaper in its relation to social groups and the problems involved; history and development of the press. Mr. Housman.

**21a. Newspaper Organization and Function.** 1 Q. Autumn. 3 cr. Prerequisite, Journalism 10abc and 11abc. Organization of the American newspaper from 1850 to the present; development of newspaper organization; the detailed development of the newspaper from the one-man shop to the metropolitan organization. Mr. Housman.

**21b. The Press in Society.** 1 Q. Winter. 3 cr. Prerequisite, Journalism 21a. The covering of public affairs; the study of news associations and news transmission; evaluation of news and the law of the press. Mr. Housman.

**21c. Special Writing.** 1 Q. Spring. 3 cr. Prerequisite, Journalism 21b. Special form of advanced reporting; the review; the special feature. Mr. Housman.

**22abc. News, Advanced News, and Editing.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 10abc and 11abc. (a) Newspaper usages; the handling of news in representative newspaper; forms of composition. (b) Correspondence, state, district, or sectional; re-writing, and the feature. (c) Copyreading, editing, headwriting, and makeup. Mr. Cogswell.

**23abc. Rural Journalism.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 21abc and 22abc. The editorial and business departments of the rural newspaper, covering news, editorial policy, circulation, and advertising methods. General "shop" practice.

**24. Public Relations.** 1 Q. Autumn. 3 cr. Prerequisite, Journalism 21abc and 22abc or junior standing. The power of public opinion and influences which affect it; relation between the newspaper and public opinion; techniques of influencing opinion. Mr. Cogswell.

\*Electives should be selected in Economics or Sociology, Psychology, Modern or Classical Languages, Literature, and History.

**25ab. Editorial Writing.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, Journalism 21abc. Preparation and presentation of editorial interpretation and comment. Editorial history; functions of the editorial page. Emphasis upon newspaper ethics and principles. In the second quarter, the class is organized to function as a newspaper editorial writing staff. Mr. Housman.

**26. The High School Newspaper.** 1 Q. Winter, 3 cr. Prerequisite, junior standing. A course for students who plan to teach journalism courses in high schools. Problems of high-school newspaper publishing. Mr. Cogswell.

**31. Practice Reporting.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, Journalism 21abc and 22abc. Not more than 6 credits may be applied toward graduation. A lecture and laboratory course presenting concrete problems of reporting under actual publishing conditions. Mr. Cogswell.

**36. Contemporary News Events.** 1 Q. Autumn. 2 cr. Summer. 4 cr. Current history of the world; its background; its relationships; its probable influence; discussions of methods of presenting this subject in school work. Replaces Current Events in the summer quarter. Mr. Housman.

**38. Typography.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing in Journalism and consent of instructor. Students may enter any quarter. Mechanical problems of newspaper production. Practical work in the printing laboratory.

**39. Newspaper Library Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Journalism 21abc. Students may enter any quarter. Not more than 3 credits may be applied toward graduation. Practical study of newspaper office methods and practice.

**41. State and Local Correspondence.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Students may enter any quarter. Not more than 3 credits may be applied toward graduation.

**42. Newspaper Photography.** 1 Q. Spring. 3 cr. Prerequisite, Journalism 21abc and 22abc. The news picture; problems of newspaper photography from the standpoints of copydesk and photographer. Mr. Cogswell.

**45. Advertising.** 2 Q. Autumn, winter. Continuous. 4 cr. Prerequisite, Journalism 24. The theory of advertising; the designing, selling, and distribution problems of the advertiser. Mr. Stone.

**46abc. Advertising Practice.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 45 or concurrent registration. Students may enter any quarter. Applying principles of advertising in the preparation, promotion, and sale of advertisements to clients.

**47. The Newspaper.** 1 Q. Spring. 2 cr. Prerequisite, senior standing. Newspaper history, organization, responsibility; coordination of departments. Mr. Stone.

**49. Copyreading Practice.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Journalism 31 and 25ab. Lecture and laboratory in copydesk methods under actual publishing conditions.

**50. Journalism Literature.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, senior standing in Journalism. Students may enter any quarter. Consideration of newspaper problems, ethics, and principles. Bibliographic studies. Mr. Housman.

### For Undergraduates and Graduates

**136. Advanced Journalism Problems.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, Journalism 50 and consent of instructor. A course designed to give training in methods of journalism investigation. Studies in journalism source materials. Mr. Housman.

### For Graduates

**201 Research in Journalism.** 1 to 3 Q. Autumn, winter, spring. Credit variable. Prerequisite, Journalism 136 and training essential to the special topic undertaken. Research of a distinctly contributive nature for graduate students. Mr. Housman.

## SCHOOL OF LAW

PROFESSORS CHARLES W. LEAPHART (DEAN), DAVID R. MASON, WALTER L. POPE, J. HOWARD TOELLE; ASSISTANT PROFESSORS EDWIN W. BRIGGS, MILTON M. THOMPSON. CHARLOTTE RUSSELL, LIBRARIAN AND SECRETARY.

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 26,000 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 Judge 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.

### Requirements for Admission.

Applicants for admission must have completed 90 credits of work acceptable for the Bachelor's degree at Montana State University exclusive of credit earned in non-theory courses in military science, domestic arts, physical education and personal hygiene, vocal or instrumental music, and courses of similar character. This work shall be done in residence in a college or university of recognized standing. Applicants must offer for admission as many grade points as credits earned.

Although students may be admitted who have successfully completed two years of college work (i.e., normally 102 credits), three years of pre-legal preparation are recommended.

It is recommended that pre-legal students complete the curriculum of the Division of Social Sciences, see page 42.

Special students are not admitted to the School of Law.

For University admission requirements, see pages 16 to 19.

### Requirements for Graduation

Candidates for the Bachelor of Laws degree are required to complete:

- (1) The requirements for admission listed above.
- (2) A total of 126 credits in Law with an average of at least one grade point for each credit.
- (3) The following courses: Contracts, Property I and II, Torts, Criminal Law and Procedure, Forms of Action, Agency, Pleading, and Practice Court.
- (4) Nine quarters of work in a Law School of recognized standing, the last three of which must be completed in residence. Two summer sessions of approximately 6 weeks each will be counted as one quarter.

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 (pages 19 to 23 and page 40.)

No student will be recommended for a degree in Law who is markedly deficient in English, nor 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 23 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.

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 provisional upon the completion of and final satisfactory examination over the whole course. In continuous courses examinations also will be given at the end of the first quarter. Conditions may be removed only in the regular examinations 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.

### Curriculum

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
First Year			
Code Pleading .....	3	3	3
Contracts .....	2	3	3
Criminal Law and Procedure .....	2	2	2
Forms of Action .....	3	---	---
Property I .....	3	3	---
Property II .....	---	---	3
Torts .....	3	3	3
Second and Third Years			
Appellate Practice .....	1	1	1
Bills and Notes .....	2	2	2
Business Organizations .....	2	---	---
Code Pleading .....	2	3	3
Conflict of Laws .....	2	2	2
Constitutional Law .....	3	3	---
Creditors' Rights and Damages .....	2	2	2
Equity .....	2	2	2
Evidence .....	2	2	2
*Irrigation Law .....	---	2	---
Legal Ethics .....	---	---	2
**Mining Law .....	---	2	---
Practice Court .....	1	1	1
Private Corporations .....	2	2	2
Taxation .....	2	2	2
Suretyship and Mortgages .....	2	2	2
Public Utilities .....	2	2	2
Trusts .....	---	---	2
Use of Law Books .....	3	---	---
Wills and Administration .....	---	---	---

\*Given in 1937-38, and in alternate years.

\*\*Given in 1938-39, and in alternate years.

### Summer, 1937

Insurance .....	3 1/2 cr.
Damages .....	3 1/2 cr.

In addition to the above curriculum, second and third year students taking History 106ab (International Law) may apply credit received in it toward a law degree.

### Courses

- Appellate Practice.** Smith's Cases and Materials on Appellate Practice. Mr. Pope.
- Bills and Notes.** Smith & Moore, Cases on Bills and Notes (third edition). Mr. Mason.
- Business Organizations.** Casebook to be announced. Mr. Briggs.
- Code Pleading.** Sunderland's Cases on Code Pleading. The Montana Code of Civil Procedure. Mr. Toelle.
- Conflict of Laws.** Beale's Shorter Selection of Cases on Conflict of Laws (second edition). Mr. Briggs.
- Constitutional Law.** Hall's Cases on Constitutional Law. Mr. Mason.
- Contracts.** Williston's Cases on Contracts (fourth edition). Mr. Leaphart.
- Creditors' Rights.** Hanna's Cases on Creditors' Rights. Mr. Thompson.
- Criminal Law and Procedure.** Sayre's Cases on Criminal Law. Mr. Mason.
- Equity.** Cook's Cases on Equity (second edition). Mr. Leaphart.
- Evidence.** Morgan & Maguire's Cases on Evidence. Mr. Pope.
- Forms of Action.** Magill's Cases on Procedure. Mr. Toelle.
- Irrigation Law.** Bingham's Cases on Water Rights. Mr. Toelle.
- Legal Ethics.** Costigan's Cases on Legal Ethics (revised edition). Mr. Toelle.
- Mining Law.** Costigan's Cases on Mining Law. Mr. Toelle.
- Practice Court.** Montana Code of Civil Procedure, selected cases, and practical exercises. Mr. Pope.
- Private Corporations.** Casebook to be announced. Mr. Briggs.
- Property I.** Fraser's Cases on Property. Mr. Briggs.
- Property II.** Aigler's Cases on Property. Mr. Briggs.
- Public Utilities.** Casebook to be announced. Mr. Mason.
- Sales.** Williston and McCurdy's Cases on Sales. Mr. Thompson.
- Suretyship and Mortgages.** Langmaid's Cases on Suretyship. Park's Cases on Mortgages. Mr. Thompson.
- Taxation.** Casebook to be announced. Mr. Thompson.
- Trusts.** Scott's Cases on Trusts (second edition). Mr. Leaphart.
- Torts.** Bohlen's Cases on the Law of Torts (third edition). Mr. Toelle.
- Use of Law Books.** No textbook used. Mr. Mason.
- Wills and Administration.** Costigan's Cases on Wills. Montana Code. Mr. Toelle.

## SCHOOL OF MUSIC

PROFESSORS JOHN B. CROWDER, DELOSS SMITH (DEAN), FLORENCE R. SMITH, A. HERMAN WEISBERG; ASSOCIATE PROFESSOR BERNICE BERRY RAMSKILL; ASSISTANT PROFESSOR STANLEY M. TEEL. CLARENCE BELL, INSTRUCTOR.

The School of Music prepares its graduates for the teaching and supervising of music in the public schools, develops in its students greater appreciation and ability in performance, and gives students not specializing in music the advantages of music culture in the field which their interests and talents dictate.

### Requirements for Admission

1. The regular University requirements for admission apply to the School of Music (see pages 16 to 19). However, pupils are ac-

cepted for private lessons in applied music without the usual academic requirements.

2. A special entrance examination in musical aptitudes is required.

**Requirements for Graduation**

Candidates for the degree of Bachelor of Arts in Music and the Bachelor of Music degree with a major in applied music must meet the following requirements:

- (1) The general University requirements for graduation (see pages 19 to 23), except in foreign languages.
- (2) A music curriculum which is satisfactory to the staff of the School of Music. (See A and B below.)

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

**General Information**

Students who do not major in Music will be allowed to count towards graduation only six credits in ensemble work and twelve credits in applied music. Applied music courses are indicated by a star (\*) and ensemble music courses by a dagger (†) affixed to the number of the course description.

Students of all ages and without the usual academic preparation may enroll for applied music subjects, but credit for the work is granted only to students who are eligible to register for regular University courses.

Music majors are required to participate in the glee clubs, chorus, orchestra, and band.

Student recitals are given at intervals during the year. All music majors are required to attend.

Candidates for graduation in Public School Music must have a minimum proficiency in applied music as follows:

**Piano.** Ability to play accompaniments of typical high school glee club music, and to play hymns and similar music.

**Voice.** Understanding of the problem of the child voice, the adolescent voice, ability to read and sing typical high school music acceptably, and not less than two years in University glee club and chorus.

**Violin.** Ability to play acceptably violin parts of typical music for high school orchestras, and not less than two years in University orchestra.

**Brass or Wood Wind Instrument.** (Preferably trumpet or clarinet.) Ability to play acceptably first trumpet or first clarinet part of typical music for high school band, and not less than two years in University band.

**A. Suggested Curriculum for Bachelor of Arts Degree in Music  
General Supervisors' Course, Public School Music**

	Freshman Year		
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 26abc .....	2	2	2
Music 27abc .....	2	2	2
Applied Music 11, 13, 15, or 19 .....	1	1	1
Music 29abc .....	1	1	1
Music 35abc .....	3	3	3
Mathematics or Science .....	5	5	5
Physical Education 11abc or Bacteriology 26.....	1	1-2	1-2
Military Science 11abc (Men).....	1	1	1
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-top: 5px;"/>	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-top: 5px;"/>	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin-top: 5px;"/>
	16	16-17	16-18



Sophomore Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 25abc .....	1	1	1
Music 36abc .....	2	2	2
Applied Music 11, 13, 15, or 19 .....	1	1	1
Music 31abc .....	2	2	2
English 11ab .....	---	3	3
Psychology 11 .....	5	---	---
Language or Elective .....	4	4-6	4-6
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<hr/>	<hr/>	<hr/>
	17	15-17	15-17

Junior Year

Music 125abc .....	2	2	2
Music 123ab and 124 or 155abc .....	2-3	2-3	2-3
Applied Music 11, 13, 15, 17 or 19 .....	1	1	1
Education 19 and 18 .....	4	---	3
History or Economics and Sociology .....	---	4	4
Electives .....	7	7	4
	<hr/>	<hr/>	<hr/>
	16-17	16-17	16-17

Senior Year

Music 23 .....	1	---	---
Music 40abc .....	1	1	1
Music 155abc or 123ab and 124 .....	2-3	2-3	2-3
Applied Music 11, 13, 15, 17 or 19 .....	1	1	1
Education 22, 26, and Elective .....	4	5	4
Electives .....	6	6	7
	<hr/>	<hr/>	<hr/>
	15-16	15-16	15-16

Note: Two of the four survey courses offered in the College of Arts and Sciences must be completed as free or restricted electives.

**B. Suggested Curriculum for the Bachelor of Music Degree  
in Applied Music**

Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Applied Music 11, 13, 15, 17 or 19 .....	2	2	2
Music 26abc .....	2	2	2
Music 27abc .....	2	2	2
Humanities 15abc .....	5	5	5
Language or Elective .....	5	5	5
Physical Education 11abc .....	1	1	1
Military Science 11abc (Men) .....	1	1	1
	<hr/>	<hr/>	<hr/>
	18	18	18

Sophomore Year

Applied Music 11, 13, 15, 17 or 19 .....	2	2	2
Music 35abc .....	3	3	3
Music 36abc .....	2	2	2
English 11ab and Elective .....	3	3	3
Biological Science 13abc .....	5	5	5
Music Elective or Chorus .....	1-2	1-2	1-2
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	<hr/>	<hr/>	<hr/>
	18-19	18-19	18-19

Junior Year

Applied Music 11, 13, 15, 17 or 19 .....	2	2	2
Music 40abc .....	1	1	1
Music 125abc .....	2	2	2
Music 140abc .....	1	1	1
English and Social Science Electives .....	7	7	7
Music Elective .....	1	1	1
	<hr/>	<hr/>	<hr/>
	14	14	14

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Applied Music 11, 13, 15, 17 or 19 .....	2	2	2
Music 40abc .....	1	1	1
Music 141, 23, 142 .....	2	2	2
Music 159abc .....	2	2	2
Music Elective .....	1	1	1
Education, Social Science, or Psychology Elective	8	8	8
	<hr/> 16	<hr/> 16	<hr/> 16

**Note:** The suggested curriculum for the Bachelor of Music Degree does not lead to certification for teaching in the public schools.

### For Undergraduates

- \*11. Voice.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer ½ or 1 cr. Individual instruction. Mr. Smith.
- \*12. Voice in Class.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer. 1 cr. One hour class lessons. Four in each class. Mr. Smith.
- \*13. Piano.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer ½ or 1 cr. Individual instruction. Mr. Crowder. Mrs. Ramskill.
- \*14. Piano in Class.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. One hour class lessons. Four in each class. Mr. Crowder. Mrs. Ramskill.
- \*15. Violin.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer. ½ or 1 cr. Individual instruction. Mr. Weisberg.
- \*17. Organ.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer. ½ or 1 cr. Individual instruction. Mrs. Smith.
- \*18. Organ in Class.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. One hour class lessons. Four in each class. Mrs. Smith.
- \*19. Wind Instruments.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Individual instruction. Mr. Bell.
- \*20. Wind Instruments in Class.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. One hour class lessons. Four in each class. Mr. Bell.
- \*23. Class Piano Methods.** 1 Q. Autumn. Winter. Spring. 1 or 2 cr. Summer. 2½ cr. Prerequisite, consent of instructor. 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. Required of all music majors. Mrs. Ramskill.
- \*24. Piano Ensemble.** 1 Q. Autumn. Winter. Spring. 1-2 cr. Summer. ½ cr. Prerequisite, consent of instructor. Four players in a group. Designed to give practice in sight reading and to acquaint the student with symphonic and ensemble literature. Mr. Crowder.
- 25abc. String Instruments Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Instruments to be selected by students with advice and consent of instructor. Mr. Weisberg.
- 26abc. Elementary Harmony.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 26a. 2 cr. Prerequisite, familiarity with piano sufficient to play chords. Construction and use of triads in major and minor keys; inversion of triads, cadences; dominant seventh chords and their inversions; modulation. Mr. Weisberg.
- 27abc. Sight Singing and Ear Training.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 27ab. 2½ cr. Prerequisite, consent of instructor. Beginning sight singing, including one, two, three, and four-part work; melody writing, melodic and harmonic dictation, notation, and terminology Mr. Teel.
- 29abc. Wind Instruments Methods.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. One or more wind instruments to be selected by the student with advice and consent of instructor. Mr. Bell.
- 31abc. Technique of Conducting.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 31b. 2½ cr. Prerequisite, consent of instructor. Fundamentals of chorus and instrumental conducting are studied. The University choral and instrumental groups are made available to advanced students for practical experience. Mr. Teel.
- 35abc. Music Appreciation and History.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 35ab. 2½ cr. No prerequisite for students majoring in Music; for others, sophomore standing. Students may enter any quarter. The elements of musical understanding; musical progress from

**\*Applied Music.**

ancient times to modern. Music of important periods of composition illustrated by means of phonograph selections and departmental programs. A reading knowledge of music is necessary only for 35c. Mr. Teel.

**36abc. Advanced Harmony.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 36a. 2 cr. Prerequisite, Music 26c. Modulations, secondary seventh chords, counterpoint, diminished seventh chord, augmented chords and suspensions. Mr. Weisberg.

†**37abc. Orchestra.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Prerequisite, consent of director. Mr. Weisberg.

**S38. Recital-Lectures.** 1 Q. Summer. 1 cr. Open to all students. A course presenting piano compositions of various periods and schools, with historical and analytical comment by the performer. Music Staff.

†**39abc. University Band.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Prerequisite, completion of or exemption from the required Military Science. May be repeated for credit. Mr. Bell. Mr. Teel.

†**40abc. Ensemble Groups.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Major students must present a minimum of 6 credits toward graduation. 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 an acquaintance with musical literature; accompanying. Music staff.

†**41. Women's Glee Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Mr. Smith.

†**43. Men's Glee Club.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Mr. Smith.

†**45abc. A Capella Choir.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Oratorios, cantatas, and part songs studied and performed in recitals and concerts. May be repeated to a maximum of six credits. Mr. Smith.

**123ab. Elementary School Music.** 2 Q. Autumn, winter. 3 cr. each quarter. Summer, 2½ cr. Prerequisite, Music 27c or consent of instructor. Music of the first six grades of school. Child voice, rhythmic development, rote singing. Given in 1937-38, and in alternate years. Mr. Teel.

**124. Junior High School Music.** 1 Q. Spring. 3 cr. Prerequisite, Music 123ab. Given in 1937-38, and in alternate years. Mr. Teel.

**125abc. Counterpoint.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 36c. Two, three, and four-part counterpoint. Mr. Weisberg.

**S126. Music for Public Performance.** 1 Q. Summer. 1 cr.

**S127. Comparative Methods and Materials.** 1 Q. Summer. 1 cr. Mr. Teel.

**128. Choral Technique.** 1 Q. Summer. 1 cr.

**129abc. Orchestration.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. Mr. Weisberg.

**130abc. Band and Orchestra Technique.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 130a. 2½ cr. Prerequisite, consent of instructor. A course designed to furnish band and orchestra conductors with material and methods of preparing for public performance. Given in 1937-38, and in alternate years. Mr. Teel.

**S133. Interpretation and Analysis.** 1 Q. Summer. 2½ cr.

**140aoc. Interpretation and Style.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, consent of instructor. Given in 1937-38, and in alternate years. Piano compositions of different national schools and periods and characteristics of each from the standpoint of interpretation and style. May not be repeated for credit. Mr. Crowder.

**141. Score Reading.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing. Music staff.

**142. Senior Recital.** 1 Q. Spring. 2 cr. Prerequisite, senior standing and consent of instructor. Music staff.

**155abc. High School Music and Supervision.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 124 or consent of instructor. Music of the senior high school; bands, orchestras, glee clubs, chorus. Problems of community music, rural music, festivals, operettas; conducting. Given in 1936-37, and in alternate years. Mr. Teel.

**159abc. Forms and Composition.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer. ½ cr. Prerequisite, Music 125c. Invention and fugue. May be elected in the senior year. Mr. Weisberg.

**S160. Radio and Music Education.** 1 Q. Summer. 1 cr. Use of public address system in music. Preparing radio programs.

†Ensemble Music.

**S161. Music for the School Administrator.** 1 Q. Summer. 1 cr. Survey of the work of the public school music teacher from the administrator's point of view. Mr. Teel.

**S162. Seminar in Public School Music.** 1 Q. Summer. 1 cr.

**Applied Music Fees per quarter (12 weeks)**

Voice 11, Piano 13, Violin 15. Two lessons a week.....	\$48.00
One lesson a week.....	24.00
Organ 17, Wind Instruments 19. Two lessons a week.....	\$36.00
One lesson a week.....	18.00
Voice 12, Piano 14 and 24. Two lessons a week.....	\$24.00
One lesson a week.....	12.00
Organ 18, Wind Instruments 20. Two lessons a week.....	\$18.00
One lesson a week.....	9.00
*Music 23 .....	\$10.00
*Music 25abc and 29abc (two lessons a week) .....	\$ 5.00
Music 26abc, 36abc, 125abc. Two class lessons a week.....	\$ 3.00

Fees will be adjusted individually for students registered for less than a full quarter.

No absence from lessons will be excused. Lessons lost through fault of the instructor will be made up. Lessons falling on legal holidays will not be made up.

**Rentals, per quarter (12 weeks)**

Piano and practice room. One hour daily.....	\$ 3.00
Additional hour daily.....	2.00
Organ and practice room. One hour daily.....	\$12.00
Additional hour daily.....	12.00
Practice room for violin students. One hour daily.....	\$ 1.00
Additional hour daily.....	.50

Students registering in Music 25abc and 29abc must rent instruments unless they provide their own.

Rentals must be paid for entire quarter. No refunds of rentals will be made.

## SCHOOL OF PHARMACY

PROFESSOR CHARLES E. F. MOLLETT (DEAN); ASSOCIATE PROFESSORS JOHN F. SUCHY, LEON RICHARDS.

The School affords opportunities to students to obtain a thorough technical education in Pharmacy. By properly selecting courses in Chemistry and Bacteriology, graduates of this School may prepare for positions as laboratory technicians.

### Requirements for Admission

The regular University requirements for admission apply to the School of Pharmacy (see pages 16 to 19).

### 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 19 to 23).
- (2) A minimum of 78 credits in Pharmacy which must include courses 12, 13, 14, 20, 22, 27, 31, 33, 42, and 4 credits of 65 or 39; Chemistry 13, and 19; Zoology 24 and Bacteriology 119a.

\*Fee assessed only to students not majoring in music.

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

**Note:** According to the recommendations adopted by the National Association of Boards of Pharmacy, the American Association of Colleges of Pharmacy and other national pharmaceutical bodies, all of the recognized schools of pharmacy are now upon a four-year minimum course basis.

Candidates for the degree of Master of Science in Pharmacy must comply with the regulations governing graduate work set forth on page 75.

### General Information

This School is a member of the American Association of Colleges of Pharmacy.

As an important addition to the equipment in pharmacy, a small plot is devoted to the raising of medicinal plants to provide material for laboratory use of students in the courses of pharmacognosy, manufacturing pharmacy and drug analysis. The enterprise has received assistance from the Bureau of Plant Industry of the United States and from a number of schools of pharmacy of other states which have well-established gardens.

Pharmacy majors automatically become members of the Pharmacy Club, and associate members of the Montana State Pharmaceutical Association.

### Suggested Curriculum for Majors in Pharmacy

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Social Science 11abc or Chemistry 13abc .....	5	5	5
Pharmacy 14abc .....	4	4	4
Pharmacy 12abc .....	2	2	2
Pharmacy 13abc .....	4	4	4
Physical Education 11abc or Bacteriology 26.....	1	1-2	1-2
Military Science 11abc (Men) .....	1	1	1
	17	17-18	17-18
Sophomore Year			
Pharmacy 20abc .....	4	4	4
Pharmacy 27abc .....	2	2	2
English 11ab .....	3	---	3
Chemistry 13abc .....	5	5	5
Zoology 24 .....	---	5	---
Physical Education 12abc .....	1	1	1
Military Science 12abc (Men) .....	1	1	1
	16	18	16
Junior Year			
Pharmacy 22abc .....	4	4	4
Pharmacy 33abc .....	2	2	2
Psychology 11 .....	5	---	---
Literature or Philosophy .....	---	---	5
Chemistry 19 .....	---	5	---
Language .....	5	5	5
	16	16	16

## Senior Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Pharmacy 35abc .....	4	4	4
Pharmacy 31abc .....	2	2	2
Pharmacy 42 .....	---	---	2
Pharmacy 39 or 65 .....	---	4	4
Bacteriology 119ab and 120 .....	5	5	5
Language .....	5	---	---
Elective .....	---	2	---
	16	17	17

## For Undergraduates

- 12. Metrology and Introductory Pharmacy.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Summer, 12ab. 3 cr. Official weights and measures; important pharmaceutical calculations and introduction to pharmacy. Mr. Mollett.
- 13. Pharmaceutical Botany and Pharmacognosy.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Pharmaceutical botany and crude vegetable and animal drugs; their sources; identification; constituents; preparations; official names and synonyms; doses and uses. Mr. Suchy.
- 14. Pharmaceutical Chemistry.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. The pharmaceutical chemistry of the official inorganic and organic substances and preparations is studied with regard to nomenclature, source and preparation, physical properties and pharmaceutical uses and doses. Mr. Richards.
- 15. Field Pharmacognosy.** 1 Q. Autumn. Spring. 2 or 3 cr. Summer, 3 cr. Prerequisite, Pharmacy 13. The official indigenous drug plants; those grown in the medicinal garden are studied as to propagation, methods of selection, and preservation of the parts used in pharmacy. Mr. Suchy.
- 20. Galenic Pharmacy.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Prerequisite, Pharmacy 12, 13, 14, and Chemistry 13. Pharmaceutical preparations in the United States Pharmacopoeia and National Formulary are studied in connection with laboratory training in the manufacture of most of these. Mr. Richards.
- 22. Drug Analysis.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Prerequisite, Pharmacy 12, 13, 14, 20, and Chemistry 13. Chemical analysis of inorganic and organic drugs; preparations according to the methods of the U. S. P. and N. F. Mr. Suchy.
- S23. Materia Medica.** 1 Q. Summer. 4 cr. Open to pre-medical and pre-nursing students. Majors in Pharmacy may not apply credit in this course towards graduation. Weights, measures, percentage solutions, and official drugs in groups according to their therapeutic uses. Reference is made to the sources of these drugs; special attention is given to their active principles, effects upon the body, therapeutic uses, and toxicology. Mr. Mollett.
- 27. Pharmaceutical Economics.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Prerequisite, Pharmacy 12, 13, and 14. Commercial problems of the modern pharmacy. Assigned readings in current drug journals. Mr. Mollett.
- 31. Pharmacology.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Prerequisite, Pharmacy 20, 22, and 27. Mr. Mollett.
- 33. Abstracts.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Prerequisite, Pharmacy 27. The preparation of abstracts. Reading and discussion of articles in current pharmaceutical literature. Mr. Mollett.
- 35. Dispensing.** 3 Q. Autumn, winter, spring. Continuous. 12 cr. Summer, 10 cr. Prerequisite, Pharmacy 20, 22, and 27. A technical study of all phases of the prescription; practical exercises in sight reading; extemporaneous compounding. Mr. Richards.
- 38. Special Problems.** 3 Q. Autumn, winter, spring. 2 to 6 cr. Prerequisite, senior standing in pharmacy. Special problems within the scope of the facilities of the School which meet the needs and qualifications of the student. A maximum of 6 credits may be offered towards graduation. Mr. Mollett.
- 39. Urinalysis.** 1 Q. Winter. 4 cr. Prerequisite, Chemistry 19. Chemical and microscopical examinations of clinical value. Students who have completed Bacteriology 121 may not receive credit in this course. Mr. Suchy.
- 40. Evolution of Pharmacy.** 1 Q. Autumn. Winter. 2 cr. Prerequisite, senior standing. The origin, evolution and present status of the profession; outstanding pharmacists of the past and present and their scientific contributions. Mr. Mollett.

**42. Pharmaceutical Ethics.** 1 Q. Spring. 2 cr. Prerequisite, senior standing. The ethics of pharmacy from ancient to modern times, as embodied in the various codes. The major responsibilities of pharmacists: their duties in relation to the public; to the physician; to each other and to the profession of pharmacy. Mr. Mollett.

**S46. Household Remedies.** 1 Q. Summer. 2 cr. Not open to Pharmacy majors. Discussion of the remedies and preparations usually found in the home from the pharmacist's point of view, with advice concerning the choice, preservation, composition, and uses of these preparations. Formulas and directions for making some of the more simple and commonly used cosmetics. Mr. Mollett.

**65. Advanced Analysis.** 3 Q. Any quarter. 2 to 4 cr. each quarter. Prerequisite, Pharmacy 35 and 31. The study and detection of the common organic and inorganic poisons, with emphasis on those of alkaloidal or glucosidal nature. Physical, microscopic and chemical methods form the basis of separations and identifications. A maximum of 12 credits may be offered towards graduation. Mr. Suchy.

### For Graduates

**201. Research.** 3 Q. Any quarter. Credit variable. Work on selected problems for properly qualified students. Pharmacy Staff.

## MILITARY SCIENCE AND TACTICS

PROFESSOR ELEY P. DENSON (Lieutenant-Colonel, Infantry); ASSOCIATE PROFESSORS RALPH M. CAULKINS (Major Infantry), GEORGE B. NORRIS (Major Infantry). MAYWOOD KIRKWOOD (Staff Sergeant, D.E. M.L.), CLARENCE W. PETERSON (Staff Sergeant, D.E.M.L.), ASSISTANTS.

The University maintains an infantry unit 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 any able-bodied citizen. Students satisfactorily completing the advanced course are commissioned as second lieutenants, Infantry Reserve, with attendant obligations.

All resident men 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. Credits for complete exemptions.

#### (a) GENERAL REQUIREMENTS:

1. Students who have reached the age of 26 years at the beginning of the quarter.
2. Filipino students who have not been legally admitted as citizens of the United States.

#### (b) 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 of 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 training at each camp.
5. Students who have served in any branch of the Army or Navy.

SECTION II. Credit for 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 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 Unit or in some other school or college conducting military training under an officer of the Army, will receive such credit as the professor of Military Science and Tactics and the head of the institution may jointly determine.

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 the 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 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 regular 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. No deposit is required, but lost articles must be paid for by the student.

Students enrolling for the basic course are required to provide themselves with a ROTC manual which costs \$1.00, and a distinctive ROTC belt which costs \$1.25. In addition, freshmen students enrolled for the winter quarter must provide themselves with a map which costs fifteen cents. Although these articles are the student's property, the belt must be worn at all times when the uniform coat is worn, and must be cared for in a manner deemed in keeping with the standards required of members of the military service.

#### For Undergraduates

\*11abc. Military Science and Tactics. 3 Q. Autumn, winter, spring, 1 cr. each quarter. Students may enter any quarter. National Defense Act and Reserve Officers' Training Corps; obligations of citizenship; military history and policy; current international situation; military discipline; courtesies and customs; military sanitation and first aid; military organization; general organization of infantry with special reference to rifle, machine gun, howitzer, supply and headquarters companies; map reading; leadership and rifle marksmanship. Military staff.

\*Basic Course.



\*12abc. Military Science and Tactics. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Military Science 11abc. Students may enter any quarter. Military history; leadership; automatic rifle; characteristics of infantry weapons; combat training; musketry; scouting and patrolling; functions of platoon scouts; combat principles. Military staff.

†13abc. Military Science and Tactics. 3 Q. Autumn, winter, spring. 2½ cr. each quarter. Prerequisite, Military Science 12abc. Aerial photograph reading, leadership; weapons; machine guns; howitzer company weapons; pistol; rifle marksmanship; combat training; field fortifications. Military staff.

†14abc. Military Science and Tactics. 3 Q. Autumn, winter, spring. 2½ cr. each quarter. Prerequisite, Military Science 13abc. Military history and policy; military law; company administration and supply; Officers' Reserve Corps regulations; leadership; tanks; mechanization; combat training. Military staff.

## THE MONTANA SCHOOL OF RELIGION

PROFESSOR AND DIRECTOR O. R. WARFORD.

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 the School of Religion. Additional information concerning these courses may be obtained from the Director of the School of Religion at the State University.

### For Undergraduates

21R. The Religions of Mankind. 1 Q. Autumn. 3 cr. Open to all students. A survey of the historic, psychological, and literary setting of religions, indicating their values, weaknesses, and strengths. Designed to increase appreciation for this part of the cultures of other peoples. Given in 1938-39, and in alternate years. Mr. Warford.

22R. Literature of the Old Testament. 1 Q. Winter. 3 cr. Chief poetic and historic writings of the Old Testament from a literary viewpoint. Designed to increase the understanding of the common life of the Semitic peoples, and an appreciation for their contribution to civilization. Given in 1938-39, and in alternate years. Mr. Warford.

23R. New Testament Literature and Life. 1 Q. Spring. 3 cr. The life of Jesus and its effect upon the times following. The founding of the apostolic church; the historic antecedents and consequences of the Christian tradition. Given in 1938-39, and in alternate years. Mr. Warford.

24R. Philosophy of Religion. 1 Q. Autumn. 3 cr. Open to all students. An attempt to place religion in its modern setting; its relationship to the sciences and the social processes, and its possible effects and values. Given in 1937-38, and in alternate years. Mr. Warford.

25R. Christian Ethics. 1 Q. Winter. 3 cr. The historic sources of ethical idealism in the West and its development leading up to current ethical thinking and action. Given in 1937-38, and in alternate years. Mr. Warford.

26R. The Prophetic Heritage. 1 Q. Spring. 3 cr. The social teachings of the Prophets of Israel, including Jesus, and the implications of their teachings for modern times. Given in 1937-38, and in alternate years. Mr. Warford.

\*Basic Course.

†Advanced Course.

## SUMMER SESSION

The Summer Session of Montana State University for 1937 will be a nine-weeks' session, beginning June 14 and ending August 13. The Schools of Law and Music will continue for the first six weeks only. Students may attend the first six, the last six, or the entire nine weeks. For further information see Summer Session Bulletin.

### Courses

The departments of the College of Arts and Sciences which will offer courses during the Summer Session 1937 are: Botany, Chemistry, Economics and Sociology, English, Fine Arts, Foreign Languages, Geology, History and Political Science, Library Economy, Mathematics, Physical Education, Physics, Psychology, and Zoology and Bacteriology. The Schools of Business Administration, Education, Journalism, Music, and Pharmacy will also offer courses.

### Admission

Requirements for admission to the Summer Session are the same as the requirements for entrance during the regular college year. (Pages 16 to 19.)

### Registration Fee

Registration fee for the Summer Session is \$25. Students who register for less than five undergraduate credits or the equivalent pay \$13. Students registered only as listeners pay \$13.

Scholarships, including high school honor scholarships, do not exempt holders from payment of the Summer Session fee.

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 nine weeks of the session is 12 credits, plus 1 credit in Physical Education S11 and 1 credit in Applied Music; the maximum registration for six weeks is 7½ credits plus 1 credit in either Physical Education S11 or in Applied Music. Permission to carry more than this number is granted only for special reasons.

Residence requirements for the Bachelor's degree may be fulfilled by four summer sessions of nine weeks each, during which time the student 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, first grade, state, and life, will be given.

### Graduate Work

During the Summer Session, properly qualified students may do work toward the Master's degree. Residence requirements for the Master's degree may be fulfilled by three summer sessions of nine weeks each provided the student meets regulations governing graduate study and the granting of the Master's degree (see page 75).

### **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.

### **Recreation**

An attractive feature of the Summer Session is the recreational program, which includes organized week-end excursions and camping trips, picnics, campfire parties, golf, tennis, baseball and swimming. The pleasant summer climate and picturesque mountain country of western Montana provide an ideal background for a combination of study and recreation.



## Summary of Registration by Counties States and Countries 1936-37

Counties in Montana	Men	Women	Total
Beaverhead .....	19	6	25
Big Horn .....	13	4	17
Blaine .....	6	6	12
Broadwater .....	1	3	4
Carbon .....	25	18	43
Cascade .....	101	65	166
Chouteau .....	12	14	26
Custer .....	27	8	35
Daniels .....	2	1	3
Dawson .....	19	14	33
Deer Lodge .....	38	15	53
Fallon .....	5	4	9
Fergus .....	30	25	55
Flathead .....	78	43	121
Gallatin .....	21	23	44
Garfield .....	2	1	3
Glacier .....	12	11	23
Golden Valley .....	5	3	8
Granite .....	6	4	10
Hill .....	19	12	31
Jefferson .....	9	5	14
Judith Basin .....	11	12	23
Lake .....	24	27	51
Lewis and Clark .....	42	37	79
Liberty .....	2	3	5
Lincoln .....	21	16	37
McCone .....	7	2	9
Madison .....	16	8	24
Meagher .....	8	6	14
Mineral .....	13	2	15
Missoula .....	338	340	678
Musselshell .....	22	9	31
Park .....	17	13	30
Petroleum .....	8	2	10
Phillips .....	11	6	17
Pondera .....	13	13	26
Powder River .....	1	2	3
Powell .....	19	10	29
Prairie .....	6	.....	6
Ravalli .....	40	36	76
Richland .....	14	17	31
Roosevelt .....	21	14	35
Rosebud .....	27	7	34
Sanders .....	31	17	48
Sheridan .....	20	9	29
Silver Bow .....	90	68	158
Stillwater .....	11	8	19
Sweet Grass .....	8	7	15
Teton .....	10	10	20
Toole .....	11	13	24
Treasure .....	1	1	2

Valley .....	18	17	35
Wheatland .....	12	12	24
Wibaux .....	6	1	7
Yellowstone .....	76	46	122
Totals.....	1425	1076	2501

States	Men	Women	Total
Arizona .....	2	....	2
California .....	14	6	20
Colorado .....	1	....	1
Connecticut .....	1	1	2
Georgia .....	1	....	1
Idaho .....	5	14	19
Illinois .....	37	7	44
Indiana .....	2	3	5
Iowa .....	4	5	9
Kansas .....	1	3	4
Massachusetts .....	3	....	3
Michigan .....	1	....	1
Minnesota .....	11	12	23
Missouri .....	1	1	2
Nebraska .....	3	5	8
New Jersey .....	3	1	4
New Mexico .....	1	....	1
New York .....	8	2	10
North Carolina .....	....	1	1
North Dakota .....	44	44	88
Ohio .....	5	2	7
Oklahoma .....	1	....	1
Oregon .....	1	4	5
South Dakota .....	12	6	18
Utah .....	....	2	2
Virginia .....	2	....	2
Washington .....	6	5	11
West Virginia .....	2	....	2
Wisconsin .....	5	2	7
Wyoming .....	7	3	10
Totals.....	184	129	313

Countries	Men	Women	Total
Alaska .....	3	2	5
Canada .....	3	2	5
Hawaii .....	1	....	1
Philippine Islands .....	5	....	5
Totals.....	12	4	16

	Men	Women	Total
Counties .....	1425	1076	2501
Other States .....	184	129	313
Other Countries .....	12	4	16
Totals .....	1621	1209	2830

## DEGREES GRANTED

### 1936-37\*

	Men	Women	Total
<b>Honorary Degrees:</b>			
Doctor of Laws.....	2	---	2
Total Honorary Degrees.....	2	---	2
<b>Master of Arts:</b>			
Chemistry .....	2	---	2
Education .....	3	2	5
English .....	1	---	1
Geology .....	2	---	2
History .....	1	1	2
Total Master's Degrees.....	9	3	12
<b>Bachelor of Arts:</b>			
Biology .....	6	3	9
Botany .....	1	1	2
Chemistry .....	5	---	5
Economics and Sociology .....	9	6	15
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