1-1-1948

1948-1949 Course Catalog

University of Montana–Missoula. Office of the Registrar

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THE UNIVERSITY OF MONTANA

GEORGE A. SELKE, Chancellor of the University,
State Capitol, Helena, Montana.

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

SAM C. FORD, Governor ..................................Ex-Officio President
R. V. BOTTOMLY, Attorney General ..................................Ex-Officio
ELIZABETH IRELAND, Supt. of Public Instruction......Ex-Officio Secretary
CARL L. BRATTIN, 1949............Sidney CHAS. S. BALDWIN, 1953....Kalispell
G. M. BRANDSÖRG, 1950...Hamilton EMMET J. RILEY, 1954........Helena
VICTOR WEBER, 1951.....Deer Lodge G. A. BOSLEY, 1955........Great Falls
MRS. C. F. ULLMAN, 1952 Big Timber GEO. N. LUND, 1956............Reserve

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 Law
The School of Pharmacy
The School of Forestry
The School of Journalism
The School of Music
The School of Business Administration
The School of Education
James A. McCain, President

Montana State College, Bozeman
Established February 16, 1893. and consisting of:
The Division of Agriculture
The Division of Engineering
The Division of Household and Industrial Arts
The Division of Science
The School of Nursing
The Agricultural Experiment Station
The Montana Grain Inspection Laboratory
The Montana Wool Laboratory
The Central Montana Branch Station
(Moccasin)
R. R. Renne, President

Montana School of Mines, Butte
Established February 17, 1893. and consisting of:
The Course in Mining Engineering
The Bureau of Mines and Geology
The Course in Petroleum Engineering
Francis A. Thomson, President

Montana State Normal College, Dillon
Established February 23, 1893. and consisting of:
The Two-year Course
The Four-year Course
Rush Jordan, President

Eastern Montana State Normal School, Billings
Established March 12, 1925. and consisting of:
The Four-year Curriculum in Teacher Education
The Two-year Curriculum in Teacher Education
Summer Session for all of the above Curricula
A. G. Peterson, President

Northern Montana College, Havre
Established March 8, 1913. and consisting of:
The Two-year Liberal Arts and Pre-Professional Courses
The Three-year Courses in Education and Medical Secretariats
The Summer Quarter
G. H. Vande Bosart, President

For publications and detailed information concerning the different schools and colleges address the Registrar of the particular institution concerned. Communications intended for the Chancellor of the University of Montana should be addressed to the State Capitol, Helena, Montana.
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Condensed Calendar of the Six Units of the University of Montana ......................... Inside Back Cover
MONTANA STATE UNIVERSITY CALENDAR
1948-49

1948

SPRING QUARTER
March 22, Monday.............................Registration and Orientation of New Students
March 23, Tuesday.............................Instruction Begins
May 13-16, Thursday through Saturday...........Interscholastic Track Meet
June 7, Monday..................................Commencement
June 8-11, Tuesday through Friday..................Examinations
June 11, Friday, 5:20 p.m...........................Spring Quarter Ends

SUMMER SESSION
June 14, Monday..................................Registration
June 15, Tuesday.............................Instruction Begins
August 20, Friday ..................................Session Ends

AUTUMN QUARTER
September 20-25, Monday through Saturday...........Orientation Week and Registration
September 23-25, Thursday through Saturday.............Registration of Former Students
September 27, Monday.............................Instruction Begins
November 25, Thursday...................................Thanksgiving Day, a Holiday
December 13-16, Monday through Thursday...............Examinations
December 16, Thursday, 5:20 p.m.....................Autumn Quarter Ends; Christmas Recess Begins

1949

WINTER QUARTER
January 3, Monday.............................Registration and Orientation of New Students
January 4, Tuesday.............................Instruction Begins
February 17, Thursday.............................Charter Day
March 14-17, Monday through Thursday...............Examinations
March 17, Thursday, 5:20 p.m..........................Winter Quarter Ends

SPRING QUARTER
March 21, Monday.............................Registration and Orientation of New Students
March 22, Tuesday..................................Instruction Begins
May 12-14, Thursday through Saturday...........Interscholastic Track Meet
May 30, Monday....................................Memorial Day, a Holiday
June 6, Monday.....................................Commencement
June 6-9, Monday Morning and Tuesday through Thursday...........Examinations
June 9, Thursday, 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 19, Friday..................................Session Ends

AUTUMN QUARTER
September 19-24, Monday through Saturday...........Orientation Week and Registration
September 21-22, Wednesday and Thursday..Registration of Former Students
September 26, Monday.............................Instruction Begins
November 24, Thursday...................................Thanksgiving Day, a Holiday
December 12-15, Monday through Thursday...........Examinations
December 15, Thursday, 5:20 p.m.....................Autumn Quarter Ends; Christmas Recess Begins
Official Directory, 1947-1948

Executive Board

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

Administrative Officers

JAMES A. MCCAIN, Ed.D. ........................................................................ President
RICHARD H. JESSE, Ph.D. ....................................................................... Vice President
JAMES B. SPEER, B.A., LL.B. ................................................................. Controller
JAMES W. MAUCKER, Ph.D. ................................................................. Director of Summer Session;
1Acting Director of Student Personnel Services.
J. EARL MILLER, Ph.D. ........................................................................... Dean of Men
MAURINE CLOW, Ph.D. .......................................................................... Associate Director of Student Personnel Services
LEO SMITH, M.A. .................................................................................. Registrar
A. C. COGSWELL, M.A. ......................................................................... Director, Division of Public Service
ROBERT C. BATES, M.A. ....................................................................... Placement Officer
KATHLEEN CAMPBELL, M.S. ................................................................. Librarian

The Faculty

ADAMS, HARRY F. .................. Associate Professor of Health and Physical
Education; Head Track Coach; Assistant Director of Athletics in
Charge of Minor Sports.
B.A., Montana State University, 1921.

ALBRIGHT, JOY S. (MRS.) .. Assistant in Psychology and Philosophy
B.A., University of Washington, 1940.
ALBRIGHT, ROBERT W. ........................................................................ Instructor in English
B.A., University of Washington, 1938; M.A., Stanford University,
1946.
ALCORN, WILLIAM L. .................................................. Assistant Professor of Journalism
B.A., University of Wyoming, 1923; B.J., University of Missouri,
1926.

ALLEN, EVERETT J. .................. Assistant in Military Science and Tactics
First Sergeant, Infantry, U.S. Army.

AMES, WALTER R. .................................. Professor of Education
Ph.B., University of Wisconsin, 1917; Ph.M., 1918; Ph.D., 1926.
(Out-of-Residence Leave, Autumn Quarter, 1947.)

ANDRIE, EUGENE ........................................................................... Instructor in Music
B.S., Western Michigan College of Education, 1940.

ARMSBY, LUCILLE JAMESON (MRS.) .................................. Secretary to the President
( Assistant Professor)
B.A., Montana State University, 1922.

1Effective September 1, 1947.
2Resigned deanship December 31, 1947.
3Effective September 16, 1947.
4Autumn Quarter, 1947.
5Effective October, 1946.
Armstrong, Robert P. .................................. Instructor in English
B.A., University of Arizona, 1944; M.A., State University of Iowa,
1947.

Arnold, Aben F. ................................. Chairman, Department of Fine Arts;
Associate Professor of Fine Arts.
B.A., State University of Iowa, 1925; M.A., 1928.

Arnold, Margaret. Director, Community Center Play School (Assistant)
B.A., Boston University, 1943.

Arnoldson, Louise G. (Mrs.) ...................... Professor Emeritus of French
Diplôme d'Etudes Françaises de Touraine (Alliance Française-
Université de Poitiers), 1914; B.A., University of Utah, 1919; Docteur de l'Université de Paris (Lettres), 1934.

Atkinson, E. A. ................................. Chairman, Department of Psychology and
Philosophy; Professor of Psychology.
B.A., University of Denver, 1920; M.A., Montana State University,
1922.

Badgley, E. Kirk ................................. University Auditor; Assistant Controller
(Associate Professor)
B.A., Montana State University, 1924.

Bateman, William G. ............................. Professor Emeritus of Chemistry
B.A., Stanford University, 1907; M.A., 1909; Ph.D., Yale University,
1916.

Bates, Robert C. .............................. Placement Officer; Assistant Professor of
History and Political Science.
B.A., Montana State University, 1936; M.A., Oxford University,
1947.

Beatty, Bruce L. ............................... Assistant in Mathematics
B.S., Montana State College, 1947.

Bennett, Edna K. (Mrs.) ......................... Instructor in Mathematics
B.L., University of California, 1912; M.S., University of Chicago,
1917.

Bennett, Edward E. ............................. Professor of History and Political Science
B.A., University of Kansas, 1916; M.A., University of Wisconsin,
1923; Ph.D., 1925. (Out-of-Residence Leave, Summer Quarter, 1947.)

Berg, Irene ...................................... Instructor in English
B.A., Willamette University, 1925; M.A., Montana State University,
1930.

Bischoff, Paul A. ................................. Professor of Spanish
B.S., Montana State University, 1927; B.A., 1928; M.A., Oberlin
College, 1932. (Out-of-Residence Leave, Summer Quarter, 1947.)

Blaesser, Willard W. ......................... Director of Student Personnel Services;
Associate Professor of Education.
B.S., University of Wisconsin, 1934; M.A., 1940.

Blake, Grace E. (Mrs.) ........................... Social Director, South Hall

Boetticher, William D. ........................ Assistant in Social Sciences
B.E., Montana State Normal College, 1946.

Boone, William T. ............................ Instructor in Law and Business Administration
LL.B., Montana State University, 1933.

1Effective August, 1947.
2Effective September, 1947.
3Resigned October 1, 1947.
<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briggs, Edwin W</td>
<td>Professor of Law</td>
</tr>
<tr>
<td>Brody, David S</td>
<td>Director, University Counseling Center; Assistant Professor of Psychology.</td>
</tr>
<tr>
<td></td>
<td>B.S., University of Minnesota, 1932; M.A., 1936.</td>
</tr>
<tr>
<td>Brody, Elizabeth G</td>
<td>Counselor, University Counseling Center</td>
</tr>
<tr>
<td></td>
<td>B.A., University of Minnesota, 1934; M.A., 1934; Ph.D., 1938.</td>
</tr>
<tr>
<td>Brotsman, Jean A</td>
<td>Assistant Reference Librarian (Instructor)</td>
</tr>
<tr>
<td></td>
<td>B.A., University of Akron, 1941; B.S., University of North Carolina Library School, 1942.</td>
</tr>
<tr>
<td>Browder, Walter Gordon</td>
<td>Chairman, Department of Sociology and Social Administration; Professor of Sociology.</td>
</tr>
<tr>
<td></td>
<td>B.A., University of Virginia, 1936; M.A., University of North Carolina, 1941; Ph.D., 1943.</td>
</tr>
<tr>
<td>Browman, Ludvig G</td>
<td>Professor of Zoology and Physiology</td>
</tr>
<tr>
<td></td>
<td>B.S., University of Chicago, 1928; Ph.D., 1935. (Out-of-Residence Leave, Autumn Quarter, 1947.)</td>
</tr>
<tr>
<td>Brown, Marie (Mrs.)</td>
<td>Assistant in English</td>
</tr>
<tr>
<td>Bruns, Paul E</td>
<td>Associate Professor of Forestry</td>
</tr>
<tr>
<td></td>
<td>B.A., New York University, 1937; M.F., School of Forestry, Yale University, 1940.</td>
</tr>
<tr>
<td>Brunson, Royal B</td>
<td>Instructor in Zoology</td>
</tr>
<tr>
<td></td>
<td>B.S., Western Michigan College of Education, 1938; M.S., University of Michigan, 1945; Ph.D., 1947.</td>
</tr>
<tr>
<td>Bryan, Gordon H</td>
<td>Instructor in Pharmacy</td>
</tr>
<tr>
<td></td>
<td>B.S., Montana State University, 1940; M.S., 1947.</td>
</tr>
<tr>
<td>Bryant, Byron R</td>
<td>Instructor in English</td>
</tr>
<tr>
<td>Buck, Phil W</td>
<td>Associate Professor of Psychology and Philosophy</td>
</tr>
<tr>
<td></td>
<td>B.S., Kansas State Teachers College, 1928; M.S., 1930; Ph.D., Ohio State University, 1934.</td>
</tr>
<tr>
<td>Bue, Olaf J</td>
<td>Associate Professor of Journalism</td>
</tr>
<tr>
<td></td>
<td>B.A., Montana State University, 1923; M.S.J., Northwestern University, 1941.</td>
</tr>
<tr>
<td>Buker, Margaret (Mrs.)</td>
<td>Counselor, University Counseling Center</td>
</tr>
<tr>
<td></td>
<td>B.A., Whitman College, 1944; M.A., Montana State University, 1946.</td>
</tr>
<tr>
<td>Buker, Samuel L</td>
<td>Assistant in Psychology</td>
</tr>
<tr>
<td></td>
<td>B.A., Montana State University, 1947.</td>
</tr>
<tr>
<td>Bull, Cecil</td>
<td>Cataloger (Assistant Professor)</td>
</tr>
<tr>
<td>Burgess, Robert M</td>
<td>Assistant Professor of Modern Languages</td>
</tr>
<tr>
<td></td>
<td>B.A., Bridgewater College, 1928; M.A., University of Virginia, 1936.</td>
</tr>
<tr>
<td>Campbell, Kathleen R</td>
<td>Librarian (Associate Professor)</td>
</tr>
<tr>
<td></td>
<td>B.S., University of Denver, 1934; M.S., 1939.</td>
</tr>
<tr>
<td>Carey, Eugene F. A</td>
<td>Associate Professor Emeritus of Mathematics</td>
</tr>
<tr>
<td></td>
<td>B.S., University of California, 1905; M.S., 1914.</td>
</tr>
</tbody>
</table>

Autumn Quarter, 1947.
Effective October, 1947.
Effective January, 1948.
Effective September, 1947.
CARLETON, LINUS J. .........................Assistant Professor of Education
B.A., Intermountain Union College, 1925; M.Ed., Montana State
University, 1940.

1CARROLL, JAMES W. ....Instructor in Sociology and Social Administration
B.A., University of Kansas City, 1946; M.A., University of Florida,
1947.

CASTLE, GORDON B.........................Chairman, Department of Zoology;
Professor of Zoology; Director, Biological Station.
B.A., Wabash College, 1928; M.A., University of California, 1930;
Ph.D., 1934.

CHINSKE, EDWARD S. ....Head Baseball Coach; Head Freshman
Basketball and Football Coach; Assistant Professor of Health and
Physical Education.
B.A., Montana State University, 1930.

CLAPP, MARY B. (MRS.) ......................Instructor in English
B.A., University of North Dakota, 1903; M.A., 1906.
(Out-of-Residence Leave, Spring Quarter, 1948.)

CLARK, FAY G. ...................Professor of Forestry
B.A., University of Michigan, 1912; M.S.F., 1914.
(Out-of-Residence Leave, Summer Quarter, 1947.)

CLARK, WESLEY P ......................Dean, Graduate School; Chairman,
Department of Classical Languages; Professor of Classical Lan-
guages.
B.A., University of Richmond, 1903; M.A., 1904; Ph.D., University
of Chicago, 1928.

CLOW, MAURINE ........Associate Director, Student Personnel
Services; Associate Professor of Psychology.
B.A., Stanford University, 1934; M.A., 1936; Ph.D., 1946.

COAD, FRANCIS E. ........Assistant Professor of Law
B.A., University of Oregon, 1929; J.D., 1931; LL.M., Columbia
University, 1932.

2COE, DONALD R. .........................Instructor in Journalism
B.A., Southwestern College (Kansas), 1938; M.A., Montana State
University, 1947.

3COFFETT, DANIEL E. ...........Assistant in Mathematics
B.E., Illinois State Normal University, 1932; M.A., University of
Wisconsin, 1934.

COGSWELL, ANDREW C. .......Director, Division of Public Service;
Associate Professor of Journalism.
B.A., Montana State University, 1927; M.A., University of Minne-
sota, 1943.

4COLDRON, WILLIAM H. ..............Assistant Professor of Law
B.A., Morehead State Teachers College, 1938; LL.B., University of
Kentucky, 1947.

COLE, LOIS D. (MRS.) ............Instructor in Music
B.M., Montana State University, 1943.

5COLE, RUTH E. .....................Instructor in English
B.A., Hunter College of the City of New York, 1943; M.A., Colum-
bia University, 1945.

1Effective September, 1947.
2Resigned March 22, 1948.
3Resigned December 1, 1947.
4Winter and Spring Quarters, 1948.
5Effective September 1, 1947.
COLEMAN, RUFUS A. ..............................................Professor of English
B.A., Whitman College, 1909; M.A., Columbia University, 1914;
Ph.D., Boston University, 1938.
(Out-of-Residence Leave, Summer Quarter, 1947)

1ColyVill, Francis L. (Mrs.) ..........Instructor in Business Administration
B.A., Montana State University, 1929.

ConLIN, Joseph S. ..................................Associate Professor of Military
Science and Tactics.
Major, U. S. Army Air Corps; A.A., Los Angeles City College, 1939.

Crow, Cleo .............................Assistant Professor of Business Administration
B.S., Kent State University, 1932; M.A., New York University, 1933.
(Out-of-Residence Leave, Summer Quarter, 1947)

Crowder, John B. ....................Dean, School of Music; Professor of Music
B.A., University of Richmond, 1925; M.A., Eastman School of
Music, 1938; studied in Vienna, 1925-28.
(Out-of-Residence Leave, Summer Quarter, 1947)

2Cullison, George B. ..................Associate Professor of Military Science
and Tactics.
Major, Infantry, United States Army; B.A., University of Califor­
nia at Los Angeles, 1938.

Dahlberg, George P. ....................Associate Professor of Health and
Physical Education; Basketball Coach; Assistant Football Coach.
B.A., Montana State University, 1925.
(Out-of-Residence Leave, Summer Quarter, 1947)

Daughters, Freeman .....................Dean Emeritus, School of Education;
Professor Emeritus of Education.
B.A., Kansas Normal College, 1896; S.T.B., Philadelphia Divinity
School, 1903; M.A., Columbia University, 1915; Ed.D. (Honorary),
Intermountain Union College, 1933.

Davis, Kenneth P. ..........Dean, School of Forestry; Professor of Forestry
B.S., Montana State University, 1928; M.F., University of Michigan,
1932; Ph.D., 1940.
(Out-of-Residence Leave, Summer Quarter, 1947)

Demaris, E. Joe .........................Instructor in Business Administration

1Dew, James E. .........................Instructor in Fine Arts

1DickerMAN, Marjorie (Mrs.) ........Assistant in Sociology and Social
Administration.
B.A., Syracuse University, 1934.

Diettert, Reuben A. .....................Associate Professor of Botany
B.A., DePauw University, 1925; M.S., Michigan State College, 1927;
Ph.D., State University of Iowa, 1937.
(Out-of-Residence Leave, Summer Quarter, 1947.)

1Draper, Catherine M. (Mrs.) ............Assistant in Sociology and
Social Administration.
B.S., Northern Illinois State Teachers College, 1947.

Dugan, Edward B. .....................Associate Professor of Journalism
B.J., University of Missouri, 1932; M.A., 1940.
(Out-of-Residence Leave, Summer Quarter, 1947)

1Effective September, 1947.
2Effective January, 1948.
Dwyer, Edwin O. Instructor in Business Administration

Ellen, Betty A. (Mrs.) Instructor in Journalism
B.A., Montana State University, 1942.

Elrod, Morton J. Professor Emeritus of Biology
B.A., Simpson College, 1887; M.A., 1890; M.S., 1902; Ph.D., Illinois Wesleyan University, 1905; L.L.D. (Honorary), Montana State University, 1938.

Ely, Roy J. W. Chairman, Department of Economics; Professor of Economics.
B.Sc. in B.A., University of Nebraska, 1924; M.A., 1925; Ph.D., 1937.

Emblen, Donald J. Professor of Business Administration
B.A., Ohio University, 1932; M.B.A., University of Pennsylvania, 1935; Ph.D., Columbia University, 1944.
(Out-of-Residence Leave, Summer Quarter, 1947)

Ephron, Marguerite H. (Mrs.) Assistant Professor of Latin and Humanities.
B.A., Montana State University, 1931; M.A., 1932.

Eubanks, Burnie L. Assistant in Military Science and Tactics; Military Property Custodian.

Fenton, Ray W. Instructor in Journalism
B.A., Montana State University, 1943.

Ferguson, Mary Elrod (Mrs.) Assistant Director, Museum and Northwest Historical Collection (Assistant Professor).
B.S., Montana State University, 1911; M.A., Columbia University, 1934.
(Out-of-Residence Leave, Autumn Quarter, 1947.)

Fessenden, Douglas A. Professor of Health and Physical Education; Head Football Coach; Director, Intercollegiate Athletics.
B.S., University of Illinois, 1927; M.A., Montana State University, 1946.

Fiedler, Leslie A. Assistant Professor of English and Humanities
B.A., New York University, 1938; M.A., University of Wisconsin, 1939; Ph.D., 1941.

Fish, Lenoire Y. (Mrs.) Instructor in Business Administration
B.E., Wisconsin State Teachers College (Whitewater), 1938.

Fisher, Russell F. Professor of Military Science and Tactics
Lieutenant Colonel, U.S. Army Air Corps.
B.S., University of Idaho, 1940.

Fleming, Harold D. Assistant Professor of Education
B.A., Fairmont State College, 1925; M.A., George Peabody College for Teachers, 1928; Ed.D., University of Colorado, 1946.

Folkerts, Carl J. Professor of Business Administration
B.A., Iowa State Teachers College, 1926; M.A., State University of Iowa, 1932; Ph.D., 1941.

Effective September, 1947.
Ford, James L. C. ...........................Dean, School of Journalism; Professor of Journalism.  
B.A., Lawrence College, 1928; M.A., University of Wisconsin, 1939; Ph.D., University of Minnesota, 1948.

Frankenstein, Marcella ........................Instructor in English  
B.S., Teachers College, Columbia University, 1946; M.A., 1946.

Freeman, Edmund L. ..........................Professor of English  
B.A., Missouri Wesleyan College, 1915; M.A., Northwestern University, 1924.

Freeman, Mary B. (Mrs.) ...........................Assistant in English  
B.S., Northwestern University, 1921.

Fritz, Edmund T. ..............................Instructor in Law and Business Administration  
B.A., Montana State University, 1930; LL.B., 1936.

Frost, Benjamin R. ............................Assistant Professor of Education  
B.S., University of North Dakota, 1933; M.A., University of Minnesota, 1940.

Garlington, J. C. ...............................Assistant Professor of Law  
B.A., Montana State University, 1930; LL.B., 1930.

Garner, Roger J. ..............................Assistant in Military Science and Tactics; Military Property Custodian.  
Master Sergeant, U.S. Army Air Corps.

Gedickian, Hasmig G. ............................Instructor in Music  
B.M., Shenandoah Conservatory of Music, 1943; M.M., Northwestern University, 1946.

Gibson, Daryl J. ...............................Assistant Professor of Music  
B.S., University of Minnesota, 1934; M.A., 1941; Ph.D., State University of Iowa, 1947.

Gilkey, Wallace A. .............................Assistant Professor of Chemistry  
B.A., Stanford University, 1922; Ph.D., 1929.

Gillespie, Helen D. (Mrs.) ...........................Instructor in Mathematics  
B.A., University of Minnesota, 1919.

Gilliland, Gussie D. ................................Instructor in English  
B.A., Montana State University, 1916.

Gleason, Helen .................................Chairman, Department of Home Economics; Professor of Home Economics.  
B.S., Teachers College, Columbia University, 1922; M.A., Columbia University, 1927.  
(Out-of-Residence Leave, Summer Quarter, 1947)

Goeltz, Sylvia .................................Kindergarten Teacher (Instructor)  
B.S., Teachers College, Columbia University, 1945.

Golden, Joe E. .................................Professor of Military Science and Tactics  
Lieutenant Colonel, Infantry, U.S. Army; B.S., United States Military Academy, 1932.

Gordon, Ina C. (Mrs.) ...........................Social Director, Corbin Hall

Gray, J. Justin ....................................Instructor in Music  
B.M., University of Michigan, 1942; M.M., Eastman School of Music, 1946.

Greenfield, Ruth (Mrs.) ..........................Assistant in Health and Physical Education  
B.A., Montana State University, 1944.

1Effective April 21, 1948.  
3Effective October, 1947.  
4Effective September, 1947.
GREGORY, JOHN R. .........................................................Assistant in Mathematics
GEORCHOW, NATALIE ..................................................Residence Hall Director
B.A., Montana State University, 1945.

GULBRANDSEN, NORMAN R. ...........................................Instructor in Music
B.S., University of Utah, 1942; M.M., Northwestern University, 1945.

HAYN, GEORGE R. ....................................................Associate Professor of Military Science and Tactics
B.S., Syracuse University, 1937.

HALL, JOSEPH S. .......................................................Assistant Professor of English
B.A., Stanford University, 1928; M.A., Columbia University, 1936; Ph.D., 1941.

HAMILTON, CHARLES E. ..............................................Assistant Professor of Psychology and Philosophy.
B.A., Michigan State College, 1940; M.A., State University of Iowa, 1942; Ph.D., 1948.

HAMMEN, OSCAR J. ...................................................Assistant Professor of History and Political Science.
B.A., Northwestern College, 1929; B.A., University of Wisconsin, 1930; Ph.D., 1941.

HAMOR, GLENN H. .....................................................Instructor in Pharmacy
B.S., Montana State University, 1941; M.S., 1947.

HANSEN, BERT R. ......................................................Professor of English
B.A., University of South Dakota, 1922; M.A., University of Washington, 1929.

HANSEN, MILTON .......................................................Assistant in Military Science and Tactics
First Sergeant, Infantry, U. S. Army.

HART, JAMES A. .......................................................Instructor in Business Administration
B.A., University of Minnesota, 1934.

HART, ROSE G. (MRS.) ..............................................Assistant in Mathematics
B.S., University of Minnesota, 1928.

HARTLEY, MARCIA J. ...................................................Social Director, North Hall

HARVEY, LEROY H. ....................................................Instructor in Botany
B.S., Western Michigan College of Education, 1936; M.S., University of Michigan, 1946; Ph.D., 1948.
(Out-of-Residence Leave, Spring Quarter, 1948.)

HATTON, CHARLES S. ..................................................Instructor in Economics
B.S., Boston University, 1931; M.A., 1934.

HAUGE, DOROTHEA E. (MRS.) .....................................Instructor in Home Economics
B.S., University of Washington, 1942.

HEISS, ARLiSS M. .....................................................Acting Circulation Librarian (Instructor)
B.S., College of St. Catherine, 1946.

HERTLER, CHARLES F. ................................................Acting Chairman, Department of Health and Physical Education; Associate Professor of Health and Physical Education.

1Effective May 11, 1948.
2Spring Quarter, 1948.
3Effective September, 1947.
5Effective November, 1947.
6Winter Quarter, 1948.
Hetler, Donald M. Chairman, Department of Bacteriology and Hygiene; Professor of Bacteriology.
B.A., Kansas State University, 1918; M.A., 1923; Ph.D., Yale University, 1926.
(Out-of-Residence Leave, Summer Quarter, 1947)

Hetler, Rossleene A. (Mrs.) Assistant Professor of Chemistry
B.A., Oberlin College, 1916; M.A., University of Illinois, 1918; Ph.D., Yale University, 1926.

Hinze, LeRoy W. Director of Dramatics; Instructor in English
B.A., University of Wisconsin, 1944; M.A., Cornell University, 1947.

Hoffman, Rudolph O. Professor of French
Ph.C., State University, Ghent, Belgium, 1910; M.A., University of Wisconsin, 1921; Diplome Superieur d'Etudes de Civilisation Francaise (Universite de Paris), 1929.

Hovee, Agnes B. Hall Director, Residence Halls
B.A., Montana State University, 1935.

Howard, Joseph W. Professor of Chemistry
B.A., Shurtleff College, 1912; M.A., University of Illinois, 1913; Ph.D., 1915.
(Out-of-Residence Leave, Summer Quarter, 1947)

Huck, Robert G. Instructor in Economics

Hulbert, Lloyd C. Instructor in Botany
B.S., Michigan State College, 1940.

Isch, Flora Mae (Mrs.) Assistant in History and Political Science
B.A., Montana State University, 1946.

Jackson, O. I. Assistant in Mathematics
B.S., Montana State College, 1934.

Jeffers, Edmund E. Assistant Professor of Bacteriology
B.A., Luther College, 1934; M.S.P.H., University of Michigan, 1940.

Jeppeson, C. Rulon Professor of Physics
B.A., Brigham Young University, 1928; M.A., University of California, 1930; Ph.D., 1932.
(Out-of-Residence Leave, Summer Quarter, 1947)

Jesse, Richard H. Vice President; Chairman, Department of Chemistry; Professor of Chemistry.
B.A., University of Missouri, 1902; M.A., Harvard University, 1907; Ph.D., 1909.

Joyce, Thomas F. Assistant in Mathematics

Judy, Richard E. Assistant Professor of Chemistry
B.A., Harvard University, 1839; Ph.D., University of Wisconsin, 1943.

Junkermier, Ward F. Instructor in Business Administration (Extension Lecturer).
B.A., University of Washington, 1941; M.B.A., Harvard University, 1942.

Karlin, Jules A. Instructor in History and Political Science
B.S., Georgetown University, 1936; M.A., University of North Carolina, 1937; Ph.D., University of Minnesota, 1940.

1Effective September, 1947.
2Winter and Spring Quarters, 1948.
3Effective October, 1947.
Kelly, Charlotte Ann ..................Library Assistant (Instructor)  
B.S., College of St. Catherine, 1947.

Kramer, Joseph ..................Associate Professor of Botany  
B.S., University of Nebraska, 1921; M.A., 1923; Ph.D., 1936.

Kraus, Louise ..................Instructor in Modern Languages  
M.A., University of Munich, 1918; Ph.D., University of Nancy (France), 1921.

Leaphart, C. W. ..................Dean, School of Law; Professor of Law  
B.A., University of Missouri, 1905; M.A., 1906; LL.B., Harvard University, 1913; S.J.D., 1929.

Lennes, N. J. ..................Professor Emeritus of Mathematics  
B.S., University of Chicago, 1888; M.S., 1903; Ph.D., 1907.

Lester, John ..................Professor of Music  
B.A., B.M., Southwestern University (Texas), 1922; studied in Nice, France, 1923-26; Milan, Italy, 1927-30.  
(Out-of-Residence Leave, Summer Quarter, 1947)

 Lichty, Robert E. ..................Assistant in Military Science and Tactics  
Technical Sergeant, U. S. Army Air Corps.

Line, Robert C. ..................Professor of Business Administration  
B.A., Montana State University, 1910; M.A., Harvard University, 1912.  
(Out-of-Residence Leave, Summer Quarter, 1947.)

Lommasson, Emma B. (Mrs.) ..................Assistant Registrar (Instructor)  
B.A., Montana State University, 1933; M.A., 1939.

Lory, Earl C. ..................Associate Professor of Chemistry  
B.S., Colorado State College, 1928; Ph.D., Johns Hopkins University, 1932.

Lovless, Jay B. ..................Professor of Military Science and Tactics  
Colonel, Infantry, U. S. Army; B.A., Montana State University, 1925.

Lowell, Wayne R. ..................Chairman, Department of Geology; Associate Professor of Geology.  
B.S., State College of Washington, 1936; M.S., University of Chicago, 1939; Ph.D., 1942.

Lyons, Charles R. ..................Director of Student Health Service  
B.A., Miami University (Ohio), 1938; M.D., Ohio State University, 1941.

MacArthur, Eleanor ..................Assistant Director of Residence Halls (Assistant Professor).  
B.A., Montana State University, 1930.

McBride, Maryanne (Mrs.) ..................Assistant in Mathematics  

McCain, James A. ..................President  

McClintock, James ..................Assistant in Military Science and Tactics  
Technical Sergeant, U. S. Army Air Corps.

*Transferred October 1, 1947.  
*Effective September 17, 1947.  
*Effective March, 1948.
McGinnis, Ralph Y. ........................................Associate Professor of Speech
B.A., Kent State University, 1932; M.A., Northwestern University, 1938.

Maddock, William E. .......................Professor Emeritus of Education
B.L., Earlham College, 1894; B.A., Harvard University, 1904; M.A.,
Stanford University, 1922.

Mansfield, Michael J. ......................Assistant Professor of History and
Political Science.
B.A., Montana State University, 1933; M.A., 1934.

Marble, Everett G. ......................Accountant, Veterans' Housing Project
(Instructor).
B.A., Montana State University, 1926.

Martell, Earl W. ......................Editor of Publications (Instructor)
B.A., Montana State University, 1939.

Martin, Lillian ..................................Hall Director, Residence Halls
B.A., Montana State University, 1946.

Martin, Ruby R. ......................Instructor in Modern Languages
B.A., Montana State University, 1934.

Marvin, Edwin L ........Associate Professor of Psychology and Philosophy
B.A., Central College (Missouri), 1921; M.A., Harvard University, 1923.
(Out-of-Residence Leave, Summer and Autumn Quarters, 1947.)

Marvin, Leona S. (Mrs.) ..................Instructor in Music
B.A., Central College (Missouri), 1925.

Mason, David R. ..................Professor of Law
LL.B., University of South Dakota, 1924; B.A., 1926; S.J.D., Harvard
University, 1927.
(Out-of-Residence Leave, Summer Quarter, 1947.)

Maucker, James W. ..............Dean, School of Education; Director of
Summer Session; Director, Student Personnel Services; Professor of
Education.
B.A., Augustana College, 1933; M.A., State University of Iowa,
1936; Ph.D., 1940.

Meadows, Paul ..................Associate Professor of Sociology
B.A., McKendree College, 1935; M.A., University of Washington,
1936; Ph.D., Northwestern University, 1940.

Merriam, Harold G. .......................Chairman, Division of Humanities;
Chairman, Department of English; Professor of English.
B.A., University of Wyoming, 1905; B.A., Oxford University, Eng­
land, 1907; M.A., 1912; Ph.D., Columbia University, 1939.
(Out-of-Residence Leave, Summer Quarter, 1947.)

Merrill, A. S. ..................Director of Institutional Research; Director
of Veteran Education; Chairman, Department of Mathematics;
Professor of Mathematics.
B.A., Colgate University, 1911; M.A., 1914; Ph.D., University of
Chicago, 1916.

Merrill, Lou Alta (Mrs.) ..................Assistant in Mathematics
B.S.C.E., University of Colorado, 1929.

1On Leave of Absence.
2Effective September, 1947.
3Effective September, 1947.
4Resigned effective September 1, 1947.
MEYER, ARTHUR T. .................................................Instructor in Music
B.A., State University of Iowa, 1932; M.A., 1934.

'MILLER, DAVID C. ..................................................Assistant Professor of Physics
B.A., Ripon College, 1939; M.S., Washington University, 1941;
Ph.D., 1947.

MILLER, J EARL ....................................................Chairman, Division of Social Sciences;
Chairman, Department of History and Political Science; Professor
of History and Political Science.
B.A., University of Kansas, 1910; LL.B., 1912; M.A., University of
Illinois, 1914; Ph.D., 1917.
(Out-of-Residence Leave, Spring Quarter, 1948.)

MIRRIELES, LUCIA B. ..................................................Professor of English
B.A., Stanford University, 1909; Ph.D., 1924.
(Out-of-Residence Leave, Summer Quarter, 1947.)

MOE, MOLFRID J. ....................................................Assistant Professor of Home Economics
B.S., North Dakota Agricultural College, 1940.

MOLLETT, CHARLES E. F. ............................................Professor of Pharmacy
Ph.C., University of Kansas, 1904; B.A., Montana State University,
1920; M.S., University of Kansas, 1927.
(Out-of-Residence Leave, Summer Quarter, 1947.)

MOORE, JOHN E. .....................................................Assistant Professor of English
B.A., University of Michigan, 1936; M.A., 1937.

'MOORE, KENNETH E. ..............................................Instructor in Forestry
B.S., University of Connecticut, 1934; M.F., Yale University, 1946.

MORRIS, MELVIN S. .................................................Associate Professor of Forestry
B.S., Colorado State College, 1930; M.S., 1932.
(Out-of-Residence Leave, Summer Quarter, 1947.)

*MOUNTAIN, ROBERT R. ............................................Instructor in Business Administration
(Extension Lecturer).
B.A., Montana State University, 1938; M.A., University of Denver,
1947.

MULLER, JEAN A. ....................................................Assistant in Military Science and Tactics
Master Sergeant, Infantry, U. S. Army.

'MURRAY, PAUL R. ....................................................Instructor in Political Science
B.A., University of Idaho, 1941; M.A., Stanford University, 1947.

'MYERS, ELIZABETH B. (MRS.) .................................Instructor in Music
B.S.M., Cornell College, 1937; M.M.E., Columbia University, 1942.

NELSON, RITA M. (MRS.) ............................Assistant Acquisitions Librarian (Instructor)
B.A., Montana State University, 1934.

'OLESON, VICTOR L., JR. ..............................Assistant in Military Science and Tactics
Master Sergeant, U. S. Army Air Corps.

'OSTROM, T. G. ...................................................Assistant Professor of Mathematics
B.A., University of Minnesota, 1937; B.S., 1939; M.A., 1939; Ph.D.,
1947.

OSWALD, ROBERT M. .................................Instructor in Health and Physical Education
B.A., Montana State University, 1947.

1Effective September, 1947.
2Effective October 1, 1947.
3Transferred, February 17, 1948.
PATTEN, O. M. ...........................................Instructor in Forestry and Forester
B.S., Colorado State College, 1935.
(Out-of-Residence Leave, Winter Quarter, 1948.)

PERKINS, JESSIE V. (Mrs.) .........................Head Teacher, Nursery School
B.A., Montana State University, 1943; M.E., 1946.

PHILLIPS, PAUL C. ......................Director, Museum and Northwest Historical
Collection; Professor of History and Political Science.
B.A., Indiana University, 1906; M.A., 1909; Ph.D., University of
Illinois, 1911.
(Out-of-Residence Leave, Summer Quarter, 1947.)

PLATT, ANNE ............................................Professor of Home Economics
B.S., University of Washington, 1917; M.S., 1928.

POPE, WALTER L. .............................Professor of Law
B.A., University of Nebraska, 1909; J.D., University of Chicago,
1912.

PRITCHARD, ERMA (Mrs.) ............Assistant in Health and Physical Education
B.S., Montana State College, 1930.

RAMSKILL, BERNICE B. (Mrs.) ........Associate Professor of Music

RATLIFF, ROBERT C. ............Assistant Professor of Military Science and
Tactics.
Captain, Infantry, U. S. Army.

RAUK, MARIAN G. (Mrs.) ..................Social Director, Jumbo Hall
B.S., State Teachers College (Wisconsin), 1945.

RAUK, VERNON W. ......................Social Director, Jumbo Hall
Ph.B., University of Wisconsin, 1940; M.A., Montana State Univer­
sity, 1946.

RIMEL, VERA S. (Mrs.) ......................Social Director, New Hall

RINEHART, IRENE MANN (Mrs.) ..........Assistant Professor of English
B.A., University of Virginia, 1936; M.A., 1938; Ph.D., 1942.
(Out-of-Residence Leave, Spring Quarter, 1948.)

ROWE, J. P. ..............................Professor Emeritus of Geology
B.S., University of Nebraska, 1897; M.A., 1903; Ph.D., 1906; D.Sc.
(Honorary), 1935.

RUSSEL, CHARLOTTE ....................Librarian and Secretary, School of Law

RYDELL, O. F. ..............................Instructor in Business Administration
B.S., University of Notre Dame, 1938.

SANFORD, E. R. ........................Professor Emeritus of Business Administration
B.A., Montana State University, 1918; M.A., University of Califor­
nia; C.P.A., California, 1925.

SAPPENFIELD, BERT R. .............Assistant Professor of Psychology and
Philosophy.
B.A., DePauw University, 1935; M.A., New York University, 1938;
Ph.D., 1941.
(Out-of-Residence Leave, Summer Quarter, 1947.)

SARSFIELD, MARGARET D. (Mrs.) .......Assistant in Health and Physical
Education.
B.A., Montana State University, 1937.

1Autumn Quarter, 1947.
2Effective September, 1947.
3Effective April, 1948.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheuch, Frederick C.</td>
<td>President Emeritus; Professor Emeritus of Modern Languages.</td>
</tr>
<tr>
<td></td>
<td>M.E., Purdue University, 1893; A.C., 1894; LL.D. (Honorary), Montana State University, 1938.</td>
</tr>
<tr>
<td>Schmautz, Jack E.</td>
<td>Research Aide in Forest Conservation and Experiment Station.</td>
</tr>
<tr>
<td></td>
<td>B.S., Montana State University, 1947.</td>
</tr>
<tr>
<td>Schreiber, William E.</td>
<td>Professor Emeritus of Physical Education</td>
</tr>
<tr>
<td></td>
<td>B.A., University of Wisconsin, 1904.</td>
</tr>
<tr>
<td>Severy, J. W.</td>
<td>Chairman, Division of Biological Sciences;</td>
</tr>
<tr>
<td></td>
<td>Chairman, Department of Botany; Professor of Botany.</td>
</tr>
<tr>
<td></td>
<td>B.A., Oberlin College, 1915; M.S., Washington University (Missouri), 1926; Ph.D., University of Wisconsin, 1931.</td>
</tr>
<tr>
<td>Shappert, William E.</td>
<td>Professor Emeritus of Physical Education</td>
</tr>
<tr>
<td></td>
<td>B.A., Montana State University, 1904.</td>
</tr>
<tr>
<td>Severy, S. L.</td>
<td>Chairman, Division of Biological Sciences;</td>
</tr>
<tr>
<td></td>
<td>Chairman, Department of Botany; Professor of Botany.</td>
</tr>
<tr>
<td></td>
<td>B.A., Oberlin College, 1915; M.S., Washington University (Missouri), 1926; Ph.D., University of Wisconsin, 1931.</td>
</tr>
<tr>
<td>Shattuck, Amos B.</td>
<td>Assistant Professor of Military Science and Tactics.</td>
</tr>
<tr>
<td></td>
<td>Captain, U. S. Army Air Corps; B.A., Doane College, 1941.</td>
</tr>
<tr>
<td>Shepherd, John R.</td>
<td>Instructor in English</td>
</tr>
<tr>
<td>Sherman, George W.</td>
<td>Instructor in English</td>
</tr>
<tr>
<td></td>
<td>B.A., University of Washington, 1928; M.A., Syracuse University, 1946.</td>
</tr>
<tr>
<td>Shoemaker, Joseph A.</td>
<td>Associate Professor of Military Science and Tactics.</td>
</tr>
<tr>
<td></td>
<td>Major, Infantry, U. S. Army.</td>
</tr>
<tr>
<td>Shoemaker, Theodore H.</td>
<td>Assistant Professor of Modern Languages</td>
</tr>
<tr>
<td></td>
<td>B.A., Montana State University, 1936; M.A., University of California, 1938; Ph.D., University of Wisconsin, 1941.</td>
</tr>
<tr>
<td>Smith, Elizabeth M. (Mrs.)</td>
<td>Instructor in Mathematics</td>
</tr>
<tr>
<td></td>
<td>B.A., Ohio Wesleyan University, 1929; M.A., Ohio State University, 1937.</td>
</tr>
<tr>
<td>Smith, Florence M. (Mrs.)</td>
<td>Professor of Organ and Accompanist</td>
</tr>
<tr>
<td>Smith, George H.</td>
<td>Instructor in English</td>
</tr>
<tr>
<td></td>
<td>B.A., University of California, 1933; M.A., Montana State University, 1946.</td>
</tr>
<tr>
<td>Smith, Leo</td>
<td>Registrar; Assistant Professor of Education</td>
</tr>
<tr>
<td></td>
<td>B.S., Whitman College, 1927; M.A., University of Washington, 1934.</td>
</tr>
<tr>
<td>Smith, Russell E.</td>
<td>Assistant Professor of Law</td>
</tr>
<tr>
<td></td>
<td>LL.B., Montana State University, 1931.</td>
</tr>
<tr>
<td>Smith, Theodore H.</td>
<td>Dean, School of Business Administration; Professor of Business Administration.</td>
</tr>
<tr>
<td></td>
<td>B.A., Heidelberg College, 1921; M.B.A., Northwestern University, 1926; Ph.D., Ohio State University, 1940.</td>
</tr>
</tbody>
</table>

*Summer Quarter, 1947.

*Effective September, 1947.
SMITH, VIRGINIA L. Acquisitions Librarian (Instructor)
B.A. (French), Montana State University, 1933; B.A. (Library Science), 1935.

SNOODGRASS, JOHN M. Assistant in Military Science and Tactics
First Sergeant, Infantry, U. S. Army.

SORENSON, THORA Assistant Professor of Modern Languages
B.A., Montana State University, 1927; M.A., 1945.
(Out-of-Residence Leave, Spring Quarter, 1948.)

SPAULDING, T. C. Professor of Forestry
B.S., Montana State University, 1906; M.S.F., University of Michigan, 1909.
(Out-of-Residence Leave, Summer Quarter, 1947.)

SPEER, J. B. Controller; Professor of Business Administration
B.A., Montana State University, 1908; LL.B., University of Michigan, 1916.

SPEER, LUCILE E. Documents and Serials Librarian (Assistant Professor).
B.A., Montana State University, 1924; M.A., University of Chicago, 1925.

STEWART, JOHN M. Assistant Professor of Chemistry
B.A., Montana State University, 1941; Ph.D., University of Illinois, 1944.

1STOERKER, LEWIS W. Instructor in English (in Dramatics)

2STOLFA, LADISLAV Associate Director of Student Health Service
M.D., University of Illinois, 1916.

1STOOLEY, AGNES L. Associate Professor of Physical Education
B.A., San Jose State College, 1927; M.S., University of Wisconsin, 1932; Ed.D., Stanford University, 1947.

STRUCKMAN, ROBERT P. Assistant Professor of Journalism
B.A., Montana State University, 1933; M.A., 1947.

SUCHY, JOHN F. Professor of Pharmacy
Ph.C., B.S., Montana State University, 1917; M.S., University of Colorado, 1927; Ph.D., 1934.

SULLENBERGER, CARL L. Director, Affiliated School of Religion
B.A., Baylor University, 1930; B.D., Andover Newton Theological School, 1933.

3SUTTER, JEAN L. Hall Director, Residence Halls
B.S., Kansas State College, 1946.

SWANN, EVERETT H. Assistant in Military Science and Tactics
Master Sergeant, U. S. Army Air Corps.

4SUREINGEN, MONICA B. (MRS.) Director of Residence Halls; Professor of Home Economics.
B.A., Montana State University, 1918; M.A., Columbia University, 1924.
(Out-of-Residence Leave, Summer Quarter, 1947.)

SUREINGEN, T. G. Maintenance Engineer (Assistant Professor)
B.A., Montana State University, 1920.
(Out-of-Residence Leave, Summer Quarter, 1947.)

1Effective September 1, 1947.
2Effective September 29, 1947.
3Effective October 1, 1947.
4Deceased February 27, 1948.
Swent, John D. .................. Assistant in Military Science and Tactics
Master Sergeant, Infantry, U. S. Army.

Szakash, Paul M. .......... Instructor in Health and Physical Education;
Assistant Football Coach; Head of Intramural Sports.

Tascher, Harold ............ Associate Professor of Social Administration
B.A., University of Illinois, 1925; M.A., 1926; Ph.D., 1932.
(Out-of-Residence Leave, Summer Quarter, 1947.)

Teel, Stanley M. .................. Professor of Music
B.Mus., DePauw University, 1925; M.Ed., Montana State University,
1943.

Thomas, Bart E. .............. Chairman, Department of Modern Languages;
Professor of Spanish.
B.S., Wisconsin State Teachers College, 1901; B.A., Montana State
University, 1924; Ph.D., University of Wisconsin, 1937.

Thomas, Leo A. .................. Assistant Professor of Geology
B.A., State University of Iowa, 1940; M.A., University of Missouri,
1942; Ph.D., 1948.

Thompson, Jennie J. (Mrs.) .......... Night Hostess, New Hall

Toelle, J. Howard ............ Dixon Professor of Law
B.A., Indiana University, 1913; LL.B., Columbia University, 1914;
M.A., 1916; LL.M., Harvard University, 1925.
(Out-of-Residence Leave, Summer Quarter, 1947.)

Turner, Robert T. .................. Assistant Professor of History and
Political Sciences.
A.A., Long Beach City College, 1937; A.B., University of California
at Los Angeles, 1939; M.A., 1940; Ph.D., 1945.

Van Duser, Cyrille C. ...... Manager, Montana Student Union (Instructor)
B.A., Montana State University, 1927.

Varneck, Elena .................... Instructor in Modern Languages
B.A., Smolny College (St. Petersburg), 1913.

Walbridge, Thomas A., Jr. .......... Instructor in Forestry
B.S.F., University of Washington, 1942; M.S.F., Montana State Uni-
versity, 1948.
(Out-of-Residence Leave, Winter Quarter, 1948.)

Waldon, Curtis H. ............. Dean, School of Pharmacy;
Professor of Pharmacy.
B.S.Ph., University of Minnesota, 1935; M.S., 1937; Ph.D., 1941.
(Out-of-Residence Leave, Summer Quarter, 1947.)

Water, Charles W. ............. Professor of Forestry and Botany
B.S., B.L., Berea College, 1919; M.A., Ohio State University, 1921;
Ph.D., University of Michigan, 1927.

Weisberg, A. Herman .......... Professor Emeritus of Music
Studied Leipsig Royal Conservatory, Germany, 1901-1903; Paris,
1903-1904.

Weisberg, Flora B. (Mrs.) .... Assistant Professor Emeritus of German
B.A., Montana State University, 1928.

1Weisel, George F. .................. Instructor in Zoology
B.A., Montana State University, 1940; M.A., 1942.

1Effective September, 1947.
WENDT, RUDOLPH ..................................................Assistant Professor of Music
B.M., Eastman School of Music, 1936; M.M., 1946.

WENRICH, DOROTHEA ...........................................Assistant Cataloger (Instructor)

WHALEN, JOHN T. ...................................................University Physician and Associate
Director, University Health Service.
B.S., Carroll College, 1939; M.D., St. Louis Medical School, 1942.

WHITE, M. CATHERINE ............................................Assistant Librarian and Reference
Librarian (Assistant Professor).
B.A., Montana State University, 1927; M.A., 1940.
(Out-of-Residence Leave, Winter and Spring Quarters, 1948.)

WHITE, MARGARET N. (MRS.) ..................................Assistant Reference Librarian
(Instructor).
B.A., College of St. Teresa, 1935; B.S.L.S., George Peabody Library
School, 1940.

WILLIAMS, CALDER T. ............................................Instructor in English
B.A., University of California at Los Angeles, 1939.
(Out-of-Residence Leave, Winter Quarter, 1948.)

WILSON, BRENDA F. (MRS.) .....................................Associate Professor of
Business Administration.
B.A., Montana State University, 1932; M.A., University of Southern
California, 1939.

WILSON, VINCENT ...............................................Assistant Professor of Health and
Physical Education.
B.A., Montana State University, 1943; M.A., New York University,
1947.

WOLFAU, JOHN A. ..................................................Assistant Professor of Economics
B.A., University of Washington, 1936; M.A., 1937; Ph.D., University
of Wisconsin, 1942.

WORRICK, DONOVAN ............................................Instructor in Law
LL.B., B.A., Montana State University, 1923.

WREN, MELVIN C. ..............................................Assistant Professor of History and Political Science
B.A., State University of Iowa, 1936; M.A., 1938; Ph.D., 1939.

WRIGHT, PHILIP L. ..............................................Associate Professor of Zoology
B.S., University of New Hampshire, 1933; M.S., 1937; Ph.D., University
of Wisconsin, 1940.
(Out-of-Residence Leave, Summer Quarter, 1947.)

YATES, LELAND M. ..............................................Instructor in Chemistry
B.A., Montana State University, 1938; M.A., 1940.

ZAHN, HENRY L. ..............................................Lecturer in Business Administration
B.S., Jamestown College, 1928; M.A., Montana State University,
1938.

1Effective September, 1947.
2Resigned August 22, 1947.
3Resigned October 17, 1947.
4Resigned March 31, 1948.
6Spring Quarter, 1948.
Graduate Assistants

1Abram, Suzanne ..........................Graduate Assistant in Pharmacy  
Diplome de Pharmaciens, Faculte Mixte de Medecine et Pharmacie,  
University of Algiers, 1947.

2Barnes, Antrim E., Jr. .................Graduate Assistant in Education  
B.E., Montana State Normal College, 1935.

Boe, Harold F. ..........................Graduate Assistant in English  
B.A., Montana State University, 1946.

Brensdal, Trygve ........................Graduate Assistant in Pharmacy  
B.S., Montana State University, 1947.

Carr, Della V. ..........................Graduate Assistant in Classical Languages  
B.A., Montana State University, 1938.

Castles, Wesley ........................Graduate Assistant in Forestry  
B.S., Montana State University, 1939.

Conaway, Clinton H. .....................Graduate Assistant in Zoology  
B.S., Purdue University, 1947.

3Cumming, John L. .......................Graduate Assistant in Economics  
B.A., Montana State University, 1947.

Deutsch, Marguerite .....................Graduate Assistant in Modern Languages  
B.A., College of Notre Dame (Luxembourg), 1938; M.A. in French  
and German, University of Heidelberg, 1944.

Ephron, Henry D. .......................Graduate Assistant in Classical Languages  
B.A., University of Chicago, 1925.

Ford, Joan K. ..........................Graduate Assistant in English  
B.A., Montana State University, 1945.

Grilley, Helen (Mrs.) ....................Graduate Assistant in Education  
B.A., Montana State University, 1947.

Hammond, Kathleen .....................Graduate Assistant in English  
B.S., University of Idaho, 1947.

Henningsten, Fred A. ...................Graduate Assistant in Business Administration  
B.A., Montana State University, 1947.

Jackson, Bynum M. .....................Graduate Assistant in Bacteriology  
B.S., Carroll College, 1947.

Karlin, Marjorie R. .....................Graduate Assistant in English  
B.A., Montana State University, 1947.

4Kestle, Gwen ..........................Graduate Assistant in Education  
B.A., Montana State University, 1944.

King, Walter N. ........................Graduate Assistant in English  
B.A., Montana State University, 1946.

Lovick, Earl D. .........................Graduate Assistant in Business Administration  
B.A., Montana State University, 1947.

1Winter and Spring Quarters, 1948.  
2Autumn Quarter, 1947.  
4Spring Quarter, 1948.
Official Directory

O'Callahan, Alex ... Graduate Assistant in Health and Physical Education
B.S., Jamestown College, 1933.

Mewalt, L. Richard ................. Graduate Assistant in Zoology
B.A., University of Iowa, 1939.

Miller, Roy N. .................... Graduate Assistant in English

Newby, Burton C. ................. Graduate Assistant in English

O'Neil, Carle F. ....... Graduate Assistant in History and Political Science
B.A., Carleton College, 1943.

Perkins, Virginia E. ....... Graduate Assistant in English
B.A., Montana State University, 1944.

Saab, William A. ............... Graduate Assistant in History and
                           Political Science.
B.A., Montana State University, 1944.

Sanderson, Arthur M. ....... Graduate Assistant in English
B.A., Montana State University, 1943.

Sheehy, Jay F. ................ Graduate Assistant in Business Administration
B.S., Montana State University, 1947.

Stodder, Abbe Joy ............... Graduate Assistant in Modern Languages
B.S., University of Minnesota, 1947.

Toole, Kenneth R. .............. Graduate Assistant in History and
                           Political Science.
B.A., Montana State University, 1947.

Ulmer, David H. G., Jr. ........ Graduate Assistant in Botany
B.A., Duke University, 1946.

Van Haverbeke, Marle (Mrs.) .... Graduate Assistant in English
B.A., Pacific University, 1946.

Wood, Morton A. ................ Graduate Assistant in Botany
B.S., University of Idaho, 1938.

Wylder, Robert C. ............... Graduate Assistant in English
B.A., Montana State University, 1947.

Special Appointments for Summer Session, 1947

Allender, Mary E. (Mrs.) ... Assistant in Health and Physical Education
Atwood, Theron W. ................ Visiting Professor of Law
Baldwin, Boyd F. ................ Visiting Instructor in Education
Barnett, Glenn E. ................ Visiting Lecturer in Education
Bendixen, Ethel T. .............. Lecturer in Business Administration
Bergan, K. W. ..................... Visiting Instructor in Education
Cheney, Truman .................. Visiting Instructor in Education
Clinton, Evelyn .................. Visiting Instructor in Education
Colburn, Martha J. .............. Visiting Instructor in Education and Art
Davison, Stanley R. ................ Instructor in Economics
Douglas, Harriett C. (Mrs.) .... Visiting Instructor in Home Economics
Ellis, Leon H. .................... Visiting Professor of History and Political Science

1Winter and Spring Quarters, 1948.
2June 1, 1947 to October 1, 1947.
EVENSON, PATTEE .................................................. Visiting Professor of Music
GLORE, VIRGINIA (Mrs.) ........................................ Instructor in Education
GOARD, HOWARD ................................................ Visiting Instructor in Education
GULLIDGE, A. O. .................................................. Visiting Professor of Education
HAINES, MILLENT ................................................ Visiting Professor of Education
HASKINS, LNEZ .................................................. Visiting Instructor in Education
HAYNES, CHARLES D. ......................................... Visiting Instructor in Education
HOOK, WALTER .................................................. Instructor in Mathematics
HOWELL, CHARLES .............................................. Visiting Professor of Education
KIPP, MARY F. .................................................. Visiting Instructor in Education
KLAFS, CARL ........................................................ Visiting Instructor in Education
LEFORT, EMILIO C. .............................................. Visiting Professor of Modern Languages and Education
LONG, MADELINE S. ............................................. Visiting Professor of Education
MAESCH, LAVAHN ............................................... Visiting Professor of Music
MARTIN, WILLIAM E. ........................................ Visiting Instructor in Education
MARTINSON, ALVHILD ......................................... Lecturer in Business Administration
PAUL, EARL A. .................................................... Visiting Professor of Education
PECK, CLEMMEN ................................................. Visiting Instructor in English
RHYNE, J. J. ......................................................... Visiting Professor of Economics and Sociology
TEMPLETON, PAYNE ........................................ Visiting Instructor in Education
TUPPER, DOROTHY ............................................... Visiting Instructor in Education
WHITNEY, C. FRANCES .......................................... Visiting Professor of Education
WEEKS, GEORGE D. ............................................. Visiting Professor of Music
WELLER, PHILIP ................................................... Visiting Lecturer in Music
WILLIAMSON, E. G. ............................................. Visiting Lecturer in Education
ZAHN, HENRY L. .................................................. Lecturer in Business Administration

Montana State Board of Examiners in Accountancy

ROWLAND, ALFRED J.—C.P.A., Chairman............................... Miles City
BJORNLAIE, CONRAD T.—LLB., C.P.A., Secretary.................. Great Falls
FINLAY, WILLIAM B.—C.P.A. ............................................. Great Falls
Early History

Montana State University is one of the four original units of Montana's higher educational system. It was chartered by the Third Legislative Assembly as the University of Montana on February 17, 1893, during the same month that the Montana State Agricultural College, the Montana State School of Mines, and the Montana State Normal College were authorized. The assembly located the institutions at Missoula, Bozeman, Butte and Dillon, respectively.

Each of these institutions was placed under the supervision of the state board of education with local authority vested in the president and a local executive board. They received their support from grants of land made by acts of Congress of February 18, 1881, and February 22, 1889, and subsequent appropriations by legislative assemblies.

The University of Montana

In 1913 the Thirteen Legislative Assembly combined the four units into a state higher educational system under the executive control of a Chancellor and gave to the system the name: the University of Montana. The institution located at Missoula became known as the State University of Montana until 1935 when it was designated Montana State University by legislative act.

The University of Montana has had four chancellors: Dr. Edward C. Elliott, 1915 to 1923; Dr. Melvin A. Brannon, 1923 to 1933; Dr. Ernest O. Melby, 1943 to 1944; and the present chancellor, Dr. George A. Selke, who was appointed April 8, 1946. During the period from 1933 to 1943, when no chancellor was appointed, the work in the office of the University of Montana was directed by Dr. H. H. Swain, executive secretary, and, after his death, by Miss Dorothy Green.

Since the inauguration of the chancellor system, two more units have been added to the University of Montana: Eastern Montana State Normal College at Billings, by the Nineteenth Legislative Assembly in 1925, and Northern Montana College at Havre, by the Twenty-first Assembly in 1929.

Since 1920, three legislative assemblies have passed and submitted to the voters for approval annual tax levies over a ten-year period for the operation and maintenance of the University units. The last such referendum was passed in 1940 allowing a levy up to three and one-half mills. Early in 1947, the Thirtieth Legislative Assembly approved for referral to the voters at the 1948 election a proposed six-mill levy for this purpose to become operative in 1949.

Also approved by the Thirtieth Legislative Assembly was a referendum calling for a $5,000,000 bond issue for the construction of buildings on the campuses of the six units. It, too, will be voted on in the 1948 election.

Montana State University

Montana State University was formally opened in September 1895 (two years after it was chartered) in a borrowed grade-school building in southwest Missoula. Not until 1899 did it move to its present 125-acre campus, after its first two buildings, University (Main) Hall and Science Hall, were completed.
In its more than 50 years of service to Montana, it has grown from an institution serving a student body of 50 with a faculty of five, to one with a gross registration of more than 3,600 and a faculty of approximately 270.

The State University's buildings, equipment and grounds now are valued at approximately three and three-quarter million dollars, and its holdings include some 20,000 acres of experimental forest and range land and a 160-acre biological station on Flathead lake.

Since its establishment, Montana State University has been served by eight presidents: Oscar J. Craig, 1895 to 1908; Clyde A. Duniway, 1908 to 1912; Edwin B. Craighead, 1912 to 1915; Edward O. Sisson, 1917 to 1921; Charles H. Clapp, 1921 to 1935; George Finlay Simmons, 1936 to 1941; Ernest O. Melby, 1941 to 1943, and 1944 to 1945; and present president James A. McCain.

During interim periods between presidential appointments, the University was served by Frederick C. Scheuch, 1915 to 1917, and 1935 to 1936; and Charles W. Leaphart, 1941, and 1943 to 1944, as acting presidents.

Accreditation

Montana State University is fully accredited by the Association of American Universities as well as by the Northwest Association of Secondary and Higher Schools, one of the five reciprocal regional accrediting agencies.

Environment

Montana State University is situated at Missoula, county seat of Missoula county, and one of the largest cities in western Montana. It is on the main lines of the Northern Pacific and the Chicago, Milwaukee, St. Paul & Pacific railroads.

In addition, branch lines from the Coeur d'Alenes and the Bitter Root and Flathead valleys terminate here. Missoula is also on U. S. Highways No. 10 and 93 and the main line of the Northwest Airlines.

Missoula is a pleasant residential city with a population of approximately thirty thousand. It has a mild, healthful climate. 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 lies southeast of the business district and at the foot of Mount Sentinel. 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 Library

The library, which contains about 260,544 volumes and government documents, is housed in the library building and in the departmental libraries. The faculty and library staff of the University have free access to the stacks. Any undergraduate or graduate student may obtain "stack permission" for one year by securing the signature of a faculty member and the approval of the librarian on a pass card to the
REQUIREMENTS FOR ADMISSION

stacks. Any reputable person not connected with the University may obtain admittance to the stacks with the signature of the librarian on a pass card.

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

**Museums and Collections**

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 fauna and flora of the state.

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

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

The Northwest Historical Museum, containing valuable historical and archaeological materials, is on the third floor of the Journalism building. It is becoming an important repository for many items important in the story of the development of the Northwest.

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

**Requirements for Admission**

Students applying for admission should send in the following credentials:
(a) An original transcript of high school credits, signed by the principal.
(b) Official transcript from each college attended, including institutions attended while in military service.
(c) Statement of honorable dismissal from the last college regularly attended.
(d) An application for admission filled out on a form provided by Montana State University.

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

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

Applicants for admission who fail to present proper certificates **will not be admitted to registration.** Forms for applying for admission may be obtained on application to the Registrar.
The University may require a deposit of $25.00 of applicants for admission who are not residents of Montana at the time of their acceptance for admission, this deposit to be refunded when the student matriculates and pays registration fees.

**General Admission**

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

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

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

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

Students who have not completed these required courses must: (1) pass an entrance examination in the subject in which they are deficient; or (2) earn eight college credits per unit 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, unless unavoidable schedule conflicts make it impossible to do so, in which case the requirement may be deferred by petition.

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 as described under General Admission; provided that any graduate of a Montana high school accredited by the State Board of Education for the work of only one, two, or three years, may receive entrance credit without examinations upon such work as has been successfully completed in such accredited courses, as shown by official certificates.

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

Veterans who wish to clear entrance requirements by use of the General Educational Development tests at the high school level should write or contact the Director of the Counseling Center well in advance of the date on which they expect to present themselves for examination.

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 by making up the lacking unit in one year from the date of his first registration.

Admission by Transfer from Other Units of the University of Montana

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

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

A student suspended or dropped from one of the other institutions of the University of Montana for reasons other than low scholarship will be admitted only with the approval of the president of the institution from which he was suspended or dropped.

Admission by Transfer from Other Colleges and Universities

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

Graduates of an approved two-year normal course requiring fifteen units for entrance are admitted to junior standing. Students who com-

*These fifteen units must include the required subjects listed above. A student offering foreign languages as a part of his preparation must present at least two units in one language.
plete only part of the two-year normal college course may receive credit in the University for such work as may be found to represent the equivalent of courses required or permitted as electives in the University.

When credits are accepted from another college, grade points are evaluated at the time of transfer (see pages 35 and 40). Students entering with fewer grade points than credits must earn enough additional grade points at Montana State University to satisfy the grade point requirement for graduation. A transfer student must meet the grade point requirement on credits earned at Montana State University as well as on his entire record.

**Admission of Special Students**

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

Special students are permitted to continue in the University only in case they carry the work satisfactorily. If it becomes evident that they are unable to carry university work, their relations with the University may be severed at any time. In order to be able to register for a fourth or any succeeding quarter as a special student, the sum of the student's grade points (both positive and negative) must be at least equal to the total number of credits earned. See “Grade Points,” page 41.

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 28. 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 Montana State University a special student must fulfill the same requirements for graduation as a regular student.

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

**Credits Earned While in Military Service**

Unassigned credit, not to exceed 12 quarter credits, is granted for educational growth while in military service, depending on length of time in the service. Three quarter credits are granted for the first three months of service and one additional quarter credit for each subsequent four months of service up to the maximum of 12 quarter credits. Time spent in college training programs such as C.T.D.

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

A.S.T.P. and Navy V-12, will be deducted in computing this credit grants. Credit will be granted for work completed in special service training courses in accordance with the recommendations of the American Council on Education in the "Guide to Evaluation of Educational Experiences in the Armed Forces" upon the presentation of evidence of satisfactory completion of such courses. The veteran may apply for such credits after matriculation at Montana State University.

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

Ineligibility for Admission to Junior Class

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

Admission to Graduate Standing

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

Requirements for Graduation

Degrees and Certificates

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

The College of Arts and Sciences confers upon its graduates the Degree of Bachelor of Arts, Bachelor of Science in Medical Technology, or Bachelor of Science in Wild Life Technology. Students doing major work in Law may also secure the Bachelor of Arts degree by meeting the requirements of the College of Arts and Sciences.

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

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

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

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

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

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

The Secondary State certificate of qualification to teach may be obtained by graduates of Montana State University who meet the requirements set forth in the School of Education. (See Certification page 86.)

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

The degrees of Master of Arts and Master of Science in the College of Arts and Sciences, Master of Science in Forestry, Master of Science in Pharmacy, and Master of Science with a combined major in Botany and Forestry, Master of Arts in Business Administration, Master of Arts in Journalism, Master of Arts in Education, are granted to those who complete a satisfactory course of at least one year in graduate work beyond that required for a Bachelor's degree provided they comply with the regulations governing graduate work set forth on pages 117 to 121.

The Master of Education degree is granted to those who complete a minimum period of teaching, at least one year of graduate work beyond that required for a Bachelor's degree and a professional paper. (See page 119.)

The Master of Forestry degree is granted to those who complete at least one year of graduate work beyond that required for the degree of Bachelor of Science in Forestry and who complete a professional paper. (See page 120.)

The Master of Music degree in Music Education is granted to those who complete at least one year of graduate work beyond that required for the degree of Bachelor of Music in Music Education and who complete a professional paper.

Candidacy for a Degree

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

Credits Required for Graduation

The work in Montana State University is named in terms of credit. One credit represents three hours of time per week for one quarter of twelve weeks. The time required for each credit may be distributed in any combination among preparation, recitation, lecture, or laboratory work.

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

Credits Required for a Major. A department or school may require that the major students complete from 40 to 55 credits in the chosen field. Not more than 65 credits in any one department or school, including 5 credits earned in survey courses given in the Division, may be counted toward graduation. These rulings do not apply in the Schools of Business Administration, Forestry, Journalism, Law, Music, or Pharmacy. Exceptions to these regulations may be made on the basis of entrance credits in the Departments of Modern and Classical Languages and Mathematics. Not more than 65 credits in one foreign language nor more than 90 credits in all foreign languages, may be counted toward graduation. Not more than 90 credits of English, Drama and Speech for a combined major and teaching minor may be counted toward graduation. Not more than 21 credits in Military Science, nor 15 credits in Religion may be counted toward graduation. Except in the School of Music, not more than 12 credits in applied music nor 6 credits in ensemble music may be counted toward graduation. Not more than 15 credits earned in Business Administration 20, 21, 22, and 23ab may be applied toward graduation by students not majoring in Business Administration.

Course Requirements for Graduation

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

1. Physical Education, 6 quarters (6 credits) required of all freshmen and sophomore students (except discharged veterans) less than 27 years of age, unless excused for cause.

2. Military Drill, 6 quarters (6 credits) required of all freshmen and sophomore men, (except discharged veterans) unless excused for cause.

3. English Composition, 3 quarters (9 credits) or 2 quarters (10 credits). During Orientation Week all freshmen must take a placement examination in English composition. Students who place high in this examination will be excused from taking the first quarter of required composition (English 11a or 12a). Students failing to attain an acceptable college standard in this placement will be required to take English A without credit before enrolling for English 11a or 12a. English Composition 11ab or 12abc, must be taken in the freshman year, preferably consecutively. Students who receive a grade of "A" in English 11a will be exempted from the requirement of the second quarter; those who receive "A" in 12b, from 12c.

Restricted Elective Courses. All candidates for the Bachelor's degree, except candidates for the degree of Bachelor of Laws, Bachelor of Science in Forestry, Bachelor of Science in Pharmacy, or Bachelor of Music must meet the following requirements, unless otherwise indicated: (See page 153 for requirements for Bachelor of Music degree in field of applied music.)

1. Two of the following general courses must be completed:
Social Science 11abc, Biological Science 13abc, Humanities 13abc, Physical Science 17abc. This requirement may be waived for transfer students entering Montana State University with junior standing. Five of the credits earned in survey courses given in the division (whether the course was taken for one, two, or three quarters) are included in the maximum of 65 credits allowed in any one department. Completion of courses 13abc or 17abc, 11abc, 15abc also satisfies the specific requirements under (2), (3), and (4), respectively, as listed below. Note: By action of the faculty this was suspended during the period of the war until peace is declared.

(2) Bacteriology, Botany, Chemistry, Geology, Mathematics, Physics, Zoology; 3 quarters (12 credits, eight of which must be in one science or in mathematics) or one of the general courses, Biological Science 13abc, Introduction to Biological Science, and Physical Science 17abc, Introduction to Physical Science. The combined sciences for high school and the University must include not less than two different sciences of this group. In each of these two sciences the student must offer not less than one unit or eight credits. With the exception of the two general courses, science subjects in which laboratory work is not required shall not be considered as satisfying the restricted elective requirement in science. The amount of laboratory work necessary to the courses for fulfillment of the requirement is one laboratory period of not less than two hours per week.

(3) Anthropology, Economics, History, Political Science, Sociology; 2 quarters (8 credits) or the course, Social Science 11abc, Introduction to Social Science.

(4) English Literature, Philosophy, Psychology; 2 quarters (8 credits) or the course, Humanities 15abc, Introduction to the Humanities.

Foreign Language Requirement. In certain departments a language is required for graduation. See the department in question for the specific requirement.

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

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

Divisional, Departmental, and School Requirements for Graduation

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

Grade Point Requirements for Graduation

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

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

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

Residence Requirements for Graduation

1. One year of residence, or three summer sessions of ten weeks each, at Montana State University, during which the student must complete 45 credits of college work, is the minimum requirement.
2. Thirty-five of the last 45 credits required for graduation must be earned in residence in the University.

3. Not more than 45 credits earned by correspondence study may be counted toward graduation.

**Senior Examinations**

1. All students, before receiving the Bachelor's degree from Montana State University, may be required by the school or department in which they are majoring, to pass a special examination to be known as "Senior Examination" covering the field of concentration. This examination shall not in any way replace the regular quarterly examination except that departments adopting these Senior Examinations may excuse their major students during the senior year from regular quarterly examinations in major department subjects. Each department or school must announce its intention with regard to Senior Examinations in the catalog.

2. The field of concentration shall include the total major requirements and such additional subjects as the major department or school may determine. It is to be understood that the questions asked are not to be limited to the courses taken.

3. The examination shall be a written examination of at least three hours, and in addition further oral or written examinations may be given.

4. The examination in each case shall be in charge of the major department or school concerned. Such parts of the examination as lie outside of the major subjects shall be furnished by the departments whose work is represented.

5. The examinations shall be given in the last quarter of senior residence and may be arranged in each department or school at the convenience of the persons concerned. Reports on such examinations shall be made to the Registrar not less than four weeks prior to the close of the quarter.

6. The same grades shall apply as in the quarterly examinations. If a student fails to pass this special examination he shall be given another opportunity within six months without the necessity of taking additional courses. In case of a second failure further opportunity will be granted at the discretion of the department or school concerned and the Committee on Admission and Graduation.

**Senior Examinations for Honors**

A student who wishes to be graduated with honors must meet with the following requirements: (1) At the beginning of his last quarter he must have an index of 2.0 ("B" average) for every credit taken over his entire record as well as in the major field. Students who transfer credits earned elsewhere to this university must meet the scholastic index indicated on grades earned at Montana State University as well as on those transferred. (2) He must take an examination, oral or written, or both, as determined by the major department. (3) He must pass these examinations with a grade of A or B. (4) After these qualifications have been met, the candidate for honors must then receive the recommendations of his major department and of the faculty of Montana State University.

**Registration**

Not later than the junior year, every student must choose a major department or school. Regular students are required to follow a curric-
Requirements for Graduation

ulum so that they will normally complete all the required courses and restricted electives by the end of their junior year. A student's registration is subject to the approval of an appointed faculty adviser until choice of a major department or school has been made; after this choice, the head of the department or school selected becomes the adviser.

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

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

<table>
<thead>
<tr>
<th>Classification of Student</th>
<th>Number of Courses Allowed*</th>
<th>Restricted Elective Requirement (See page 33)</th>
<th>Maximum Credit**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>3</td>
<td>2 courses from 2 different groups</td>
<td>$15 + 2 \text{ Cr.}\dagger$</td>
</tr>
<tr>
<td>Sophomores</td>
<td>4</td>
<td>1 course</td>
<td>$16 + 1 \text{ Cr.}\dagger$</td>
</tr>
<tr>
<td>Juniors</td>
<td>no limit</td>
<td>1 course until requirements are completed</td>
<td>16</td>
</tr>
<tr>
<td>Seniors</td>
<td>no limit</td>
<td>1 course until requirements are completed</td>
<td>16</td>
</tr>
</tbody>
</table>

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

During the first four weeks of the quarter a student may change his enrollment with the written approval of his adviser and of the instructors concerned. After the fourth week he must, in addition to the above, obtain the approval of the Chairman of Advisers. (See information regarding Scholarship Grades on page 40 and regarding Fees on page 41.)

**Repetition of Course.** When a student completes a course in which he has previously received credit, the credit and the grade first received are automatically cancelled when the second grade is recorded, even if the second grade is lower.

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

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

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

$\dagger$These 2 credits may be in applied or ensemble music, or in applied acting and stagecraft, or in current events, or in a combination of these courses, and are permitted only when the student maintained a C average during the previous quarter in residence. Note that in the sophomore year only one credit in the applied courses listed above may be permitted in addition to the regular 16 credits.
Duplication of Courses. Responsibility for loss of credit because of duplication of courses rests with the student.

Veteran Registration. Veteran students are subject to the same rules as other students.

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

Orientation Week

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

This 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 new student some orientation to the curricular and extra-curricular offerings of the University. Counseling and guidance services are provided for the assistance of students in determining courses of study and fields of specialization. Certain tests are administered to all new students in order to provide information which may be of help to the student in attaining his educational and vocational objectives.

Student Personnel Administration

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

The Office of the Dean of Students has general supervision and, subject to the rules of the faculty, final authority over student affairs, conduct, manner of living and various other matters pertaining to the welfare of students. It participates in the administration of scholastic honors and deficiencies. The Student Personnel staff is always ready to give assistance to any student either in educational or personal matters.

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 full knowledge of its contents.”
Attendance

All students compelled to be absent from Missoula should report their intended absence in advance to the Student Personnel Office, 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.

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

Student Marriages

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

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

Social Functions

The approval of the Associate Dean of Students is obtained for all social functions of student organizations at which women are present. The Associate Dean assists in securing approved chaperons and schedules. These functions shall be for Friday and Saturday evenings only.

University Services for Veterans

All of the facilities of the University have of course been expanded to meet the needs of veterans. In any situations where these facilities and services are not adequate the Director of Veteran Education will be glad to provide personal assistance to the veteran. Incoming veterans, however, are asked to correspond directly with the University official in charge of the particular service desired, such as the Registrar for entrance requirements and credit adjustments, the Secretary of the housing and employment office for accommodations outside of the residence halls and for information on part time jobs, the Director of the Counseling center for vocational advisement, etc.

Welfare of Women Students

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

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

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

The sorority houses, in which many upperclass women reside, are under the immediate social supervision of housmothers whose appointments are made with the approval of the Associate Dean of Students.
The private homes in which upperclass girls obtain rooms must be approved.

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

University Counseling Center

A counseling and guidance service has been established as a regular part of the University's program. The major function of this service is to help students in selecting educational and vocational objectives and in meeting problems of personal adjustment. These services are provided in conjunction with other faculty and administrative staff. The Counseling Center is open throughout the entire year and its services are available to anyone desiring assistance. If it is possible, prospective students are advised to come to the Counseling Center at least several weeks prior to the start of the school quarter. In order to provide maximum service to those contemplating the use of the Center it is recommended that in each case the prospective student send a post card or a letter requesting an appointment.

Advisers

Upon registration at Montana State University, each student is assigned to a faculty advisor. The assignment is made on the basis of the student's probable field of major endeavor. The advisor assists the student in the selection and arrangements 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. 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 advisor at each registration period, but consultation should be more frequent.

Eligibility Rules

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

Scholarship Grades

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

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

If all the work in a course has not been done and there is sufficient reason for this, the grade I, which carries with it one of the four passing grades, is given. This incomplete work must be completed not later than one calendar year after the incomplete grade was assigned. See also page 35.
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 and law courses. In this case the letter "n," not accompanied by a grade, is assigned at the end of each quarter to indicate that the student is entitled to continue in the course; upon completing the course a grade is given which applies to the whole course.

A student may withdraw from a course in which he has registered:
(1) during the first four weeks of a quarter, with the consent of his adviser and the instructors concerned; (2) during the period from the fourth through the sixth 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. (3) During the period from the sixth through the ninth week of the quarter a student withdrawing from a course receives a grade of F unless changed for due cause by joint action of the instructor involved, the adviser and the chairman of the Board of Advisers. 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 D or E; 1 grade point is deducted from his total for each credit of grade F. See grade point requirements for graduation, page 33.

Financial Obligations

Students who owe bills to the University for fees, fines, board and room in the residence halls, and other charges are not permitted to register for the succeeding quarter, secure transcript of record, or obtain diplomas until the obligation is paid or satisfactorily adjusted. Similar action is taken where students owe bills to student organizations whose books are kept in the business offices of Montana State University, including charges for board and room in fraternity and sorority houses.

Student Fees

The following is a detailed schedule of fees authorized for the college year 1947-48 in all schools and departments except where otherwise specified.

All students registered for seven or more credits:

<table>
<thead>
<tr>
<th>Registration</th>
<th>Per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$5.00</td>
</tr>
</tbody>
</table>

Waived to holders of Mon-
Incidental (for laboratory supplies in all courses, locker fees, gymnasium towel service, diploma, etc.) 15.00 Montana high school and University honor scholarships. Waived to holders of Montana high school and University honor scholarships.

Building 5.00

Student Union Building 1.67

Student Activity 7.50 Optional to students enrolled in courses leading to a graduate degree and to students registered for less than seven credits.

For support of activities sponsored by the Associated Students of Montana State University.

Health Service (see page 47) 4.00 Required of all students enrolled for class work.

General deposit (charges for loss, breakage, and fines deducted) 10.00 Paid once each year and unused portion refunded.

Total, first quarter in attendance $48.17 (other quarters, $38.17)

Majors in School of Music pay an additional fee $25.00 If registered for less than 7 credits, $8.00 per credit with minimum of $16.00 per quarter. See special statement furnished on request.

Non-residents (out-of-state) pay additional 100.00

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

Limited Registrants (students registered for less than seven credits): Registration Fee $5.00; Incidental Fee $7.50; General Deposit $5.00; Building Fee $2.50; Student Union Building $1.00; Health Service $4.00; Student Activity, $7.50 (optional). Non-residents pay $8.00 per credit with minimum of $16.00. "Listeners" (students who enroll for courses without credit) pay the same fees as students enrolled for less than seven credits. Applied music courses and other courses for which there are special fees are not included when determining the number of credits for which a student is registered.

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

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

**Fees for Special Purposes:**

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

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

- **School of Forestry Camp Fee**, required of students in Forestry courses 136b, 140c, 145b and 146 (seniors in School of Forestry, spring quarter only), $20.00.

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

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

- **Transcript of Record** (first transcript is free) $1.00. Transcripts ordered at one time in quantities are charged for at the rate of $1.00 for one plus 50c each for all additional.

  Certain departments require field trips the cost of which is a personal expense prorated among the students in the course. Check the department involved in such courses.

  For fees charged for courses in School of Music, see page 160; in **Correspondence Study**, page 173; in **Summer Session**, page 183.

**Refunds:**

<table>
<thead>
<tr>
<th></th>
<th>First Week*</th>
<th>Second Week*</th>
<th>Third Week*</th>
<th>Fourth Week*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration ($5.00)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Incidental ($15.00)</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
<td>None</td>
</tr>
<tr>
<td>Building ($5.00)</td>
<td>100%</td>
<td>50%</td>
<td>50%</td>
<td>None</td>
</tr>
<tr>
<td>Student Union Building ($1.67)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Student Activity ($7.50)</td>
<td>100%</td>
<td>50%</td>
<td>50%</td>
<td>None</td>
</tr>
<tr>
<td>Health Service ($4.00)**</td>
<td>100%</td>
<td>50%</td>
<td>50%</td>
<td>None</td>
</tr>
<tr>
<td>Non-Resident Tuition ($100.00)</td>
<td>80%</td>
<td>60%</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>School of Music Majors ($25.00)—Refund based on charge of $1.75 per lesson for the number of weeks elapsed since the beginning of the quarter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All fees are refunded to students who withdraw during the period of registration and before the beginning of classes, in which case registration is cancelled. No refunds of above fees are made after the fourth week of instruction (except Music). Refunds are calculated from date of application for refund and not from date of last attendance at classes except in cases of illness or other unavoidable causes. No refunds are made if application for refund is delayed beyond close of quarter for which the fees were charged.

The above fees are subject to modification by action of the State Board of Education.

*Week of instruction.
**Health Service—No refunds if medical service furnished or physical examinations taken.
Payment of Fees by check in exact amount of bill is preferable. The University does not accept non-bankable paper in payment of bills. Personal checks are not cashed except in payment of University bills.

Living Accommodations

Students attending the University now are living in residence halls, fraternity or sorority houses, a cooperative house, temporary housing units, and private homes.

All freshman women students whose homes are not in Missoula are required to live in the University residence halls. This requirement may be waived by the Associate Dean of Students for special reasons. Upperclass women students under 21 years of age are required to live in the residence halls, cooperative house or sorority houses unless excused to live in approved homes. Men students whose homes are not in Missoula will be cared for in the residence halls as facilities permit in order of application. Married women students and all students carrying less than 10 quarter credits of work must have permission to live in the residence halls from the office of the Dean of Students. Occupants of all permanent residence halls are required to board in the halls, and board charges continue until occupancy is terminated.

Residence Halls

University residence halls include four modern, permanent buildings—Corbin Hall, North Hall, South Hall, and New Hall, and an F.P.H.A. temporary dormitory, Jumbo Hall.

The four permanent residence halls are three-story fireproof brick buildings, steamheated. Each student room has a lavatory with hot and cold running water. Jumbo Hall, a temporary residence hall, has central lavatory rooms. Each room is furnished with a dresser, study table, chairs, single beds, size 36"x76", and wastebasket. Each bed is supplied with mattress, bed pad, pillow, sheets, pillow cases, and two woolen blankets. Face and turkish towels and marquisette window curtains are furnished and laundering of the above is cared for by the residence halls without extra charge to the students. Each hall has a students' laundry and trunk room.

Students, however, should furnish a day cover or spread for the bed, a dresser scarf and wash cloths. In addition, they may wish to bring a study lamp and a small floor rug.

Students living in all these halls have organized residence clubs and participate in the development of social and general activities. Social Directors, who live in each hall, act in an advisory capacity and give personal attention to their needs. The social, moral and educational welfare of the residents of the halls and the hall management are under the general supervision of the Dean of Students.

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

Double rooms, $39.00 per quarter for each occupant.
Single rooms, $51.00 per quarter.
Multiple occupancy (any over normal occupancy) $34.00 per quarter for each occupant.
Board by the month, $38.00 (30-day month).
Club fee. A fee not to exceed $1.00 per quarter may be assessed.
the residents of each hall. This fund is expended under the direction of the club officers for social activities.

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

**Fraternity and Sorority Houses**

Eight national fraternities and seven national sororities maintain their own residences, accommodating 20 to 40 members each. The sorority houses in which many upperclass women reside are under the immediate supervision of housemothers whose appointment is made with the approval of the Associate Dean of Students.

**Women's Cooperative House**

The Women's Cooperative House at 601 Daly Avenue provides opportunity for 22 girls to gain experience in group living while at the same time reducing expenses by sharing in the work of the maintenance of the house. This residence also is under the immediate supervision of a housemother approved by the Associate Dean of Students. Application forms for accommodations in this house and information regarding rates may be obtained from the President, Women's Cooperative House, 601 Daly Avenue.

**Temporary Housing Units for Married Students**

Trailer houses, "prefabs," and F.P.H.A. "row houses" constitute the temporary housing units available to married students and their families. "Row houses" which are available only to veterans with dependents are under the supervision of a Veteran Housing Project Manager as are the trailer houses. The "prefabs" are under supervision of the Director of Residence Halls. Information concerning rates and availability of any of these three types of units may be obtained by writing to the Secretary of the University Housing Office. A community center which provides excellent facilities for dancing, games, and other recreational activities has been established without cost to the veterans. A nursery school is operated in conjunction with the center.

**Private Homes**

Limited accommodations including houses, apartments, and housekeeping rooms for married couples, and rooms in private homes or rooming houses for single students are obtainable. Assistance in finding adequate off-campus housing may be secured from the Secretary, University Housing Office. In general, rates for these accommodations range from $12.50 to $18 per month per person for double rooms and $15 to $25 per month for single rooms.

**Expenses**

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

See Note below regarding clothing and incidentals.

<table>
<thead>
<tr>
<th>Expense</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books and Equipment</td>
<td>$25.00 to $45.00</td>
</tr>
<tr>
<td>Fees (see note)</td>
<td>54.50 to 114.50</td>
</tr>
<tr>
<td>Room rent for one (two in a room)</td>
<td>112.00 to 160.00</td>
</tr>
<tr>
<td>Board</td>
<td>345.00 to 375.00</td>
</tr>
<tr>
<td>Cleaning and laundry</td>
<td>25.00 to 50.00</td>
</tr>
</tbody>
</table>

Total: $561.50 to $744.50

**Note:** The minimum expense of $54.50 for fees is applicable only
to holders of high school honor and State University scholarships. For additional fees for music majors, see page 160. Students not residents of the State of Montana require $300 additional for payment of the non-resident fee.

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

For information about earning expenses see page 47; student loans, see below; scholarships and prizes, pages 48-54; for railway fare refund, see below.

**Railway Fare Refund**

In accordance with the provisions of Chapter 41 of the Session Laws of 1925, enacted by the Nineteenth Legislative Assembly, and under regulations established by the State Board of Education, railroad fare in excess of fifteen dollars actually paid by any student for a round trip by the most direct route available between his Montana home and Montana State University once each year, will be refunded. The amount of the refund will be based upon the railroad or bus fare over the shortest route and at the lowest rate. Students must present receipts for the fare thus paid.

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

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

**Securing Financial Assistance**

There are a number of ways in which a student may supplement his savings or allowance in meeting the cost of attending the University. These methods may be classified under the main descriptive headings of Earning One's Way, Scholarships and Prizes, and Student Loan Funds.

**General University Student Loan Funds**

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

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

University women may borrow under similar terms from the loan fund founded in 1922 by the Missoula branch of the American Association of University Women and from the loan fund of the Associated Women Students.
Application blanks and a statement of detailed regulations governing these loans may be obtained from the Dean of Students.

Earning One's Way

Many students earn all or a part of their expenses while attending the University. If a student must be self-supporting while attending college, he should realize, however, that there are certain musts which cannot be disregarded in making his plans: (1) reasonably good health, (2) industry and reliability, (3) a carefully worked out schedule of employment, class study and recreation hours, (4) willingness to give time from activities and amusements, if necessary to carry out the required employment and education program. The necessary effort and sacrifice can be made only if he has an earnest desire for higher education. Self-supporting students enjoy the highest respect and regard both of their fellow students and of the faculty.

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

Some business houses in Missoula employ students as clerks, janitors, stenographers, bookkeepers, waiters, dishwashers, porters, bell boys, automobile mechanics, musicians, clothes pressers, solicitors and collectors. There are calls for students to do "odd jobs" in private homes such as garden work, window washing, furnace tending, handling coal and wood, housework, care of children, and general clean-up work. There are some jobs at the University such as janitor service, work in the Residence Halls, stenography, and for upperclass students, employment as laboratory and library assistants.

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

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

Students' Health Service

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

Facilities and Services Available Include:

(1) Office and dispensary service by physician and nurses.
(2) House calls by University physicians only in case of emergencies or serious illness.
(3) Medicines used in dispensary and infirmary. Prescriptions
will be filled at the University Pharmacy and charged to the students at cost, plus a small percentage for overhead.

(4) All office, dispensary, and physiotherapy treatments.

(5) Physical examinations on all matriculating students. These examinations are required.

(6) Mantoux TB test for all students. A chest X-ray will be taken on all positive reactors.

(7) Immunizations for: smallpox, typhoid fever, diphtheria, tetanus, and Rocky Mountain spotted fever.

(8) Surgical and medical consultation when requested by University physicians, but not to exceed $50.00 each school year.

(9) Infirmary care up to 15 days per quarter. When deemed necessary by Health Service physicians, other accommodations will be paid for but not in excess of $88.00 per school year.

(10) All medical and surgical diagnosis.

(11) All laboratory work and X-rays done in the University infirmary.

(12) Health certifications.

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

(1) Eye refractions and glasses.

(2) Dental services and dental X-rays.

(3) Special nurses.

(4) Injuries occurring through accidents off the campus.

(5) Treatment of chronic illness.

(6) Allergy and obstetrical cases.

(7) Elective surgery—neither consultation nor hospitalization. This includes chronic appendicitis or acute attack of chronic appendicitis, unless proven to be primary acute by pathological examination by a registered pathologist.

(8) Unauthorized hospitalizations, and unauthorized physician and surgeon fees.

(9) Physical examinations for outside employment.

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

Scholarships and Prizes

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

High School Honor Scholarships. The principal of each fully accredited high school in the state may name from each year’s graduating class from one to four members, depending on the size of the class, to
be recipients of high school honor scholarships. These scholarships exempt the holders from the payment of the registration fee, and the incidental fee, described on page 41, during their freshman year. Blanks for the nomination of scholars, with detailed statement of conditions, are furnished to principals from the office of the Chancellor of the University of Montana at Helena.

The Alpha Kappa Psi Scholarship Key is awarded annually by the Alpha Kappa Psi National Professional Business Fraternity to the graduating male senior in the School of Business Administration who has completed at least three years at Montana State University and who has the highest scholastic average.

The American Foundation of Pharmacy Education. This foundation is providing the sum of $400 to be used as scholarships for high school graduates of exceptional ability and aptitude. These scholarships will cover fees for three full quarters for students maintaining a satisfactory average in their studies. Students should apply to the Dean of the School of Pharmacy, Montana State University, for information and application forms not later than September 1, 1948.

The Aber Memorial Oratorical Prizes. A fund of $1,000 was set aside by the late Professor William M. Aber for the establishment of the Aber Memorial Oratorical prizes. Prizes are given to the winners of first, second, and third places, payable from the interest on this fund.

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

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

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

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

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

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

The Coffey Award in Advertising. This prize is awarded annually to the journalism major who does outstanding work in the advertising
courses given by the School of Journalism. It is donated by Jere Coffey, of the Choteau, Montana, Acantha.

The Dean Stone Scholarship in Journalism of the Montana State Press Association. This scholarship, amounting to $100, is awarded to the journalism major entering the senior year, on the basis of outstanding scholarship and achievement in journalism. It was established by the Montana State Press Association, and named in honor of Dean Arthur L. Stone, first dean of the School of Journalism of Montana State University.

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

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

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

A second Elks’ scholarship, which ranges from $100 to $600, is given annually following a nation wide contest. Any student in the graduating class of a high school within the jurisdiction of the Order may enter the contest. Winners of the state contest are eligible for further competition in the annual Elks National Foundation Scholarships, which, for 1947, totaled $8,000. Information concerning the details of application may be obtained from the office of the Dean of Students, Montana State University.

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

The Gannaway Prize in Community Journalism. The $25 prize is awarded annually to the journalism major who distinguishes himself in the course in Community Journalism. The prize was established by Mrs. Edna B. Gannaway, publisher of the Camas Hot Springs Exchange.

The Great Falls Newspaper Guild Prize for Feature Writing. The award is made to the journalism major whose feature story is selected by three judges as the prize-winner in the annual competition.

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

The Hefte Music Shop Scholarship of $75 covering music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to the Dean of the School of Music not later than July 1.

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

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

The Missoula Kiwanis Club Music Scholarship amounting to $75 to cover music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to the Dean of the School of Music not later than July 1.

KGVO Radio Station Music Scholarship of $75 covering music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to the Dean of the School of Music, not later than July 1.

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

The Montana Society of Certified Public Accountants annually awards a prize of $175.00 to the Junior in Business Administration evidencing, through scholarship and personal attributes, outstanding ability as a student in this field.

The Montana Society of Certified Public Accountants annually awards a key, known as The President's Award, to the senior concentrating in the field of accounting, who has demonstrated outstanding scholarship and professional qualifications.

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

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

Music Scholarships. The State Board of Education approved the establishment of six music scholarships of $75 each (the cost of music tuition for one year). These are to be awarded annually to students of sophomore, junior, or senior standing on the basis of their past records in the School of Music at Montana State University and the faculty's estimate of their future success in music. These recipients may be required to perform certain duties, such as organizing and coaching small ensembles or similar work at the request of the faculty. In addition, the State Board of Education has established six music scholarships for the Summer Session, 1948, of $25 each (the cost of music tuition for the summer quarter). See also summer session bulletin.

Music School Foundation Fellowship for Graduate Study. In order to promote the development of string players within the state, the Music School Foundation will make a grant of $500 to a graduate of the School of Music for advanced study in a graduate music school of the student's choice in the field of violin or cello provided the student returns to the State to render professional service. Additional information will be supplied upon request to the Dean of the School of Music.

The 1904 Class Prize. This is a cash prize for scholarship payable from the interest on an endowment of $400.
The N. J. Lennes Mathematics Scholarship. From funds made available by Dr. N. J. Lennes, Professor Emeritus of Mathematics, a scholarship of $100 will be awarded annually to a member of the freshman class on a competitive basis. Regulations governing this award are as follows:

Candidates for the award will be those who stand highest in an examination in Mathematics, administered by the Department of Mathematics. The subjects to be covered in the examination are elementary algebra, plane geometry and either advanced algebra or plane trigonometry. Only those who write papers worthy of grades A or B may become candidates, and not more than the three highest. The examination will be open only to freshmen who have no advanced standing at the opening of the autumn quarter and who are graduates of Montana High Schools.

The Orvis Music House Scholarship of $75 covering music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to the Dean of the School of Music not later than July 1.

Panhellenic. A Panhellenic scholarship in the form of payment of fees for three quarters and not exceeding $120 is awarded each year on the basis of scholarship, service, and need to a sorority girl of junior or senior standing.

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

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

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

Phi Sigma Award. A certificate of excellence is awarded annually by the national honorary biological organization to a graduating senior who has been the outstanding student in the study of biological science and its related fields.

Pi Mu Epsilon Cash Awards. Cash awards of $25, $15 and $10 will be given as first, second and third prizes in the same examination which determines candidates for the N. J. Lennes scholarship. (Winner of the Lennes scholarship will be selected from among the five top contestants, and need as well as scholarship will be a determining factor.)

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

The Western Montana Press-Radio Club Journalism Scholarship. A scholarship of $100 is awarded a journalism major on the basis of scholarship and achievement in journalism. It was established by the Western Montana Press-Radio Club of Missoula, Montana.

The Western Montana Press-Radio Club Music Scholarship amounting to $100 will be awarded by the Music School Foundation to a stu-
dent in the School of Music who, in addition to establishing an excellent scholastic record, also shows a strong interest in a field of radio.

The Ravalli County Federation of Women's Clubs Music Scholarship of $75 covering music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent, and performance, scholastic record, personality, character, and versatility. Special consideration is given applications from Ravalli County. Written applications should be sent to the Dean of the School of Music not later than July 1.

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 the office of the Dean of Students, Montana State University.

The Missoula Rotary Club Music Scholarship amounting to $75 to cover music tuition for one year will be awarded to a new student by the Music School Foundation on the basis of musical talent and performance, scholastic record, personality, character, and versatility. Written applications should be sent to the Dean of the School of Music not later than July 1.

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

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

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

State Federation of Women's Clubs Scholarships. The Montana Federation of Women's Clubs offers assistance on a loan basis to outstanding women students. Loans may amount to $250 per year, with the four-year total not to exceed $1,000. Committees from clubs in the various towns offer these loans to a limited number of women each year. Students are chosen on such factors as outstanding scholastic records, personality and sense of responsibility.

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 41. These scholarships are to be awarded on or about July 1 of each year to students who, during the preceding year, attended all three quarters and made a scholastic index of 2.0 on a minimum of 40 credits. The awards are made on the basis of ability, character, and promise.

The Theta Sigma Phi Scholarship in Journalism. The scholarship, of $50, was established by Theta Sigma Phi, national journalism fra-
ternity for women. It is awarded annually to a woman journalism major on the basis of need, scholarship, and journalistic ability.

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

**The Warsinske Scholarship.** A $300 scholarship was established by Mr. Norman Warsinske of Billings, editor and publisher of the Western Livestock Reporter, to bring better technical writing into the field of agricultural journalism. It will be awarded annually to an outstanding junior student in journalism who is interested in entering this field.

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**Activities**

**Athletics**

All athletic activities at Montana State University are under the control and supervision of the Faculty Athletic Committee. Athletic eligibility, schedules of competition, and relationship with other institutions are subject to the approval of the Faculty Athletic Committee. The details of management of intercollegiate athletics are handled by the athletic manager and the coaches, subject to the approval of the Associated Students Athletic Board, which consists of two members of the faculty, three members of the Central Board of the Associated Students, and two alumni members.

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

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

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

**Annual Interscholastic Games**

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

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

Publications

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

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

Societies

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

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

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

In addition to several small musical ensembles, there are the following large organizations: The University A Cappella Choir, Men's Glee Club, Women's Glee Club, Mixed Chorus, University Symphonic Orchestra, and The University Symphonic and Marching Bands. These organizations provide music for university events during the year, and furnish an opportunity for all students who have musical talent to cultivate it as well as to participate in the social pleasures pertaining to such organizations.

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

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

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

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

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

Taman-of-Spur, as a national honorary, recognizes outstanding sophomore women who have maintained high scholarship, leadership, character, and service.
The Women's Athletic Association is an organization devoted to the development of interest in the various sports for women.

The "M" Club (Women) is an athletic honor society for women.
Kappa Tau is a local honorary for seniors who have maintained outstanding scholarship records throughout their college work.
Alpha Lambda Delta is a national honorary for freshmen women who have maintained high scholarship.

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

NOTICE

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

College of Arts and Sciences (page 58).

Division of Biological Sciences
Medical Technology (page 143).
Wild Life Technology (page 180).
Bacteriology and Hygiene (page 62).
Biology (page 60).
Botany (page 64).
Health and Physical Education (page 121).
Pre-Medical Course (page 169).
Psychology and Philosophy (page 170).
Zoology (page 181).

Division of Humanities
Classical Languages (page 80).
English and Speech and Drama (page 100).

Fine Arts (page 107).
Modern Languages: French, German, Spanish (page 147).

Division of Physical Sciences
Chemistry (page 79).
Geology (page 115).
Home Economics (page 128).
Mathematics (page 142).
Physics (page 167).

Division of Social Sciences
Economics (page 81).
History and Political Science (page 124).
Pre-Business Administration (page 168).
Pre-Education (page 168).
Pre-Legal (page 168).
Sociology (page 176).

Graduate School (page 117).
Division of Public Service (page 172).
School of Business Administration (page 66).
School of Education (page 84).
School of Forestry (page 108).
School of Journalism (page 131).
School of Law (page 137).
School of Music (page 151).
School of Pharmacy (page 161).
Military Science and Tactics (page 145).
Summer Session (page 183).
Affiliated School of Religion (page 175).

Course Numbering System

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

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

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

Requirements for Admission

The regular University requirements for admission apply to the College of Arts and Sciences. See pages 27-31.

Requirements for Graduation

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

The general University requirements for graduation, pages 31-36, including 93 credits in the College of Arts and Sciences. Special requirements in the Division of which the major department is a member, and the major requirements of the department from which the degree is to be granted must also be met.

Divisional Requirements for Graduation

Division of Biological Sciences. See requirements for Medical Technology major on page 143.

See requirements for Wildlife Technology major on page 180.

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

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td></td>
<td>Credits</td>
<td>Credits</td>
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<tr>
<td>Botany 11ab, 12 or Zoology 14ab, and 15</td>
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<td>Chemistry 11ab or 13abc</td>
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<td></td>
<td>16-17</td>
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<td>14-15</td>
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</tbody>
</table>

Note: Botany majors take Botany 11ab, 12; others take Zoology 14ab, and 15. Bacteriology majors take Mathematics 13; Psychology majors substitute Modern Language for Chemistry. Physical Education majors take Zoology 10 and Chemistry. Other students may substitute Mathematics or Modern Language for Chemistry.

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Credits</td>
<td>Credits</td>
<td>Credits</td>
</tr>
<tr>
<td>Botany 11ab, 12 or Zoology 14ab, 15, 23 or 24...</td>
<td>5</td>
<td>5</td>
<td>3-5</td>
</tr>
<tr>
<td>Social Science 11abc or Humanities 15abc or Elective</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>*Foreign Language or Elective</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>Physical Education 12abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 13abc (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td>15-17</td>
<td>15-7</td>
</tr>
</tbody>
</table>

Note: Course selected dependent upon major department requirements and course taken in freshman year. Bacteriology majors substitute Chemistry 101ab, 17 for Botany or Zoology and Physics 20abc for Social Science or Humanities. Physical Education majors take Botany 11a, Zoology 24 and Physical Education 20ab. Psychology majors substitute Psychology 13, Sociology 16, and Mathematics 25 for Botany or Zoology.

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 80 and 147.
**Division of the Humanities.** Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities 15abc or Social Science 11abc or Biological Science 13abc</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><em>Foreign Language</em></td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical Education 11abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 11abc (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>14-17</td>
<td>14-17</td>
<td>14-17</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Science 13abc, Social Science 11abc, or Humanities 15abc</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><em>Foreign Language and Psychology 11</em></td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Military Science 12abc (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>15-17</td>
<td>15-17</td>
<td>15-17</td>
</tr>
</tbody>
</table>

**Note:** Majors in English and in Speech are advised to complete Humanities 15abc and must complete English 12abc in the freshman year. Speech majors complete EDr 15 (1 cr.), 16 (1 cr.) and ESP 20. Freshman drama majors may complete EDr 15 and/or 16 to a total of 3 cr. In the sophomore year English majors select two quarters of English 59abc and either 30a or 30b. Speech majors take ESP 21 and 42 and EDr 30, 40, 41. Drama majors take EDr 30, 40, 41.

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

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 11abc and restricted elective</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 11abc or 13abc</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><em>Mathematics</em></td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical Education 11abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 11abc (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>16-17</td>
<td>16-17</td>
<td>16-17</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 20abc</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><em>Modern Language</em></td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Restricted elective</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical Education 12abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 12abc (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>16-17</td>
<td>16-17</td>
<td>16-17</td>
</tr>
</tbody>
</table>

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

Freshmen who plan to major in Physics and who enter with 2 units of high school mathematics should elect Mathematics 21 in the spring quarter. Sophomores who plan to major in Physics and who do not desire a teaching certificate should elect Mathematics 22, 23 and 197a instead of Modern Language. Those seeking a teaching certificate should elect Mathematics 22, 23 and Psychology 11 instead of Modern Language.

*Course entered dependent upon high school preparation. See Department of Classical and Modern Languages, pages 80 and 147, and Department of Mathematics, page 142.*
Division of Social Sciences. Candidates for the degree of Bachelor of Arts in this Division should complete the following curriculum during the freshman and sophomore years:

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities 15abc or Biological Science 13abc</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>or <em>Foreign Language</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science 11abc or History 12 and 14</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>English 11ab and Psychology</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical Education 11abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 11abc (Men)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>16-17</td>
<td>16-17</td>
<td>16-17</td>
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</tbody>
</table>

### Sophomore Year — Economics

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Science 13abc, Humanities 15abc</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>or English Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics 14ab, 18 or 19</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>*Foreign Language or Elective</td>
<td>5-7</td>
<td>5-7</td>
<td>5-7</td>
</tr>
<tr>
<td>Physical Education 12abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 12abc (Men)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>15-18</td>
<td>15-18</td>
<td>15-18</td>
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</tbody>
</table>

### Sophomore Year — History and Political Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Science 13abc, Humanities 15abc</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>or English Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History 21abc or 17, 18 and 20</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>*Foreign Language or Elective</td>
<td>5-7</td>
<td>5-7</td>
<td>5-7</td>
</tr>
<tr>
<td>Physical Education 12abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 12abc (Men)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>15-18</td>
<td>15-18</td>
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</tbody>
</table>

### Sophomore Year — Sociology and Social Administration

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Science 13abc, Humanities 15abc</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>or English Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology 15, 16, 17 or 18</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
</tr>
<tr>
<td>*Foreign Language or Elective</td>
<td>5-7</td>
<td>5-7</td>
<td>5-7</td>
</tr>
<tr>
<td>Physical Education 12abc</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 12abc (Men)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-18</td>
<td>15-18</td>
<td>15-18</td>
</tr>
</tbody>
</table>

**Note:** Early completion of Economics 14ab is essential to Economics majors and is recommended for Sociology majors. Electives in sophomore year: Any of the courses listed above are recommended to majors in the Division as are English 20, 30 and 55; Philosophy 50 and 55; and History 13abc, 30ab and 53.

**DIVISION OF BIOLOGICAL SCIENCES**

**Professor J. W. Severy, Chairman.**

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

Requirements for a Bachelor of Arts Degree with a major in Biology: A minimum of 45 credits including Elementary Bacteriology (Bact 19), General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Evolution (Bot 126), Elementary Zoology (Zool 14ab), Field Zoology (Zool 15) (3 cr.), Human Physiology (Zool 24), Conservation

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 80 and 147.*
of Natural and Human Resources (Gen 100), Biological Literature (Zool 129) (2 cr.).

See also requirements for certification to teach listed on page 86.

The Biological Station

Professor Gordon B. Castle, Director.

When the Flathead Indian Reservation was thrown open for settlement, Montana State University, through an act of Congress, 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 the south shore of the lake. At Yellow Bay a brick laboratory building, a log house for a dining room, a boat house, and a kitchen were erected. The adjacent region is largely a virgin forest.

The station was maintained and operated as a center for field and laboratory instruction and research in biology for many years. Owing to lack of funds it has not been opened for these purposes since 1922. During the school year, however, especially in the autumn and spring quarters, the station has been used by classes in ornithology, mammalogy, ecology, and entomology for field studies supplementing the regular class work on the campus at Missoula.

Within the past year, two wooden laboratories, a new dining hall and kitchen, and a bathhouse have been erected. The Station will be opened during the summer of 1948 for class work and research in Botany and Zoology. Courses offered at the Biological Station include Systematic Botany, Algology, Bryology, Aquatic Flowering Plants, Entomology, Natural History of the Invertebrates, Mammalogy, Ornithology, and Limnology. Opportunity is given for advanced students with sufficient background to pursue individual work.

Further information concerning the Biological Station may be secured by writing the director.

For Medical Technology major see page 143.

For "Pre-Medical Course" see page 169.

Wildlife Training

The Division of Biological Sciences and The School of Forestry cooperate in offering to the student interested in wildlife work two programs of training: (a) The student primarily interested in the technical phases of wildlife work should major in Wildlife Technology (see page 180). (b) The student primarily interested in the management of lands, but with a strong secondary interest in wildlife, should major in Forestry and take a minor in Wildlife Management (see page 113).

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

13abc. Introduction to Biological Science. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students who have earned 7 or more college credits in laboratory botany may not receive credit for 13a; those who have earned 7 or more college credits in laboratory zoology may not receive credit for 13b. (a) An introduction to basic cellular morphology, classification, and possible evolution of the plant phyla; structure and physiology of seed plants; ecological factors and succession. (b) Comparative morphology and physiology of the principal animal phyla, with emphasis upon man; ecological relationships. (c) Principles of heredity and eugenics; history and theory of evolution; evidences for evolution from all fields of biology; modern concepts of mechanism of evolution. Given jointly by the departments of Botany and Zoology. Mr. Castle. Mr. Severy. Mr. Wright.
100. Conservation of Natural and Human Resources in Montana. 1 Q. Spring. Summer. 3 cr. Prerequisite, junior standing and consent of instructor. The social need for improved conservation practices. A critical survey of climate, physiography, mineral resources, soil and water, as related to plant and animal production and human welfare, and the development of principles underlying improved management of the natural resources. A survey of human and cultural resources. A consideration of methods of social implementation of desired practices. Given jointly by Divisions of Biological and Social Sciences. This is primarily a teacher training course. Does not satisfy requirements for degrees in Botany or Zoology or the restricted elective requirement in science. Mr. Severy and staff.


DIVISION OF THE HUMANITIES

Professor Harold G. Merriam, Chairman.

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

15abc. Introduction to the Humanities. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter any quarter. Students who have completed 8 or more college credits in literature may not receive credit in this course. Acquaintance with art and literature through the centuries from the Greeks to Americans, with the primary aims of understanding and appreciation. Given jointly by the Departments of English, Fine Arts, and Modern and Classical Languages. Mr. Armstrong, Mr. Arnold, Mr. Bryant. Miss Carr. Mr. Clark. Mrs. Ephron. Mr. Ephron. Mr. Fiedler (in charge). Miss Frankenstein. Mr. Freeman. Mr. Sherman.

DIVISION OF PHYSICAL SCIENCES

Professor Garvin D. Shallenberger, Chairman.

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

17abc. Introduction to Physical Sciences. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Students who have 8 or more college credits in chemistry or physics may not receive credit in this course. Consideration is given to astronomical phenomena and concepts; chemical changes and their uses; geological features and processes; the various theories of matter and energy as well as the laws and principles that describe their behavior and application. Given jointly by the Departments of Chemistry, Mathematics, and Physics. Not given in 1948-49.

DIVISION OF SOCIAL SCIENCES

Professor J Earll Miller, Chairman.

The following course is offered as an introduction to the 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 social, and economic institutions that influence modern life. Special emphasis given present day problems. Staff.

Bacteriology and Hygiene

Professor Donald M. Hetler, Chairman; Assistant Professor Edmund E. Jeffers.

Major Requirements: 40 or more credits including the following courses: General Bacteriology (Bact 117), Immunology (Bact 118),
Pathogenic Bacteriology (Bact 119), Diagnostic Bacteriology (Bact 121), Hematology (Bact 125), Advanced Bacteriology (Bact 131), and 3 credits of Bacteriological Journals (Bact 129). Ten credits of either botany or zoology laboratory or equivalent may be counted in partial fulfillment of this credit requirement. The following courses must be completed: Inorganic Chemistry and Qualitative Analysis (Chem 13), Quantitative Analysis (Chem 17), The Carbon Compounds (Chem 101); General Physics (Phys 11abc or Phys 20abc). In addition, major students must have a reading knowledge of a modern foreign language.

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

For Undergraduates

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

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

For Undergraduates and Graduates

103. Parasitology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 14ab and junior standing. An introduction to parasitology.

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

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

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

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

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

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


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

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

For Graduates

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

PROFESSORS J. W. SEVERY (Chairman), CHARLES W. WATERS; ASSOCIATE PROFESSORS REUBEN A. DIETTERT, JOSEPH KRAMER; INSTRUCTORS LEROY H. HARVEY, LLOYD HULBERT.

Major Requirements: 50 or more credits including General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Plant Anatomy (Bot 21), Plant Physiology (Bot 22), Evolution (Bot 126), 3 credits of Biological Literature (Bot 129) and Plant Ecology (Bot 51). Genetics (Zool 125) may be applied in partial fulfillment of this credit requirement. The following courses must be completed: Elementary Zoology (Zool 14ab), Field Zoology (Zool 15), Genetics (Zool 125), and General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13). Additional courses may be elected from the following: Morphology of the Thallophytes (Bot 141), Morphology of the Bryophytes & Pteridophytes (Bot 142), Morphology of the Spermatophytes (Bot 143), General Systematic Botany (S160), Systematic Botany (Bot 161ab), Aquatic Flowering Plants (S163), Agrostology (S164), Bryophytes (S176), Special Problems in Botany (S199), Mycology (Bot 165), Microtechnique (Bot 168), Fresh Water Algae (S174), Introduction to Biological Science (General 13c).

A reading knowledge of German or French is required for all majors in Botany.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

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.

Courses 51, 861, 125 and 161ab may require field trips extending some miles from the Campus. Students registered in the above courses are required to pay their pro rata share of transportation and insurance costs for such trips.

For Undergraduates

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

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

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

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

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

21. Plant Anatomy. 1 Q. Autumn. 5 cr. Prerequisite, Botany 10ab or 11ab and 12. Detailed study of origin of organs and tissues of plants and a comprehensive survey of the anatomy of the higher plants. Given in 1947-48 and in alternate years. Mr. Kramer.

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

51. Plant Ecology. 1 Q. Spring. 5 cr. Prerequisite, Botany 10b or 12, and 22. The relation of vegetation to the factors of the environment; the influence of environmental factors upon the distribution of plants; the problems of plant succession; plant geography. Mr. Huibert. Mr. Kramer.

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

For Undergraduates and Graduates

125. Forest Pathology. 1 Q. Spring. 5 cr. Prerequisite, junior standing and Botany 61. The agencies of disease and decay of trees and structural timbers. Problems of government forests. Students who have completed the former course Botany 61 may not receive credit in this course. Mr. Waters.

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

129. Biological Literature. See Zoology.

*141. Morphology of the Thallophytes. 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Botany 10ab or 11ab and 12. A systematic study of the morphology and life histories of representative Thallophytes. Given in 1948-49 and in alternate years. Mr. Diettert.

*142. Morphology of the Bryophytes and Pteridophytes. 1 Q. Winter. 4 cr. Prerequisite, junior standing and Botany 10ab or 11ab, and 12. Comparative morphology of the Bryophytes and Pteridophytes. Given in 1948-49 and in alternate years. Mr. Diettert.

*143. Morphology of the Spermatophytes. 1 Q. Spring. 4 cr. Prerequisite, junior standing and Botany 10ab or 11ab, and 12. Morphology and life histories of representatives of the major groups of Gymnosperms and Angiosperms. Given in 1948-49 and in alternate years. Mr. Diettert.

152. Advanced Physiology and Ecology. 1 to 3 Q. Spring. 3-5 cr. Prerequisite, Botany 22 or 51. Intensive study in advanced phases of plant physiology and plant ecology, with emphasis upon special methods and techniques used in investigation. Given in 1948-49 and in alternate years. Mr. Kramer. Mr. Severy.

S160. General Systematic Botany. 1 Q. Summer. 6 cr. Given at Biological Station. Prerequisite, junior standing and Botany 11ab and 12 or equivalent. The identification and classification of vascular plants; principles of nomenclature; ecological distribution; methods of collecting, preserving and mounting plants. Students who have received credit in 161ab may not take this course for credit. Mr. Harvey.

161a. Systematic Botany. 1 Q. Autumn. Winter. 5 cr. Prerequisite, junior standing and Botany 10ab or 11ab, and 12. Classification of the flowering plants; Monocots, with special emphasis on the grasses; elements of nomenclature; methods of collecting, preserving, and mounting plants. Mr. Harvey.

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

162. Advanced Taxonomy. 1 Q. Autumn. 3-5 cr. Prerequisite, Botany 161ab. A continued study of the classification of vascular plants, with additional practice in the determination of the more critical groups. Given in 1948-49 and in alternate years. Mr. Harvey.

S163. Aquatic Flowering Plants. 1 Q. Summer. 3 cr. Given at Biological Station. Prerequisite, Botany 160 or 161ab. Identification, classification, and ecological distribution of the higher aquatic plants.

*Class work will not be given unless demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.
S164. Agrostology. 1 Q. Summer. 3 cr. Given at Biological Station. Prerequisite, Botany 160. Identification, classification and ecological relationships of the grasses, sedges and rushes. Students who have received credit in 161a may not take this course for credit. Mr. Harvey.

165. Mycology. 1 Q. Autumn. 5 cr. Prerequisite, Botany 141 for Botany majors; Botany 125 for Forestry majors. The classification and relationships of the fungi, with training in their collection and preservation. Not given in 1948-49. Mr. Diettert.

168. Microtechnique. 1 Q. Any quarter, but preferably in the spring. 2-5 cr. Course may be repeated during a succeeding quarter to a maximum of 5 credits. Prerequisite, Botany 21. Methods of preparing microscopic slides; instruction in the paraffin method, venetian turpentine method, celluloid method, and the glycerine method. Given in 1947-48 and in alternate years. Mr. Diettert.

S174. Fresh Water Algae. 1 Q. Summer. 3 cr. Given at Biological Station. Prerequisite, junior standing and Botany 11ab, and 12. Identification, classification, distribution, life histories and limnological relationships of the algae of the Northern Rocky Mountains.

S176. Bryophytes. 1 Q. Summer. 3 cr. Given at Biological Station. Prerequisite, junior standing, Botany 11ab and 12. The Taxonomy, morphology and ecology of the Bryophytes of the Northern Rocky Mountains. Mr. Harvey.

S199. Special Problems in Botany. 1 Q. Summer. Credit variable (3-6). Given at Biological Station. Course may be repeated not to exceed a maximum of 12 credits. Prerequisite, at least 20 credits in Botany, junior standing and consent of instructor. Botany staff.

For Graduates

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

School of Business Administration

PROFESSORS ROY J. W. ELY, DONALD J. EMBLE, CARL J. FOLKERTS, ROBERT C. LINE, THEODORE H. SMITH (Dean); ASSOCIATE PROFESSOR BRENDA FARRELL WILSON; ASSISTANT PROFESSORS CLEO CROW, ARMAND P. RUDEMAN, JOHN A. WOLFARD; INSTRUCTORS WILLIAM BOONE, FRANCIS COLVILL, E. JOE DEMARIS, EDWIN O. DWYER, LE NOIRE FISH, EDMUND FRITZ, CHARLES S. HATTON, ROBERT G. HUCK, F. RYDELL.

Purpose of the School of Business Administration

The purpose of the School of Business Administration is to provide thorough professional training in the principles and methodology which govern the organization and administration of typical business enterprises, and to relate the position which business occupies to the broad economic and cultural aspects of our society.

The Program in the School of Business Administration

The student planning to enter the School of Business Administration indicates this desire when he registers as a freshman. During the first two years, he takes several basic courses, such as, The Introduction to Business, Elementary Accounting, Principles of Economics, Mathematics, and English.

In the junior year, the School of Business Administration requires that students complete the other basic courses in Management, Finance, Marketing, Business Law, and Statistics. In addition, every student is
expected to undertake a more intensive study in one of the following seven fields of specialization:

Accounting
Banking, Finance, and Insurance
Business Organization and Management
Marketing
Combination of Business Administration and Law
Secretarial Science
Commercial Education

It is recommended that the student follow closely the curriculum for the first two years as recommended on page 70 or 73. Regulations regarding the admission of special students may be found on page 30.

After selecting their major field of concentration, students should consult with the major adviser in the field of their choice or with the dean of the School of Business Administration. (See pages 70-73 for suggested curricula in these fields.)

**Requirements for Graduation**

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

1. The general University requirements as outlined on pages 31 to 36.

2. The following courses in the College of Arts and Sciences in addition to the general University requirement:*

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introductory Business Mathematics</strong></td>
<td>Math 18</td>
</tr>
<tr>
<td>Elementary Mathematics of Investments</td>
<td>Math 19</td>
</tr>
<tr>
<td>Statistics</td>
<td>Math 25</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>Econ 14ab</td>
</tr>
<tr>
<td>Principles of Speech</td>
<td>Engl 20</td>
</tr>
<tr>
<td>Psychology</td>
<td>Psych 11</td>
</tr>
<tr>
<td>History and Political Science</td>
<td></td>
</tr>
</tbody>
</table>

Recommended courses are: American Government and Politics, (17); State and Local Government, (18); Principles of Public Administration, (116ab); Government Regulation of Business, (136).

3. The following courses in the School of Business Administration:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Introduction to Business</td>
<td>Bus Ad 10</td>
</tr>
<tr>
<td>Elementary Accounting</td>
<td>Bus Ad 11ab</td>
</tr>
<tr>
<td><strong>Business Law</strong></td>
<td>Bus Ad 41ab</td>
</tr>
<tr>
<td>Financial Organization or Money &amp; Banking</td>
<td>Bus Ad 134 or 101ha</td>
</tr>
<tr>
<td>Marketing</td>
<td>Bus Ad 151</td>
</tr>
<tr>
<td>†Business Statistics</td>
<td>Bus Ad 185</td>
</tr>
</tbody>
</table>

Hours of required Business Administration Courses: 36-39

*Students taking the Secretarial Science curriculum or planning to prepare for Commercial Teaching will not be required to take English 20 and Pol. Sci. 17, 18.

**Math 18 will be waived for students who present 1½ entrance units of Algebra or who have completed Math 10.

**Students transferring to Montana State University School of Business Administration after having completed two years either in another school in the University or in another college or university, will not be required to take Introduction to Business, Bus Ad 10.

**Not required for students enrolled in the combination course of Business Administration and Law.

†Not required for students taking the Secretarial Science curriculum.
A minimum of 75 credit hours in courses in the School of Business Administration and courses in other schools and departments (see page 67) approved by the faculty of the School of Business Administration is required of all candidates.

Not more than 108 credit hours in subjects listed in the catalog, as accepted by the School of Business Administration toward their requirements in Business Administration can be counted toward the 180 credit hours required by the University for the Bachelor of Arts degree.

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

The Bureau of Business and Economic Research

The Bureau of Business Research has these objectives: to further business and economic research among the faculty, to conduct studies pertaining to the economic development of Montana, and to extend the services and the facilities of the School of Business Administration beyond the boundary of the campus.

Preparation for C. P. A. Examinations

The laws of the State of Montana provide for the certification of public accountants. The certificate for public accountancy is awarded by the University to those who satisfactorily pass an examination prepared and administered by the American Institute of Accountants. Students passing with high grades the courses outlined in the Accounting Curriculum, page 70, should, after a period of practical accounting experience, be able to pass successfully the C. P. A. examination. One year's residence in Montana is prerequisite for admission to the examination for a Montana certificate.

Scholarships, Prizes and Awards

Several scholarships, prizes and awards are offered exclusively to Business Administration students. For details, see pages 48-54.

Professional Fraternities and Clubs

Two national professional fraternities maintain chapters on our campus: Alpha Kappa Psi, for men, and Phi Chi Theta, for women. In addition to these organizations, a Business Administration Club sponsors professional and social activities among the students of the school.

Cooperating Departments and Schools

Department of Economics. A student who offers for a degree the courses listed in any of the curricula printed on pages 70-74 may count toward the remaining 75 hours required in Business Administration any course listed in the department of economics.

Department of History and Political Science. Economic History of the United States (125) and Economic History of Western Europe (126) can be counted toward the 75 credit hours required in the School of Business Administration.

Department of Home Economics. Students in Business Administration who wish to enter the department store field as buyer or educa-
tional director may find it to their advantage to include courses in Home Economics. Credit in Business Administration will be given for Introduction to Home Economics (17c), Clothing Design (18), and Textiles (82). Students should also consider taking Problems in Home Equipment (80), House Planning and Furnishing (119), and Problems of the Consumer (131).

School of Journalism. Students who wish to specialize in advertising are advised to take the following Journalism courses: Advertising Layout and Copy (43), and Retail Store Advertising (44), which can be counted toward the 75 hours required in Business Administration.

School of Law. The School of Business Administration cooperates with the School of Law so that it is possible to obtain in six years the degrees of Bachelor of Arts in Business Administration and the Bachelor of Laws. Under this program the degree of Bachelor of Arts in Business Administration will be granted upon the completion of: All restricted elective requirements (see pages 35, 34); the required courses for Business Administration (except Business Law 41abc) for a total of 30 credit hours; and 18 credit hours in elective courses in Business Administration and Economics. Twenty-seven hours of Law (Contracts, 9 credit hours; Property, 9 credit hours; and Torts, 9 credit hours) given in the freshman year of the Law School will be accepted toward the 75 credit hours required work in Business Administration and Economics for the Bachelor of Arts degree in Business Administration, to be granted upon completion of these requirements and fulfillment of all University requirements for graduation.

School of Education. Students who plan to teach commercial subjects in high school may qualify for a Secondary State Certificate by meeting certification requirements listed on page 86. Courses that may be taken during the junior and senior years are suggested on page 74.

Graduate Degrees

The School of Business Administration offers through the Graduate School, the degree of Master of Arts in Business Administration. Candidacy for this degree is conditioned upon the holding of a degree of Bachelor of Arts in Business Administration from this institution or from another institution of approved standing where the work required in Business Administration is of substantially the same nature and volume. Graduates with a bachelor's degree who did not specialize in Business Administration may pursue graduate work upon the completion of the required undergraduate courses. Only courses numbered 100 or above, exclusive of the required courses for the bachelor's degree, may be included in the work toward the master's degree.

A candidate for the degree of Master of Arts in Business Administration must meet the requirements as set forth by the Graduate School on pages 117-121.

Suggested Curricula

Students who plan to major in Business Administration will find it advisable to follow the suggested curriculum for the first two years as tabulated below. Students desiring to complete the accounting program will find it necessary to take Elementary Accounting (11ab) in their sophomore year. For the junior and senior years the student should follow one of the curricula that follows the one suggested for pre-business.
# Montana State University

## Pre-Business

### Freshman Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen. 15abc, Humanities, or Gen. 13abc, Biological Science</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Eng. 12abc, Language in Action</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 11, General Psychology or Bus. Ad. 10, Introduction to Business</td>
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<td>5</td>
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<tr>
<td>Math. 18, Business Mathematics; Math. 19, Mathematics of Investments</td>
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<tr>
<td>Phys. Ed. 11abc, Physical Education</td>
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<td>1</td>
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<tr>
<td>Mil. Sci. 11abc, Military Science (Men)</td>
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<td><strong>Freshman Year</strong></td>
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### Sophomore Year

**Eng. 20, Principles of Speech; Pol. Sci. 17, American Government; Pol. Sci. 18, State and Local Government**

<table>
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<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
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<tbody>
<tr>
<td>Bus. Ad. 11ab, Elementary Accounting, Math. 25, Statistics</td>
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<td>4-5</td>
<td>4-5</td>
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<tr>
<td>Econ. 14ab, Principles of Economics</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Phys. Ed. 12abc, Physical Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mil. Sci. 12abc, Military Science (Men)</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Bus. Ad. 10, Introduction to Business or Psych. 11, General Psychology</td>
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<tr>
<td><strong>Total</strong></td>
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<tr>
<td><strong>Sophomore Year</strong></td>
<td>15-16</td>
<td>15-16</td>
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</table>

## Accounting

### Junior Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 111, Intermediate Accounting</td>
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<tr>
<td>Bus. Ad. 113ab, Advanced Accounting</td>
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<tr>
<td>Bus. Ad. 114, Cost Accounting</td>
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<tr>
<td>Bus. Ad. 134, Financial Organization</td>
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<tr>
<td>Bus. Ad. 133, Corporation Finance</td>
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<td></td>
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<tr>
<td>Bus. Ad. 151, Marketing</td>
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<td>5</td>
<td></td>
</tr>
<tr>
<td>Bus. Ad. 185, Business Statistics</td>
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<tr>
<td>Electives</td>
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<td><strong>Total</strong></td>
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### Senior Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
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<tbody>
<tr>
<td>Bus. Ad. 115ab, Auditing; Bus. Ad. 145, Income Tax</td>
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<td>Bus. Ad. 146ab, Accounting Systems; Bus. Ad. 149, C.P.A. Problems</td>
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<tr>
<td>Bus. Ad. 147, Municipal Accounting</td>
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<td>Bus. Ad. 41abc, Business Law</td>
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<tr>
<td>Electives</td>
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<td><strong>Total</strong></td>
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</table>

Students concentrating in Accounting must take not less than 30 hours of Accounting.

**Students taking the Secretarial Science curriculum or planning to prepare for Commercial Teaching will not be required to take Eng. 20 and Pol. Sci. 17, 18.**
## Business Organization and Management

### Junior Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 129</td>
<td>Business Organization and Management</td>
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<tr>
<td>Bus. Ad. 134</td>
<td>Financial Organization</td>
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<td>Bus. Ad. 151</td>
<td>Marketing</td>
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<td>Bus. Ad. 185</td>
<td>Business Statistics</td>
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<tr>
<td>Bus. Ad. 102</td>
<td>Transportation</td>
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<tr>
<td>Bus. Ad. 180</td>
<td>American Industries</td>
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### Senior Year

<table>
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<th>Course Code</th>
<th>Course Name</th>
<th>Autumn Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 181</td>
<td>Personnel Management</td>
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<td>Econ. 113ab</td>
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<td>Industrial Relations</td>
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<td>Bus. Ad. 15</td>
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<td>Bus. Ad. 155</td>
<td>Advertising</td>
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## Finance

### Junior Year

<table>
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<th>Course Name</th>
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<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 134</td>
<td>Financial Organization or Bus. Ad. 101ba, Money and Banking</td>
<td>4-5</td>
<td>4-5</td>
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</tr>
<tr>
<td>Bus. Ad. 151</td>
<td>Marketing</td>
<td>3</td>
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<tr>
<td>Bus. Ad. 41abc</td>
<td>Business Law</td>
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<tr>
<td>Bus. Ad. 185</td>
<td>Business Statistics</td>
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<tr>
<td>Bus. Ad. 181</td>
<td>Real Estate</td>
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<td>Electives</td>
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### Senior Year

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<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 135</td>
<td>Bank Management; or Bus. Ad. 154, Investments</td>
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<tr>
<td>Bus. Ad. 103</td>
<td>Public Utilities</td>
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<tr>
<td>Bus. Ad. 132</td>
<td>Credits and Collections</td>
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<td>Bus. Ad. 155</td>
<td>Business Cycles</td>
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<tr>
<td>Bus. Ad. 137</td>
<td>Business Forecasting</td>
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<tr>
<td>Bus. Ad. 136</td>
<td>Security and Commodity Markets</td>
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<tr>
<td>Bus. Ad. 124</td>
<td>Life Insurance; Bus. Ad. 126, Property Insurance</td>
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### General Business

#### Junior Year

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<td>Bus. Ad. 134, Financial Organization</td>
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<tr>
<td>Bus. Ad. 129, Business Organization and Man-</td>
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<tr>
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<tr>
<td>Bus. Ad. 41ab, Business Law</td>
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<tr>
<td>Bus. Ad. 185, Business Statistics</td>
<td>2</td>
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<tr>
<td>Electives</td>
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</table>

#### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Credits</th>
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<th>Spring Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 180, American Industries</td>
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<td>4</td>
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<tr>
<td>Bus. Ad. 181, Personnel Management</td>
<td>3</td>
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<tr>
<td>Bus. Ad. 156, Business Cycles</td>
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<tr>
<td>Bus. Ad. 124, Life Insurance; Bus. Ad. 125,</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Property Insurance</td>
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<tr>
<td>Bus. Ad. 194, Price and Price Policies; or Ec-</td>
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<td>onomic Relations</td>
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<tr>
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### Marketing

#### Junior Year

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Bus. Ad. 151, Marketing</td>
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<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 134, Financial Organization and Man-</td>
<td>5</td>
<td>3</td>
<td>3</td>
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<tr>
<td>agement</td>
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<tr>
<td>Bus. Ad. 183, Business Statistics</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 41ab, Business Law</td>
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<tr>
<td>Bus. Ad. 155, Advertising</td>
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<tr>
<td>Bus. Ad. 159, Retail Stores</td>
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<td>3</td>
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<tr>
<td>Bus. Ad. 132, Credits and Collections</td>
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<tr>
<td>Bus. Ad. 102, Transportation</td>
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<tr>
<td>Electives</td>
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#### Senior Year

<table>
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<tr>
<th>Course</th>
<th>Autumn Credits</th>
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<th>Spring Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 153, Market Analysis</td>
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<tr>
<td>Bus. Ad. 136, Security and Commodity Markets</td>
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<td></td>
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<tr>
<td>Bus. Ad. 158, Sales Management or Bus. Ad. 160, Retail Store Management</td>
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<tr>
<td>Bus. Ad. 194, Price and Price Policies; or Econ.</td>
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<td>3</td>
</tr>
<tr>
<td>Bus. Ad. 124, Life Insurance; Bus. Ad. 125, Property Insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus. Ad. 156, Business Cycles</td>
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<tr>
<td>Bus. Ad. 137, Business Forecasting</td>
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<tr>
<td>Electives</td>
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Combination Business-Administration and Law

Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 124, Financial Organization</td>
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<td></td>
</tr>
<tr>
<td>Bus. Ad. 151, Marketing</td>
<td></td>
<td>5</td>
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<tr>
<td>Bus. Ad. 185, Business Statistics</td>
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<tr>
<td>Bus. Ad. 133, Corporation Finance, or Bus. Ad. 113ab, Advanced Accounting</td>
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</tr>
<tr>
<td>Bus. Ad. 124, Life Insurance, Bus. Ad. 135, Property Ins.</td>
<td>3</td>
<td>3</td>
<td></td>
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<tr>
<td>Bus. Ad. 103, Public Utilities or Bus. Ad. 111, Intermediate Accounting</td>
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<td>4</td>
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<tr>
<td>Bus. Ad. 131, Real Estate or Bus. Ad. 145, Income Tax or Econ. 114, Industrial Relations</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
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Senior Year (First Year Law)†

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
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<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Civil Procedure</td>
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<td>Contracts</td>
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<td>Property</td>
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<tr>
<td>Criminal Law and Procedure</td>
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<td>Torts</td>
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<td>14</td>
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Secretarial Training and Commercial Teaching

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

Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Eng. 12abc, Language in Action</td>
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</tr>
<tr>
<td>**Bus. Ad. 22abc, Beg. Stenography</td>
<td>5</td>
</tr>
<tr>
<td>**Bus. Ad. 29abc, Beginning Typewriting</td>
<td>2</td>
</tr>
<tr>
<td>Phys. Ed. 11abc, Physical Education</td>
<td>1</td>
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<tr>
<td>Mil. Sci. 11abc, Military Science (Men)</td>
<td>1</td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

†Refer to page 140 for description of law courses.

*Course entered dependent upon high school preparation.

Students who present 1 1/2 entrance units in Algebra may not register for Math. 18 for credit.

**Course entered dependent upon high school preparation. Students who present 1 entrance unit of shorthand may not receive credit in 22a. Students who present 2 entrance units of shorthand may receive credit in 22b.
### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
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<tbody>
<tr>
<td>Econ. 14ab, Principles of Economics</td>
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<tr>
<td>Bus. Ad. 11ab, Elementary Accounting</td>
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<tr>
<td>Math. 25, Statistics</td>
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<tr>
<td>Bus. Ad. 23ab, Advanced Stenography</td>
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<tr>
<td>Bus. Ad. 24ab, Advanced Shorthand Transcription</td>
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<tr>
<td>Bus. Ad. 21, Advanced Typewriting</td>
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<tr>
<td>Bus. Ad. 25, Office Machines Practice: Calculators, Adding, and Accounting</td>
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<tr>
<td>Bus. Ad. 26, Beginning Secretarial Practice</td>
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<tr>
<td>Psych. 11, General Psychology</td>
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### Junior Year

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<tr>
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<tbody>
<tr>
<td>Bus. Ad. 151, Marketing</td>
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<tr>
<td>Bus. Ad. 23a, Advanced Stenography or *Educ. 142, Methods of Teaching Shorthand Transcription</td>
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<tr>
<td>Bus. Ad. 24a, Advanced Shorthand Transcription</td>
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<tr>
<td>Bus. Ad. 15, Office Management</td>
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<tr>
<td>Bus. Ad. 41ab, Business Law</td>
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<tr>
<td>*Educ. 25a, Educational Psychology or Elective</td>
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<tr>
<td>*Educ. 25c, Secondary School Teaching Procedures, or Elective</td>
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<td>Electives or minor subjects</td>
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<td><strong>Total</strong></td>
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### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
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<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bus. Ad. 134, Financial Organization</td>
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<tr>
<td>*Educ. 143, Methods of Teaching Typewriting or Elective</td>
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<tr>
<td>Bus. Ad. 24b, Advanced Shorthand Transcription</td>
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<tr>
<td>*Educ. 26ab, Observation and Teaching or Electives</td>
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<tr>
<td>Bus. Ad. 100, Advanced Secretarial Practice</td>
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<tr>
<td>Electives or minor subjects</td>
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<td>17</td>
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</tbody>
</table>

All secretarial majors are required to complete 28 hours in the following: 22abc, 23ab, 20abc, 21, 24ab, 25, and 26. All seniors (other than teaching majors) are required to complete 100, Advanced Secretarial Practice.

### Accounting

**For Undergraduates**

**11ab. Elementary Accounting.** 2 Q. Autumn, winter, spring, summer. 5 cr. each quarter. Prerequisite, sophomore standing. A student may be exempted from 11a upon passing a placement examination admitting him to 11b. Fundamental principles as applied to proprietorship, partnership, and corporation. There will be special sections of 11b for those majoring in Pharmacy and Forestry where the work will be directed toward their needs. Mr. Emblen and staff.

**12. Intermediate Accounting.** 1 Q. Autumn. 4 cr. Prerequisite, Bus. Ad. 11ab. Theory of accounts as they pertain to financial statements; valuation of assets and liabilities; depreciation; reserves; profits; surplus. Mr. DeMaris, Mr. Emblen.


*Required for those receiving a teaching certificate in Business.*
For Undergraduates and Graduates

113ab. Advanced Accounting. 2 Q. Winter, spring, 4 cr. each quarter. Prerequisite, Bus. Ad. 12. Special problems of partnerships and corporations, installment sales, sources and application of funds, consignments, branch accounting, receivership accounting, accounting for estates and trusts, consolidated statements. Mr. Emblen.

114. Cost Accounting. 1 Q. Spring, Summer. 4 cr. Prerequisite, junior standing and Bus. Ad. 11b. Elements of cost; principles and general methods of cost findings; direct and indirect costs; payroll and labor costs; compiling costs and cost data; control of cost records. Mr. DeMaris.

115ab. Auditing. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Bus. Ad. 113ab. The general scope and purpose of auditing; the audit program; the analytical study of balance sheets and accounting records, with practical problems. The application of the theory of auditing to practical problems, the preparation of financial reports, with full analysis in approved form for submission to clients. Mr. DeMaris.

145. Income Tax. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 11b and junior standing. The accounting requirements of the law, the regulations, a digest of the law, with practical problems in the preparation of returns for individuals, partnerships, and corporations, including those required by the Federal Government and the State of Montana. Mr. DeMaris.

146ab. Accounting Systems. 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, 113ab. Accounting problems and types of accounting records of the more common classes of business and government. These classes include: banks, mercantile stores, mining companies, city and state governments, public utilities, contractors, transportation companies, agricultural enterprises, and hotels. Mr. Emblen.

147. Municipal Accounting. 1 Q. Winter. 2 cr. Prerequisite, Bus. Ad. 11ab and junior standing. A study of accounting principles and problems as applied to state and local governments, and other public institutions. Mr. Emblen.

148. C.P.A. Problems and Review. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 146. This course is designed primarily for students preparing to take the examinations for the certificate of Certified Public Accountant. It furnishes a comprehensive review of questions and problems in accounting and auditing given by the American Institute of Accountants. Mr. Emblen.

195. Advanced Cost Accounting. 1 Q. Any quarter. 3 cr. Prerequisite, Graduate standing or permission of instructor, and Bus. Ad. 114. An advanced study in process costs; by-product and joint-product costs; and standard costs with particular emphasis on the latter. Budgets and distribution costs; preparation of cost reports for executives as a tool of managerial control. Offered only when sufficient demand exists. Mr. DeMaris.

202. Contemporary Accounting. 1Q. Any Quarter. 3 cr. Prerequisite, Graduate standing. An advanced study in the current development of basic accounting concepts; government relations with business as they affect accountants. To be offered only when sufficient demand exists. Mr. Emblen.

Banking and Finance

For Undergraduates and Graduates

101ba. Money and Banking. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite Junior standing and Econ. 14. (b) the study of the principles and practices of banking: (a) the study of money, credit, prices. (See Department of Economics, page 83). Mr. Ely.


104ab. Public Finance. 2 Q. Winter, spring. 4 cr. each quarter. Students to elect either 104a or 104b. Prerequisite, junior standing. (a) Federal finance; (b) state and local taxation. Students who completed the former course Economics 104 may not receive credit in 104a. (See Department of Economics, page 83). Mr. Ely.

124. Life, Accident and Health Insurance. 1 Q. Autumn. 3 cr. Prerequisite, Junior standing and Econ. 14. A study of the types of social insurance, forms and kinds of policies, rate making, method of settlement, reserves and surplus, government regulation. Mr. Folkerts.

125. Property Insurance. 1 Q. Winter. 3 cr. Prerequisite, Junior standing and Econ. 14. Fire, burglary, automobile, fiduciary insurance, kinds of policies, rate making, reserves, and relation between the state and insurance company. Mr. Zahn.
131. Real Estate. 1 Q. Spring. 4 cr. Prerequisite, junior standing and Econ. 14. Factors that affect value of real estate; markets, title and real estate transfers. Mr. Folkerts.

133. Corporation Finance. 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing and Econ. 14. The position of corporate organization in modern business; the financial side of organization and promotion; the financial policy with reference to underwriting, capitalization; earnings; surplus; insolvency; receivership and reorganization. Problems and methods of social control. The financial organization of particular corporations. Mr. Folkerts.

*134. Financial Organization. 1 Q. Autumn. Winter. 5 cr. Prerequisite, junior standing and Econ. 14. An introduction to business finance. The study of problems of financing business enterprises with emphasis on small business. The course includes an analysis of the financial intuitions, commercial banks, investment banks, savings banks, insurance companies, mortgage companies, savings and loan associations, sales finance companies, discount houses, factors and the relationship between these institutions and commercial and industrial enterprises. Mr. Folkerts, Mr. Emblen.

135. Bank Management. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and Bus. Ad. 101b or 134. Involves a study of the principal problems of bank management—liquidity, loan administration, account analysis, customer relationships, service charges, personnel, organization, and public relations. Throughout the course attention is given to the social aspects of the banking process. Mr. Folkerts.

136. Security and Commodity Markets. 1 Q. Winter. 4 cr. Prerequisite, Bus. Ad. 134, and senior standing. The operation of the New York Stock Exchange and the Chicago Board of Trade; their relation to other markets in other countries. Mr. Ruderman.

137. Business Forecasting and Planning. 1 Q. Spring. 3 cr. Prerequisite, Business Cycles, 156. Further study of business fluctuations; various business barometers and statistical measures applied to the estimation of economic activity; provides a basis for planning by the individual firm. Mr. Folkerts.

138. Investments. 1 Q. Spring. 3 cr. Prerequisite, Bus. Ad. 133. Investment principles and plans; kinds of securities; tests of investment values; outline of financial analysis of industrial public utilities, railroad, financial, real estate, governmental, and foreign securities; the mechanics of investment.

156. Business Cycles. 1 Q. Winter. 4 cr. Prerequisite, Bus. Ad. 134 or Econ. 101ba and senior standing. Business cycles with special reference to their history, causes, duration, and effects; business forecasting is considered. Mr. Folkerts.

Business Law

For Undergraduates

41abc. Business Law. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing. 41a and 41b are required of all Business Administration students. (41a) Introduction; contracts; sales (41b) agency; negotiable instruments; partnerships; corporations. 41c is not required, but is particularly recommended to students preparing to take the examinations for the C.P.A. Pre-law students are not eligible to take this course. Mr. Boone. Mr. Fritz.

Business Organization and Management

For Undergraduates

10. Introduction to Business. 1 Q. Autumn. Winter. Spring. Summer. 5 cr. An orientation course touching briefly on the several fields of business. Open only to freshmen and sophomores.

15. Office Management. 1 Q. Winter. 3 cr. Prerequisite, Bus. Ad. 10 or sophomore standing. Planning and scheduling of work; employment procedures, supervision of employees, retraining, promotion, and equipment.

Econ. 114. Industrial Relations. 1 Q. Spring. 3 cr. Prerequisite, junior standing and Econ. 114ab or consent of instructor for other than departmental majors. A study of the principles and problems that govern the relations of management and labor. (See Department of Economics, page 83). Mr. Wolfard.

129. Principles of Organization and Management. 1 Q. Autumn. Winter. Summer. 5 cr. Prerequisite, junior standing and Econ. 14ab. A course in-
tended for students who have acquired a general knowledge of the internal operations of business concerns. It analyzes the ways and means of organizing and controlling men and activities so as to obtain effective coordination between the subordinate and the primary objectives of the enterprise.

180. American Industries. 1 Q. Autumn. Winter. 5 cr. Prerequisite, junior standing. This course is designed to acquaint the student with the economics of the major American industries.

181. Personnel Management. 1 Q. Spring. 5 cr. Prerequisite, senior standing. An introductory course dealing with the genesis of personnel problems. The course will cover the organization and functions of a personnel department including in this job evaluation, selection, training of employees, employee incentives, and social controls.

185. Business Statistics. 1 Q. Every Quarter. 5 cr. Prerequisite, Math 25, Econ. 14ab and junior standing. Methods of collecting, evaluating, interpreting, analyzing and presenting business and economic data. Sources of data, construction of index numbers, time series, and correlation analysis.

Marketing

For Undergraduates and Graduates

102. Transportation. 1 Q. Spring. 4 cr. Prerequisite, junior standing and Econ. 14ab. The principles of railway, ocean and waterway, motor truck and bus, and air transportation. (See Department of Economics, page 84).

109. Economics of Consumption. 1 Q. Winter. 3 cr. Prerequisite, junior standing and Econ. 14ab. An analysis of the final stages of the economic process. (See Department of Economics, page 83.) Mr. Wolfard.

132. Credits and Collections. 1 Q. Winter. 3 cr. Prerequisite, junior standing and Econ. 14ab. Credit organization; the credit department; the mercantile agencies; sources of credit information; securing and granting credit; collection methods. Mr. Hart.

151. Marketing. 1 Q. Autumn. Winter. Summer. 5 cr. Prerequisite, junior standing and Econ. 14ab. The prevailing methods of marketing as applied to manufactured products, industrial raw materials, agricultural products, and consumers' goods; functions of middlemen. Mr. Line and Mr. Smith.


153. Market Research and Market Analysis. 1 Q. Autumn. 3 cr. Prerequisite, Bus. Ad. 151. This course deals with the planning and research involved in the analysis of sales and markets. It presents the general problem of discovering, measuring, and appraising the factors which condition the size and character of markets for specific commodities. Mr. Ruderman, Mr. Line.

155. Advertising Procedure. 1 Q. Winter. 4 cr. Prerequisite, Bus. Ad. 151. This course is designed to acquaint the students with fundamental principles of advertising as they present themselves to the business executive and to afford some training in the technique of planning and directing advertising campaigns. Mr. Smith.

157. Salesmanship. 1 Q. Winter. Summer. 3 cr. Prerequisite, Bus. Ad. 151. This course covers the study of sales fundamentals, sales technique and strategy. Practice is given in personal selling. Mr. Line.

183. Sales Management. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 151. The case study method is largely applied in this course. Together with course 153, Market Research, it is designed to cover the major problems encountered in the field of market management. Mr. Smith.

159. Retail Stores. 1 Q. Autumn. Winter. 5 cr. Prerequisite, Bus. Ad. 151. Pharmacy students. Pharmacy 27. Types of retail stores, location, buying, pricing, display, store selling, types of display advertising, and store costs. Mr. Line.

160. Retail Store Management. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 153. A special training course in the principles and practices of managing retail stores. Mr. Line.

194. Price and Price Policy. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 151, and senior standing. Study of actual pricing by individual firms and areas of industry. Mr. Folkerts.
Courses Not Listed in Any Specific Field

191. Business Administration Seminar. 1 Q. Any Quarter. 2 cr. Pre-requisite, senior or graduate standing. An intensive study of specific problems in Business Administration or Economics. Staff.

200. Research in Business and Economics. Any Quarter. 1 to 5 cr. each quarter. Pre-requisite, graduate standing. May be repeated up to a maximum of 15 credits. Staff.

Secretarial Science and Commercial Teaching

*20abc. Beginning Typewriting. 3 Q. Autumn, Winter, Spring. 2 cr. each quarter. Prerequisite for 20a, none; for 20b, 20a or 15 words a minute in a 5-minute test; for 20c, 20b or 25 words a minute in a 10-minute test. Keyboard drills, copy work, speed and accuracy drills, letters. Miss Crow. Mrs. Colvill. Mrs. Fish.


*23ab. Advanced Stenography. 2 Q. Autumn, Winter. Winter, Spring. 5 cr. each quarter. Prerequisites, for 23a, 22c or dictation speed of 80 words a minute in a 5-minute test; for 23b, 23a or dictation speed of 100 words a minute in a 5-minute speed test. Concurrent registration in 24ab required. Mrs. Wilson.

*24ab. Advanced Shorthand Transcription. 2 Q. Autumn, Winter. Winter, Spring. 1 cr. each quarter. Prerequisite, minimum typing speed of 45 net words a minute or 21, Advanced Typewriting. Transcription at approximately two-thirds of the straight copy typing speed or about 35 words a minute with a mailable letter standard. Required of 23ab Advanced Stenography students. Miss Crow. Mrs. Wilson.


26. Beginning Secretarial Practice. 1 Q. Autumn. Winter. Spring. 2 cr. Prerequisite, 35 words a minute typing speed. Filing, duplicating machines, Dictaphone and Ediphone dictating and transcribing machines. Students who have had course 25b may not receive credit for this course. Miss Crow.

100. Advanced Secretarial Practice. 1 Q. Spring. 5 cr. Prerequisite, senior standing or consent of instructor, and 28a, 21, 24a, 25, and 26. Lecture and laboratory. A review, additional skill building, and integration of office machines, dictation, transcription, and secretarial practice. A preparation for State Merit, Junior and Senior Civil Service, and United Business Entrance tests. Requirements in the course are: 150 words a minute shorthand rate, 100 words dictation, and 35 words a minute transcription from shorthand notes. Miss Crow.

142. Methods of Teaching Shorthand. See Special Methods Courses in School of Education, page 90. Either this course or course 143 is required of students who wish to teach commercial subjects. Mrs. Wilson.

143. Methods of Teaching Typewriting. See Special Methods Courses in School of Education, page 90. This course and/or course 142 is required of students who wish to teach commercial subjects. Mrs. Wilson.

*Not more than 19 credits earned in Business Administration 20, 21, 22, 23 and 24 may be applied toward graduation by students not majoring in Business Administration.
Chemistry

Professors Joseph W. Howard, Richard H. Jesse (Chairman); Associate Professor Earl Lory; Assistant Professors Rossleene Hetler, John W. Stewart, Wallace A. Gilkey, Richard Juday; Instructor Leland Yates.

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

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates

11. General Chemistry. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Summer 1947, 11c, 5 cr. Open to students who present no entrance units and no college credit in chemistry. Mr. Howard. Mr. Jesse. Mrs. Hetler. Mr. Juday. Mr. Stewart. Mr. Yates.

13ab. Inorganic Chemistry. 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, one year of high school chemistry and passage of a placement examination. The fundamental laws of chemistry; properties and relations of the non-metallic and metallic elements. Students who have completed Chemistry 11 may not receive credit for 13ab but are eligible for credit in 13c. Mr. Lory. Mr. Gilkey. Mrs. Hetler.

13c. Qualitative Analysis. 1 Q. Spring. Summer. 5 cr. The theory and methods of qualitative analysis. Semi-micro techniques are used. Mr. Lory. Mrs. Hetler. Mr. Gilkey.

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

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


40. Elementary Physical Chemistry. 1 Q. Spring. 5 cr. Prerequisites, Chemistry 17, 101; 15 cr. of college physics. Those portions of physical chemistry which are of especial interest to prospective students of medicine. Mr. Jesse or Mr. Lory.

For Undergraduates and Graduates

101. The Carbon Compounds. 2 Q. Autumn, winter. Continuous. 10 cr. Prerequisite, Chemistry 11 or 12. Students who have taken Chemistry 19 will not receive full credit for this course. A detailed, systematic study of organic chemistry. Intended for chemistry, pharmacy, and pre-medical students. Mr. Howard. Mr. Stewart. Mr. Juday.

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

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

110. Organic Industrial Chemistry. 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. Mr. Howard.

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

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

150. Advanced Inorganic Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 13 (or 11 and 13c), Chem. 17, Chem. 101 and 102. Lectures and laboratory.

160. Advanced Organic Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 101 and 102. Lectures and laboratory. Mr. Stewart.

170. Advanced Physical Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 106. Lectures and laboratory. Mr. Jesse or Mr. Lory.

For Graduates

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

Classical Languages

Professor Wesley P. Clark (Chairman); Assistant Professor Marguerite H. Ephron.

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

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

General Information. Placement examinations are required of all students who continue a language in which entrance credit is presented. Students who offer two entrance units should enter Intermediate Latin (Latin 18a); those offering four units, College Freshman Latin (Latin 15a), subject, however, to the placement examination. The restricted elective requirement is fulfilled upon completion of course Intermediate Latin (Latin 18a) for students who present adequate entrance units in Latin. Students who begin their work in Latin at Montana State University may substitute Greek 11ab for Latin 13b to satisfy the foreign language requirement.
Latin

For Undergraduates

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

13abc. Intermediate Latin. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, Latin 11c or equivalent. (a) Continuation of 11c and transition to Virgil and Ovid. (b) Virgil’s Aeneid I-VI. Introduction to poetry; reading of hexameter, appreciation of permanent values of the Aeneid.

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

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

For Undergraduates and Graduates


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

For Graduates

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

Greek

For Undergraduates

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

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

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

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

Economics

PROFESSORS ROY J. W. ELY (Chairman), ROBERT C. LINE, T. H. SMITH; ASSISTANT PROFESSOR JOHN A. WOLFARD; INSTRUCTORS CHARLES S. HATTON, ROBERT G. HUCK.

The curriculum in the Department of Economics is designed to meet the following needs: (1) to provide a broad cultural background for (a) a better understanding of economic and social facts and problems, and (b) for intelligent leadership; (2) to provide a foundation for professional training in such fields as law, business, government service, teaching, and social work.

Major Requirements: All major students in the Department of Economics should complete the following courses in their sophomore year, in addition to the Social Science Divisional requirements set forth on page 60: Principles of Economics (14ab), and either
Elementary Anthropology (Soc. 15) or Elementary Sociology (Soc. 16). Social Science Methods (118) will be taken in the junior year. It is recommended that in addition to these courses the student should select two or more from the following: American Government and Politics (Hist. 17), United States History (Hist. 21), Elementary Accounting (BA. 11), Mathematics (25), World Geography (10).

**Language Requirement:** Students who major in this department may meet this requirement by presenting 5 quarters (23-25 credits) of a classical or modern language, or a reading knowledge of the language (see page 34); or, in lieu thereof, a minimum of at least 15 credits in the following courses in addition to the restricted elective in English Composition and Philosophy or Psychology as described on pages 33, 34: Logic (Psych 50) and/or Introduction to Philosophy (Psych 55), with the remaining credits from Contemporary Literature (Eng 55abc), The Novel (Eng 75abc) or The Drama (Eng 77abc).

A minimum of 50 credits in Economics is required for a major, to be made up of the above requirements and additional credits obtained from one of the major fields of concentration, as listed below.

**A. Economics Concentration.** In addition to the requirements enumerated above, major students in Economics will complete the following courses: Money and Banking (101b), Public Finance (104a), Advanced Economics (111), Development of Economic Theory (112), and Labor Economics (113ab). The remainder of the credits necessary for a major may be chosen according to the student's interest. This permits the student to emphasize any one of the following: general economic theory, labor economics, consumer economics, utility economics, economics of finance, and world economics. Government Regulation of Business (Hist. 116) and Economic History of the United States (Hist. 125) may be counted toward an economics major.

**B. Combined Economics and Sociology Concentration.** For those who plan to teach social sciences, to go on to seminary, or to go into work that requires a background in both economics and sociology the following courses in addition to general departmental requirements, should be completed: Economics: Money and Banking (101b), Labor Economics (113ab), Public Finance (104a), Advanced Economics (111), or Development of Economic Theory (112); Sociology: Population (120), The Family (129), Regional Sociology (123). The remaining credits for a major will be selected in counsel with the student's adviser.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

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

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

For Undergraduates

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

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

For Undergraduates and Graduates

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

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

103. Public Utilities. 1 Q. Autumn. 4 cr. Prerequisite, junior standing
and course 14. An economic analysis of problems of public utility in-
dustries. Mr. Hatton.

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

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

109. Economics of Consumption. 1 Q. Winter. Summer. 3 cr. Pre-
requisite, junior standing and course 14. An analysis of the final stages of
the economic process. Mr. Wolfard.

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

111. Advanced Economics. 1 Q. Autumn. Summer. 4 cr. Pre-
requisite, junior standing and course 14. An advanced course in the meth-
ods, concepts, and data of economics. Mr. Wolfard.

112. Development of Economic Theory. 1 Q. Spring. 4 cr. Pre-
requisite, junior standing and course 14. A history and analysis of economic
theories, emphasizing the trends of economic thought since the days of the
Greeks and Romans. Mr. Ely.

113ab. Labor Economics. 2 Q. Autumn, winter. 3 cr. each quarter.
Students may enter either quarter. Prerequisite, junior standing and
course 14. (a) The origins, development, and current status of the labor
movement; structure, functions, ideologies, economic aspects of labor prob-
lems; (b) management-labor relations, government and labor, labor legis-
lation, social security. Students who completed the former course Economics
113 may not receive credit in 113b. Mr. Wolfard.

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

115. Economics of Montana. 1 Q. Winter. Summer. 3 cr. Pre-
requisite, junior standing and course 14. A study of the factors and forces
that determine the economic well-being of the people of Montana. Mr. Ely.

118. Social Science Methods. 1 Q. Autumn. 4 cr. Prerequisite,
junior standing and course 14. An introduction to the methods used in
the studies included in the Division of Social Sciences.

120. Comparative Economic Systems. 1 Q. Spring. 4 cr. Prerequisite,
junior standing and course 14. A comparative study of the leading economic
systems of the world. Mr. Wolfard.

129. Principles of Organization and Management. 1 Q. Winter. Sum-
mer. Prerequisite, junior standing and Economics 14. (See School of Busi-
ness, page 76). Mr. Smith.
132. Corporation Finance. 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing and Economics 14. The position of corporate organization in modern business; the financial side of organization and promotion; the financial policy with reference to underwriting, capitalization; earnings; surplus; insolvency; receivership and reorganization. Problems and methods of social control. The financial organization of particular corporations. (See School of Business, page 76).

151. Marketing. 1 Q. Autumn. Winter. Summer. 5 cr. Prerequisite, junior standing and course 14. The prevailing methods of marketing as applied to manufactured products, industrial raw materials, agricultural products, and consumers' goods; functions of middlemen. (See School of Business, page 76).

152. Foreign Trade. 1 Q. Winter. 4 cr. Prerequisite, Business Administration 151. Theories, principles, and methods of international trade. Economic resources and products of the principal countries, their chief exports and imports. (See School of Business, page 77). Mr. Line and Mr. Smith.

154. Investments. 1 Q. Spring. 3 cr. Prerequisite, Business Administration 133. Investment principles and plans; kinds of securities; tests of investment values; outline of financial analysis of industrial public utilities, railroad, financial, real estate, governmental, and foreign securities; the mechanics of investment. (See School of Business, page 78). Mr. Line.

161. World Economic Organizations. 1 Q. Spring. 3 cr. Prerequisite, junior standing and course 14, or consent of instructor. Origin, organization, functions, problems, and future of international economic organizations. Mr. Ely.

180. Advanced Problems. Any quarter, 1-2 cr. Prerequisite, senior standing and consent of instructor. Staff.

For Graduates

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

School of Education

PROFESSORS WALTER R. AMES, JAMES W. MAUCKER (Dean); ASSISTANT PROFESSORS LINUS J. CARLETON, HAROLD D. FLEMING, BENJAMIN R. FROST, W. LEO SMITH, GUY RENZAGLIA.

Staff Members of Cooperating Departments and Schools Who Offer Courses in Education: PROFESSORS A. S. MERRILL, LUCIA B. MIRRIELES; ASSOCIATE PROFESSORS CHARLES F. HEITLER, STANLEY M. TEEL, BRENDA FARRELL WILSON; ASSISTANT PROFESSORS DAVID S. BRODY, MOLFRED MOE, ROBERT P. STRUCKMAN.

Visiting Faculty (Summer Session): VISITING PROFESSORS CHARLES DEAN, WILLIS DUGAN, A. O. GULLIDGE, CHARLES HOWELL, S. J. WANGUS, GEORGE WEEKS, FRANCES WHITNEY; VISITING INSTRUCTORS DAN BOCK, AGNES BONE, TRUMAN CHENEY, HARRIET DOUGLAS, RAY A. GERBER, ROBERT FINCH, ELIZABETH M. KAISAND, RALPH KNEEAND, MARJORIE REYNOLDS, GLENN SCHULTZ.

General Information

The School of Education has the following objectives

1. To provide professional preparation for teachers of the junior and senior high schools and to qualify them for the State Secondary Certificate. Emphasis is placed on helping these educational workers acquire (a) understanding of the school as an institution; (b) understanding of physical and mental development of pupils; (c) a philosophy of education based on
American democracy; (d) techniques and competence needed for doing their work in the practical public school situation.

2. To give advanced preparation for superintendents, principals, supervisors, and guidance workers.

3. To offer advanced and graduate work for elementary teachers.

4. To provide extension and field services to public school systems.

5. To prepare leaders for adult education programs and to assist adult groups through educational services.

6. To cooperate with the State Department of Public Instruction in curriculum revision, in research and in services to the schools.

7. To unify and coordinate the teacher education program in the University.

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

Requirements for Admission

In addition to the regular University requirements for admission (pages 27 to 31), a student must complete two years of college work. Pre-education students should consult with the School of Education before setting up their undergraduate programs. The completion of a foreign language is elective for students majoring in Education (see pages 34, 35). General psychology, while it does not count toward the Education Major, is prerequisite to all courses in Education and should be taken in the freshman or sophomore year.

Students who expect to be certified to teach are required to file with the Dean of the School of Education at the beginning of their junior year a statement of their intended major and minor fields of specialization, which should include one teaching field of at least 45 quarter credits and one of at least 30 quarter credits. See requirements for the Secondary State Certificate below. Each candidate for the Certificate who has not already received credit in Observation and Teaching (Educ. 26a) will, at the beginning of the junior year, be assigned a definite quarter of the senior year in which he must register for that course.

Requirements for Graduation

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

(1) The general University requirements for graduation (see pages 31 to 36) except in foreign languages.

(2) A minimum of 40 credits in Education, including Educational Psychology (Educ. 25a), Principles of Secondary Education (Educ. 25b), Secondary School Teaching Procedures, (Educ. 25c), Observation and Teaching (Educ. 26a) or their equivalents and a selection from the following courses: Observation and Teaching (Educ. 26b), Educational and Vocational Guidance (Educ. 140), Use of Audio-Visual Instructional Aids (Educ. 145), Educational Sociology (Educ. 158), History of Education (Educ. 166), Occupational Information (Educ. 167), any of the special methods courses (Educ. 105, 123abc,
Senior examinations will not be given except to candidates for honors.

Masters’ Degrees. Applicants for admission to the Graduate School must meet the requirements indicated on page 118; candidates for the degree of Master of Arts or Master of Education must comply with the regulations governing graduate work on pages 117 to 121. A candidate for either of these degrees must pass a preliminary examination on his undergraduate courses in Education as a condition to full admission to graduate work within one quarter after beginning his graduate residence. He must, in addition, pass a final examination over the graduate field of Education before being recommended for the degree. For further information, see pages 117 to 121.

SECONDARY STATE CERTIFICATE

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

1. A Bachelor's Degree from Montana State University, or other approved institution of higher education.

2. Twenty-four or more quarter credits in education designated by the Dean of the School of Education. (See below).

3. A teaching major of 45 or more quarter credits in a field taught in high school. (See pages 92 to 99).

4. A teaching minor of 30 or more quarter credits in an additional field taught in high school. (See pages 92 to 99).

5. Adjustment in the above minimum credit requirements may be made for the combination of high school and University work in foreign language and mathematics.

6. The major or minor subject matter fields may include English, classical or modern languages, commercial work, journalism (minor only), mathematics, biological sciences, physical sciences, health and physical education, history and political science, economics and sociology, home economics, fine arts, music. (See pages 92 to 99).

Note: Students who began their work on teaching certificate requirements before June, 1944, should consult with the Dean of the School of Education regarding the possibility of completing the requirements under the former plan of three teaching minors with a minimum of 25 credits in each. Candidates for the teaching certificate must submit an application blank supplied by the State Department of Public Instruction, which includes a signed certificate of health and a signed oath of allegiance. Transcripts of all college work completed by the applicant must be submitted with the application.

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

Sequence of Certification Courses in Education

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

Freshman or Sophomore year: General Psychology (Psych 11). (May not be counted among the 24 credits required for Secondary Certificate).

Junior year: Principles of Secondary Education (Educ 25b), 4 credits; Educational Psychology (Educ 25a), 4 credits; Secondary School Teaching Procedures (Educ 25c), 4 credits, and electives. (Methods course highly recommended).

Senior year: Observation and Teaching (Educ 26a), 5 credits and electives in secondary education to make a total of 24 credits—Observation and Teaching (Educ 26b) highly recommended. (Only one methods course may be included in the 24 credits in Education required for the Teaching Certificate).

For Undergraduates

*25a. Educational Psychology. 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, junior standing and Psychology 11; sophomores may enroll in their third quarter. Emphasis on psychological foundations of learning: individual differences; pupil guidance and development; mental hygiene. Mr. Ames. Mr. Frost.

*25b. Principles of Secondary Education. 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, junior standing and Psychology 11: sophomores may enroll in their third quarter. An introductory study of the American public school system, stressing the principal characteristics of the school as a social institution—its purposes, structure, the social forces which impinge upon teachers and pupils. Analysis of major trends and current issues in secondary education. Study of teaching as a profession. Mr. Fleming. Mr. Frost.

*25c. Secondary School Teaching Procedures. 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, junior standing and Education 25ab. Teaching procedures and materials; selection of content; lesson planning; testing and evaluation; emphasis on student participation using techniques generally employed in classroom instruction in high schools today. Mr. Carlton. Mr. Fleming.

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

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

26c. Observation and Teaching. 1 Q. Summer only. 3 cr. Prerequisite, Education 25c and consent of instructor. Observation and participation in teaching of demonstration class of high school students, one hour daily, plus individual conferences each week. Designed for students who cannot secure 26a. Mr. Carlton. Mr. Fleming.

*Courses required for the Secondary State Certificate.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester(s)</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S110</td>
<td>Safety Education and Driver Training</td>
<td>3 cr.</td>
<td>Summer only</td>
<td>3 cr. Pre-requisite, senior standing, and consent of instructor.</td>
</tr>
<tr>
<td>S132</td>
<td>Secondary School Administration</td>
<td>3 cr.</td>
<td>Summer only</td>
<td>3 cr. Pre-requisite, junior standing, and teaching experience.</td>
</tr>
<tr>
<td>134</td>
<td>School Supervision</td>
<td>4 cr.</td>
<td>Winter, Summer</td>
<td>2-4 cr. Pre-requisite, Education 25a and teaching experience.</td>
</tr>
<tr>
<td>140</td>
<td>Educational and Vocational Guidance</td>
<td>4 cr.</td>
<td>Autumn, Winter</td>
<td>2-4 cr. Pre-requisite, junior standing; Education 25a or extensive teaching experience.</td>
</tr>
<tr>
<td>141</td>
<td>Organization and Administration of the School Library</td>
<td>1 cr.</td>
<td>Summer only</td>
<td>2-4 cr. Pre-requisite, senior standing and teaching experience.</td>
</tr>
<tr>
<td>145</td>
<td>Use of Audio-Visual Instructional Aids</td>
<td>1 cr.</td>
<td>Autumn, Winter</td>
<td>3 cr. Pre-requisite, junior standing and teaching experience.</td>
</tr>
<tr>
<td>146</td>
<td>Counseling for Classroom Teachers</td>
<td>1 cr.</td>
<td>Autumn, Summer</td>
<td>4 cr. Pre-requisite, Education 140 or equivalent, and consent of instructor.</td>
</tr>
<tr>
<td>148</td>
<td>Problems in Special Education</td>
<td>4 cr.</td>
<td>Winter, Summer</td>
<td>2-4 cr. Pre-requisite, junior standing, 12 credits in Education or Psychology and consent of instructor.</td>
</tr>
<tr>
<td>149</td>
<td>Workshop in Business Education</td>
<td>1 cr.</td>
<td>Summer only</td>
<td>4 cr. Pre-requisite, a major or minor in Business Administration, teaching experience in business subjects, consent of instructor.</td>
</tr>
<tr>
<td>150</td>
<td>Educational Administration</td>
<td>4 cr.</td>
<td>Spring</td>
<td>2-4 cr. Pre-requisite, 26a, or concurrent registration in 26a, and consent of instructor.</td>
</tr>
<tr>
<td>152</td>
<td>Educational Measurements</td>
<td>4 cr.</td>
<td>Autumn, Summer</td>
<td>2-4 cr. Pre-requisite, junior standing; Education 25a or equivalent, consent of instructor.</td>
</tr>
<tr>
<td>153</td>
<td>Health Education</td>
<td>4 cr.</td>
<td>Spring, Summer</td>
<td>25abc or a major or minor in physical education. The aims, objectives, and possible curricula for teaching health education in the elementary and high schools.</td>
</tr>
</tbody>
</table>
154. Seminar in Education. 1 Q. Autumn, Winter, Spring, Summer. Credit variable. Prerequisite, senior standing, 8 credits in education and consent of instructor. This course may be elected for 2 or more quarters for a total of not more than 10 credits. Group analysis and discussion of individual projects. Application to student's specific teaching situation where possible. Staff.

155. School Finance. 1 Q. Summer. 3 cr. Prerequisite, senior standing and Education 150 or extensive experience as a principal or superintendent; consent of instructor. History and sources of school revenue. Funds, relative costs, inequalities, legal limitations, and proper expenditures. Comparative study of finances. Mr. Gerber.

156. Educational Sociology. 1 Q. Winter. 4 cr. Summer. 3 or 4 cr. Prerequisite, junior standing and Education 25b. The role of education in modern social, economic, and political life; the school as a social institution; problems of American life which affect and are affected by the work of the public schools. Mr. Howell. Mr. Fleming.

5159. Problems of the Junior High School. 1 Q. Summer only. 3 cr. Prerequisite, senior standing and Education 25c. Objectives of the junior high school organization, class scheduling, curriculum, extra-curricular activities, etc. Mr. Bock.

5160. Organization and Administration of the Elementary School. 1 Q. Summer only 2-4 cr. Prerequisite, senior standing and consent of Dean of School of Education or State High School Supervisor. Not more than 10 credits earned in workshop (course S161) may be applied to an undergraduate degree. This course is organized as the Curriculum Revision Center for Montana secondary school courses. Mr. Gullidge. Mrs. Wilson. Miss Martinson. Miss Pettis.

162. Problems in Elementary Education. 1 Q. Spring. 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. Carleton. (Not offered 1948-49.)

5164. Supervision of Instruction in the Elementary School. 1 Q. Summer only 2-4 cr. Prerequisite, senior standing and teaching experience. Supervisory problems of the elementary school principal — professional stimulation of staff, clarification of objectives, curriculum planning, unit teaching, evaluation of outcomes, use of community resources, etc. Miss Whitney.

5165. Workshop in Education. 1 Q. Autumn. Winter. Spring. Summer. Credit variable. Prerequisite, junior standing and 10 credits in education or teaching experience. This course may be elected for two or more quarters for a total of not more than 10 credits. Individual problems in teaching and administration, elementary education, secondary education, curriculum, guidance, teaching literature, dramatics, art, social studies, science. Experimental programs in modern schools. Staff. (Not offered Summer, 1948.)

166. History of Education. 1 Q. Autumn. 4 cr. Summer. 3 or 4 cr. Prerequisite, junior standing and 8 credits in Education. Historical backgrounds of present-day problems in education. History of educational thought, school organization and support, curriculum development, and teaching procedures. Mr. Fleming. Mr. Howell.

167. Occupational Information. 1 Q. Winter. 3 cr. Summer. 2-4 cr. Prerequisite, Education 140 (or equivalent). Major occupational trends, sources of occupational information, techniques for conducting local occupational surveys, use of occupational information in group guidance. Mr. Smith. Mr. Cheney.

168. Techniques of Counseling. 1 Q. Winter. 4 cr. Summer. 2-4 cr. Prerequisite, Education 140 (or the equivalent) and teaching experience; consent of instructor. Analysis of basic principles and effective techniques in personal counseling of high school students—gathering information on the student, interviewing, follow-up. Study of pupils' relationships with teacher, parents, counselor and other pupils. Mr. Bock. Other teaching. 4 cr.

5169. Workshop in Testing and Guidance. 1 Q. Summer only. 4 cr. Prerequisite, junior standing, teaching experience, Education 140 or equivalent, and consent of instructor. Concurrent registration in 140 will be accepted in exceptional instances. Overview of the testing, guidance, and counseling field for the teacher-counselor expecting to do testing and
guidance in a high school. Course will be pointed toward the state-wide testing and guidance program recently set up in Montana. Mr. Smith, Mr. Dugan, Miss Whitney, Mr. Cheney, Mr. Brody, Mr. Frost.

S171. Elementary Curriculum. 1 Q. Summer only. 4 cr. Prerequisite, senior standing and teaching experience. Survey of elementary school curriculum: major trends in course content, grade placement, organization of materials and evaluation of outcomes. Miss Whitney.

174. Counseling Laboratory. Any quarter. 2-4 cr. Prerequisite, Education 168 (or equivalent) and consent of instructor. Practical experience in counseling and psychological and educational testing. Case work under supervision. Weekly seminar discussions. Laboratory work and reading assignments based on student's background, interests and needs. Course offered jointly with Psychology 174. Mr. Brody.

177. Secondary Curriculum. 1 Q. Spring. Summer. 4 cr. Prerequisite, Education 25a or concurrent registration. Survey of secondary school curriculum; organization of materials; administration, evaluation, and trends in curriculum development. Mr. Fleming.

For Graduates

201. Research. Any quarter. Credit variable to maximum of 15. Prerequisite, graduate standing in Education and consent of instructor. Staff.

S223. Problems in Supervision of Home Economics Teaching. 1 Q. Summer only. 3 cr. Prerequisite, graduate standing and consent of instructor. Designed primarily for teachers who are supervising the work of cadet teachers in home economics. Miss Moe.

S249. Principles and Problems of Business Education. 1 Q. Summer only. 3 cr. Prerequisite, graduate standing, a major or minor in business or teaching experience in business subjects. A study of the curriculum, basic principles, practices, problems and trends in business Education. Miss Crow.

285. Advanced Educational Psychology. 1 Q. Winter. 4 cr. Summer. 2-4 cr. Prerequisite, Education 26a, graduate standing and teaching experience. Growth and development of children and youth. Intelligence and specific aptitudes, appraisal and diagnosis of mental development, learning process, personality adjustment—a systematic analysis of the field of educational psychology at the graduate level. Mr. Maucker. Mr. Ames.

S271. Montana Educational Problems. 1 Q. Summer only. 4 cr. Prerequisite, graduate standing in Education. Montana's district system, feasible reorganization, teaching condition, curricular defects. (Not given summer, 1948.)

S272. Philosophy of Education. 1 Q. Summer only. 3 or 4 cr. Prerequisite, graduate standing in Education. Analysis of leading philosophical points of view in education: concepts of the individual, society, the educative process and the role of education in a democracy. Mr. Howell.

274. Advanced Laboratory in Counseling and Guidance. Any quarter. 2-4 cr. Prerequisite, graduate standing and consent of instructor. Work with counseling cases at more advanced level; participation in research projects; experience in other phases of guidance program. Mr. Brody.

285. Educational Research and Thesis Writing. 1 Q. Autumn. Summer. 4 cr. Prerequisite, graduate standing in the School of Education. Research problems: their statement, organization, techniques, tabulation of materials. Mathematical concepts necessary for interpretation of research data and conclusions. Required for a Masters degree in Education; candidates are urged to take this course in first quarter of graduate program. Mr. Ames.

Independent Work. Time and credit to be arranged. Prerequisite, consent of instructor. In a limited number of courses, instruction may be given by individual conference.

SPECIAL METHODS COURSES

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

105. Teaching of English. 1 Q. Autumn. 4 cr. Summer. 3 cr. Prerequisite, senior standing. For English major and minor students only. Methods of teaching units, including all phases of classroom English, library reading and book ordering. Weekly laboratory exercises in teaching. Miss Mirriece. Miss Boner.

123a. School Music. 1 Q. Autumn. 3 cr. Summer. 1 1/2-3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for elementary schools including child voice, rhythmic development, rote singing. Mr. Teel.

123b. School Music. 1 Q. Winter. 3 cr. Summer. 1 1/2-3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for senior high schools including bands, orchestras, glee club, chorus, problems of community music, operettas, festivals. Mr. Teel. Mr. Weeks.

131. Teaching of Secondary Mathematics. 1 Q. Summer. 2-4 cr. Prerequisite, senior standing and consent of instructor. Aims, purposes, and possible curricula for high school mathematics. Mr. Merrill. Miss Kalsky.

132. Supervision and Teaching of Physical Education. 1 Q. Winter. Summer. 4 cr. Prerequisite, Physical Education 12abc, junior standing and consent of instructor. Consideration of materials suitable for the high school program. Demonstration and practice in techniques of teaching activity skills using mass class and squad organization; use of achievement tests. Mr. Hertler.

142. Methods of Teaching Shorthand. 1 Q. Spring. 3 cr. Summer. 2-4 cr. Prerequisite, junior standing, and a minor or major in Business Administration. Including course 22b or equivalent, or teaching experience in shorthand. Objectives, methods, and materials. Given in 1948-49, and in alternate years. Mrs. Weeks.

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

162. The High School Newspaper. 1 Q. Spring. 3 cr. Summer. 2 cr. Prerequisite, junior standing and consent of instructor. A course for students who plan to teach journalism courses in high schools or act as advisors to school publications. Mr. Struckman. Mr. Dugan.

176. Supervision and Teaching of Social Studies in Secondary Schools. 1 Q. Summer only. 2-4 cr. Prerequisite, junior standing and teaching experience. Systematic study of both the developmental and remedial work-type reading programs for pupils in the middle and upper grades, as well as high school students. Basic principles, teaching techniques, materials of instruction and supervisory practices involved in the program for development of reading ability and basic study skills. Not a course in the teaching of literature. (Not offered summer, 1948.) Staff.

177. Supervision and Teaching of Social Studies in Elementary Schools. 1 Q. Summer only. 2-4 cr. Prerequisite, junior standing and teaching experience. Systematic analysis of problems involved in the teaching and supervision of the social studies in junior and senior high schools—curriculum, teaching techniques (particularly the development and presentation of units of instruction) and specific materials for use in the classroom. (Not offered Summer, 1948.)

178. Supervision and Teaching of Social Studies in the Elementary School. 1 Q. Summer. 3 cr. Prerequisite, junior standing and Education 162 or 164 or extensive teaching experience. Study of modern philosophy of social studies instruction in grades 1-6 with emphasis upon curriculum trends, instructional practices, teacher-pupil planning and evaluation, unit organization of instruction, integration with other areas, use of community resources. Mr. Dean.

179. Supervision and Teaching of Elementary Reading. 1 Q. Summer only. 3 cr. Prerequisite, junior standing and course 162 or 164 or
extensive teaching experience. Intensive analysis of the characteristics of a good reading program in grades 1-6, objectives, methods and materials of instruction, evaluation, relationship to other work. Supervisory techniques applied specifically to the improvement of reading instruction. Mr. Dean.

183. Advanced Problems in Teaching Home Economics. 1 Q. Spring. Summer. 3 cr. Prerequisite, Education 163 and 26a, or consent of instructor. Consideration of problems and procedures dealing with satisfactory homemaking education in the upper grades and in high school. Miss Moe.

Course Requirements in Major and Minor Teaching Fields

Students who wish to qualify for the Secondary State Certificate must complete a minimum of 45 credits in a major teaching field and a minimum of 30 credits in a minor teaching field. This is in keeping with the regulations of the State Department of Public Instruction which are outlined on page 86 of the catalog. Students who began their work at Montana State University prior to June, 1944, may, upon consultation with the Dean of the School of Education, complete requirements under the old plan of three teaching minors with a minimum of 25 credits in each.

Major teaching requirements are not necessarily the same as major departmental requirements for graduation. The student might qualify for the state certificate in a subject field by earning 45 credits but still not meet requirements for graduation as a major in a University department. On the other hand, students who graduate with a major in a subject field taught in Montana high schools will usually qualify for the certificate, provided other requirements are met.

Biological Science

<table>
<thead>
<tr>
<th>Teaching Major (45 credits)</th>
<th>Teaching Minor (30 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany 11ab, General Botany</td>
<td>10</td>
</tr>
<tr>
<td>Botany 12 or 861, Classification of Spring Flora, or Introduction to Systematic Botany</td>
<td>3-4</td>
</tr>
<tr>
<td>Botany 126, Evolution</td>
<td>3-4</td>
</tr>
<tr>
<td>Zoology 14ab, Elementary Zoology</td>
<td>10</td>
</tr>
<tr>
<td>Zoology 15, Field Zoology</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 24, Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 129, Biological Literature</td>
<td>2-4</td>
</tr>
<tr>
<td>Bacteriology 19, Elementary Bacteriology</td>
<td>5</td>
</tr>
<tr>
<td>Biological Science 100, Conservation</td>
<td>3</td>
</tr>
</tbody>
</table>

NOTE: Students electing Biology as a major teaching field are advised to take Botany 11ab, 12 and Zoology 14ab, 12; one sequence a year in the first two years. Bacteriology 19 and Zoology 24 should be taken, preferably in the junior year and Botany 126, Zoology 129 and Conservation in the senior year. Students electing a teaching minor in Biology are advised to start the sequence of courses in the Sophomore year.

Business Administration

<table>
<thead>
<tr>
<th>Teaching Major (45 credits)</th>
<th>Teaching Minor (30 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stenography Acc't-Typing</td>
<td>37 credits as follows:</td>
</tr>
<tr>
<td>and/or 100 Adv. Secretarial Practice</td>
<td>30 credits as follows:</td>
</tr>
<tr>
<td>Bus. Ad. 22abc, 23ab, Stenography</td>
<td>15</td>
</tr>
<tr>
<td>and/or 100 Adv. Secretarial Practice</td>
<td>15</td>
</tr>
<tr>
<td>Bus. Ad. 11ab, Elementary Accounting</td>
<td>10</td>
</tr>
<tr>
<td>Bus. Ad. 142 or 143, Methods of Teaching Shorthand or Typing</td>
<td>6</td>
</tr>
<tr>
<td>Bus. Ad. 21, Typewriting and/or 24ab Adv. Shorthand Transcription</td>
<td>3-4</td>
</tr>
<tr>
<td>Bus. Ad. 25, Office Machines</td>
<td>2</td>
</tr>
<tr>
<td>Bus. Ad. 26, Beg. Secretarial Practice</td>
<td>2</td>
</tr>
</tbody>
</table>
Schoo l of Education

Electives:
- Bus. Ad. 41abc, Business Law .......... 9
- Bus. Ad. 129, Prin. Org. & Mgmt.. 5
- Bus. Ad. 131, Real Estate............... 2
- Bus. Ad. 132, Credits & Collections... 3
- Bus. Ad. 133, Corporation Finance..... 5
- Bus. Ad. 150, Business Ethics.......... 3
- Bus. Ad. 151, Marketing................ 5
- Bus. Ad. 154, Investments............. 3
- Bus. Ad. 15, Office Management.......
- Bus. Ad. 113ab, Advanced Acc...

Classical Language (Latin)

Required Courses:
- Latin 11abc, Elementary Latin........ 15
- Latin 12abc, Intermediate Latin...... 15

Electives:
- Latin 15ab, College Freshman Latin... 10
- Latin 17ab, Second Year College Latin 10
- Latin 139, Lucretius or any 100 reading course .......... 5
- Latin 149, Writing Latin (Adv.)...... 4
- Latin 150, Latin Seminar............... 2-5

Teaching Major (45 credits)
Teaching Minor (30 credits)

Electives:
- Econ. 101b, Money and Banking...... 4
- Econ. 102, Transportation.......... 4
- Econ. 103, Public Utilities........ 4
- Econ. 104a, Public Finance......... 4
- Econ. 109, Economics of Consumption.. 3
- Econ. 113a or 113b, Labor Economics 3
- Econ. 115, Econ. of Montana........ 3
- Soc. 122, Criminology.............. 5
- Soc. 123, Regional Sociology...... 4
- Soc. 129, The Family............ 4
- Soc. 133, Community Organization... 4
- Soc. 135, Child Welfare........... 4

*Five credits in 11abc (Introduction to Social Science) may be counted toward teaching major and minor requirements provided all three quarters are completed.

For students who enter the University with two or more units of high School Latin, the teaching minor requirement is defined as successful completion of Latin 13c, rather than completion of 30 credits. Likewise, for such students the teaching major requirement is defined as successful completion of 15 credits of advanced work (beyond 13c), rather than 45 credits. Students are urged to complete Latin 15a, although they may qualify for a teaching minor with 30 credits in Latin 11abc and 13abc.
### English, Speech and Dramatics

#### Teaching Major (45 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 11ab (12abc)</td>
<td>Language in Action (Freshman English)</td>
<td>5</td>
</tr>
<tr>
<td>English 30, Principles of Speech</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>English 30a, Composition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English 57b or c, Shakespeare</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>English 59abc, American Literature (2 qtr.)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>English 173abc or 174abc, British Literature (2 qtr.)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>English 191, History of British Literature</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>English 192, Chaucer (Major Writers)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English 199, Seminar (2 quarters)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

### Teaching Minor (30 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 21, Argumentation</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>English 22abc, Dramatics</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>English 30ab, Composition</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>English 69, Oral Interpretation</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>English 173abc or 174abc, British Literature</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

#### Electives:

- 7 credits from the following:
- 4 credits from the following:

##### Notes:

1. Five credits of Freshman English may be applied on the teaching major or minor, provided the entire course 11ab (or 12abc) is completed.

2. Education 105 (Teaching of English) is required of students completing a teaching major or minor in English. Students interested in teaching majors and minors in English with emphasis upon Speech or upon Dramatics, consult with the Chairman of the English Department.

3. Students who plan to qualify for a teaching major in English must report in person to the Chairman of the English Department upon making their decision or at the latest by the beginning of their second quarter as a junior.

4. Students minoring in English must report to the Chairman of the English Department upon making decision to do so.

### Fine Arts

#### Teaching Major (45 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Arts 23, Drawing (2 quarters)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 25, Color and Design</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 31abc, History of Art</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 35, Sculpture (1 quarter)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 37, Mediums, or 827, Elementary Crafts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 39, Water Color</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Teaching Minor (30 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Arts 35, Sculpture (2nd quarter)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 40, Painting (2-3 quarters)</td>
<td>6-9</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 51, Life Drawing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 125, Advanced Design</td>
<td>3-9</td>
<td></td>
</tr>
<tr>
<td>Fine Arts 140, Advanced Painting</td>
<td>3-6</td>
<td></td>
</tr>
</tbody>
</table>

#### Electives:

- 15 credits from the following:
### Health and Physical Education for Men

**Teaching Major**
- **45 credits**
- Required Courses:
  - P.E. 15abc, Activity Skills: 3 credits
  - P.E. 20ab, Human Anatomy: 10 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 60, 61, 62, Coaching—Basketball, Football, and Track: 8 credits
  - P.E. 137, School Gymnastics: 4 credits
  - P.E. 150, Organization and Administration: 4 credits
  - P.E. 153, Health Education: 4 credits

  (Supervision and Teaching in Physical Education is required of all majors and minors.)

  (10 credits from the following)
  - P.E. 20ab, Human Anatomy: 5 credits
  - P.E. 32, First Aid or P.E. 40, Athletic Training: 2 credits
  - P.E. 60, 61, 62, Coaching—Basketball, Football, and Track: 4 credits
  - P.E. 136, Kinesiology: 5 credits
  - P.E. 148, Physiology of Exercise: 2 credits
  - P.E. 151, Curriculum Construction: 4 credits
  - P.E. 160, Seminar in Health Education: 1-3 credits
  - P.E. 170, Recreational Leadership: 3 credits

**Teaching Minor**
- **30 credits**
- Required Courses:
  - P.E. 15abc, Activity Skills: 3 credits
  - P.E. 20ab, Human Anatomy: 10 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 3 credits
  - P.E. 63, Teaching of Sports: 6 credits
  - P.E. 137, School Gymnastics: 4 credits
  - P.E. 153, Health Education: 4 credits

  (9 credits from the following)
  - P.E. 20a, Human Anatomy: 5 credits
  - P.E. 32, First Aid: 2 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 2 credits
  - P.E. 63abc, Teaching of Sports: 2 credits
  - P.E. 136, Kinesiology: 5 credits
  - P.E. 148, Physiology of Exercise: 2 credits
  - P.E. 151, Curriculum Construction: 4 credits
  - P.E. 160, Seminar in Health Education: 1-3 credits
  - P.E. 170, Recreational Leadership: 3 credits

### Health and Physical Education for Women

**Teaching Major**
- **45 credits**
- Required Courses:
  - P.E. 20ab, Anatomy: 10 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 3 credits
  - P.E. 63, Teaching of Sports: 6 credits
  - P.E. 137, School Gymnastics: 4 credits
  - P.E. 153, Health Education: 4 credits

  (6 credits from the following)
  - P.E. 20a, Human Anatomy: 5 credits
  - P.E. 32, First Aid: 2 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 2 credits
  - P.E. 63abc, Teaching of Sports: 2 credits
  - P.E. 136, Kinesiology: 5 credits
  - P.E. 148, Physiology of Exercise: 2 credits
  - P.E. 151, Curriculum Construction: 4 credits
  - P.E. 160, Seminar in Health Education: 1-3 credits
  - P.E. 170, Recreational Leadership: 3 credits

**Teaching Minor**
- **30 credits**
- Required Courses:
  - P.E. 15abc, Activity Skills: 3 credits
  - P.E. 20ab, Human Anatomy: 10 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 3 credits
  - P.E. 63, Teaching of Sports: 6 credits
  - P.E. 137, School Gymnastics: 4 credits
  - P.E. 153, Health Education: 4 credits

  (6 credits from the following)
  - P.E. 20a, Human Anatomy: 5 credits
  - P.E. 32, First Aid: 2 credits
  - P.E. 36, Techniques of Teaching Swimming: 2 credits
  - P.E. 45abc, Dance Methods and Materials: 2 credits
  - P.E. 63abc, Teaching of Sports: 2 credits
  - P.E. 136, Kinesiology: 5 credits
  - P.E. 148, Physiology of Exercise: 2 credits
  - P.E. 151, Curriculum Construction: 4 credits
  - P.E. 160, Seminar in Health Education: 1-3 credits
  - P.E. 170, Recreational Leadership: 3 credits
History and Political Science

Teaching Major
(45 credits)
25-27 credits as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pol. Sci. 14, Introduction to Government</td>
<td>5</td>
</tr>
<tr>
<td>Pol. Sci. 17, American Government</td>
<td>4</td>
</tr>
<tr>
<td>History 21abc, United States History</td>
<td>12</td>
</tr>
<tr>
<td>History 12ab, Political and Economic Development of Modern Europe</td>
<td>10</td>
</tr>
<tr>
<td>History 30ab and 103, European History</td>
<td>6</td>
</tr>
<tr>
<td>Early Twentieth Century</td>
<td>3</td>
</tr>
</tbody>
</table>

Teaching Minor
(30 credits)
18-22 credits as follows:

Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>History 12abc, English History</td>
<td>9</td>
</tr>
<tr>
<td>History 15, History of Greece</td>
<td>4</td>
</tr>
<tr>
<td>History 16, History of Rome</td>
<td>4</td>
</tr>
<tr>
<td>Pol. Sci. 20, Comparative Governments</td>
<td>4</td>
</tr>
<tr>
<td>History 29, French Revolution and Napoleonic Era</td>
<td>4</td>
</tr>
<tr>
<td>History 33, Medieval Europe</td>
<td>3</td>
</tr>
<tr>
<td>History 101, American Frontiers</td>
<td>3</td>
</tr>
<tr>
<td>Pol. Sci. 108, Present World Problems</td>
<td>4</td>
</tr>
<tr>
<td>Pol. Sci. 120, American Foreign Relations</td>
<td>4</td>
</tr>
<tr>
<td>History 122, Montana History and Government</td>
<td>4</td>
</tr>
<tr>
<td>Hist. 123abc, Hispanic American History</td>
<td>12</td>
</tr>
<tr>
<td>Hist. 125, Social and Cultural History of the United States</td>
<td>4</td>
</tr>
<tr>
<td>Hist. 131, Recent History of the United States</td>
<td>4</td>
</tr>
<tr>
<td>Hist. 132, Contemporary European History</td>
<td>4</td>
</tr>
<tr>
<td>Pol. Sci. 124, International Organizations</td>
<td>4</td>
</tr>
</tbody>
</table>

Five credits in 11abc, (Introduction to Social Science) may be counted in major or minor teaching requirements provided the course was taken prior to the 1948-49 school year and all three quarters were completed.

Home Economics

Teaching Majors
(45 credits)

A minimum of 45 credits in the teaching curriculum outlined on page 128 of the catalog on advisement by the Department of Home Economics.

Teaching Minors
(30 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Econ. 17abc, Introduction to Home Econ.</td>
<td>15</td>
</tr>
<tr>
<td>Home Econ. 18, Clothing Design</td>
<td>4</td>
</tr>
<tr>
<td>Home Econ. 82, Textiles</td>
<td>4-5</td>
</tr>
</tbody>
</table>

Clothing and Textiles Minor
23-24 credits as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Nutrition Minor</td>
<td>15</td>
</tr>
</tbody>
</table>

Foods and Nutrition Minor
15 credits as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Econ. 17abc, Introduction to Home Econ.</td>
<td>15</td>
</tr>
<tr>
<td>Home Econ. 18, Clothing Design</td>
<td>4</td>
</tr>
<tr>
<td>Home Econ. 82, Textiles</td>
<td>4-5</td>
</tr>
</tbody>
</table>
6-7 credits from the following: 15 credits from the following:

Electives: (To be selected with advice of Home Economics Department)

Home Econ. 24, Elementary Nutrition ........................................ 5
Home Econ. 119, House Planning and Furnishing .................................... 5
Home Econ. 122, Nutrition .......................................................... 5
Home Econ. 124, Child Development ..................................... 3-5
Home Econ. 125, Child Nutrition ..................................................... 3
Home Econ. 127, Home Living Center .................................... 5
Home Econ. 128, Home Management ........................................... 2
Home Econ. 129, Problems in Family Living ................................ 3
Home Econ. 131, Problems of the Consumer .................................. 2
Home Econ. 133, Institutional Cookery ........................................... 5
Home Econ. 135, Institutional Management ...................................... 5
Home Econ. 138, Experimental Foods ......................................... 4
Home Econ. 198, Problems in Home Economics ................................ 2-5

Electives: (To be selected with advice of Home Economics Department)

Home Econ. 18, Clothing Design .................................................. 4
Home Econ. 24, Elementary Nutrition ........................................... 5
Home Econ. 32, Textiles ................................................................. 4-5
Home Econ. 119, House Planning and Furnishing .......................... 5
Home Econ. 122, Nutrition .......................................................... 5
Home Econ. 124, Child Development ..................................... 3-5
Home Econ. 125, Child Nutrition ..................................................... 3
Home Econ. 127, Home Living Center .................................... 5
Home Econ. 128, Home Management ........................................... 2
Home Econ. 129, Problems in Family Living .................................. 3
Home Econ. 138, Experimental Foods ......................................... 4
Home Econ. 198, Problems in Home Econ. .................................. 2-5

Required Courses:

Home Econ. 17abc, Introduction to Home Econ. .............................. 15
Home Econ. 124, Child Development ........................................... 6

Electives:

Home Econ. 38, Typography ......................................................... 2
Home Econ. 39, Graphic Arts ........................................................ 3
Journalism 44, News Photography ................................................. 2
Journalism 45, Newscasting ........................................................... 3
Journalism 46, Radio Editing .......................................................... 3
Journalism 47, Special Events ........................................................ 3

NOTE: Education 163 (Teaching of Home Economics) is required of students completing a teaching minor in Home Economics.

Journalism

Teaching Minor

(30 credits)

25 credits

as follows:

Required Courses:

Journalism 21ab, Reporting .......................................................... 4
Journalism 22a, Reporting Practice ................................................. 2
Journalism 30, Copyreading Practice ............................................. 2
Journalism 40a, Prin. Advertising .................................................. 6
Journalism 45, History of Journalism ............................................ 3
Journalism 110, Public Opinion ...................................................... 3
Journalism 126, High School Newspaper ....................................... 3

5 credits from the following:

Electives:

Journalism 38, Typography ......................................................... 2
Journalism 39, Graphic Arts .......................................................... 3
Journalism 44, News Photography ................................................. 2
Journalism 45, Newscasting ........................................................... 3
Journalism 46, Radio Editing .......................................................... 3
Journalism 47, Special Events ........................................................ 3

NOTE: Students majoring in English must include in their qualifications for the teaching certificate a minor in a field other than Journalism. They may, of course, submit a major and two minors (including Journalism).
### Mathematics

<table>
<thead>
<tr>
<th>Teaching Major (45 credits)</th>
<th>Teaching Minor (30 credits or equivalent*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Courses:</strong></td>
<td></td>
</tr>
<tr>
<td>Math. 10, Intermediate Algebra</td>
<td>5</td>
</tr>
<tr>
<td>Math. 13, Plane Trigonometry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 16, College Algebra</td>
<td>5</td>
</tr>
<tr>
<td>Math. 21, Plane Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 22, Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>Math. 23, Calculus II</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>30 credits as follows:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 credits from the following:</td>
</tr>
<tr>
<td><strong>Electives:</strong></td>
<td></td>
</tr>
<tr>
<td>Math. 11, Solid Geometry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 14, Spherical Trigonometry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 17, College Geometry for Teachers</td>
<td>5</td>
</tr>
<tr>
<td>Math. 19, Elementary Mathematics of Investments</td>
<td>5</td>
</tr>
<tr>
<td>Math. 20, Advanced Mathematics of Investments</td>
<td>5</td>
</tr>
<tr>
<td>Math. 25, Statistics</td>
<td>5</td>
</tr>
<tr>
<td>Math. 107b, Calculus IV</td>
<td>5</td>
</tr>
<tr>
<td>Math. 160, Seminar</td>
<td>5 (variable)</td>
</tr>
</tbody>
</table>

*For students who enter the University with more than two units of high school mathematics, the teaching minor requirement will be defined as successful completion of Mathematics 22 (Calculus I) plus one elective as listed above, rather than completion of 30 credits.

### Modern Languages

<table>
<thead>
<tr>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td><em><em>Teaching Major (45 credits or equivalent</em>)</em>*</td>
</tr>
<tr>
<td><em><em>Teaching Minor (30 credits or equivalent</em>)</em>*</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>Required Courses:</strong></td>
</tr>
<tr>
<td>French 11ab, Elementary French</td>
</tr>
<tr>
<td>French 13ab, Intermediate French</td>
</tr>
<tr>
<td>French 15, Advanced French</td>
</tr>
<tr>
<td>French 17, French Grammar Review &amp; Comp.</td>
</tr>
<tr>
<td>French 119, General Survey of French Lit.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Electives:</strong></td>
</tr>
<tr>
<td>French 121, 17th Century French Lit.</td>
</tr>
<tr>
<td>French 123, 18th Century French Lit.</td>
</tr>
<tr>
<td>French 125, French Culture and Life</td>
</tr>
<tr>
<td>French 126, French Poetry</td>
</tr>
<tr>
<td>French 127, 19th Century French Lit.</td>
</tr>
<tr>
<td>French 131, Advanced French Composition</td>
</tr>
</tbody>
</table>

### Spanish

| **Teaching Major (45 credits or equivalent*)** |
| **Teaching Minor (30 credits or equivalent*)** |
|-----------------------------|-------------------------------------------|
| **Required Courses:**       |                                           |
| Spanish 11ab, Elementary Spanish | 10                                      |
| Spanish 13ab, Intermediate Spanish | 9                                    |
| Spanish 15, Advanced Spanish | 4                                         |
| Spanish 17, Spanish Grammar, Comp., Conversation | 4                              |
| Spanish 18, Adv. Spanish Comp., Conver. | 3                              |
| Spanish 119, General Survey of Spanish Lit. | 3                              |
|                             | 33 credits as follows:                   |

*For students who enter the University with more than two units of high school Spanish, the teaching minor requirement will be defined as successful completion of Spanish 11ab (Elementary Spanish) plus one elective as listed above, rather than completion of 30 credits.
12 credits from the following:

Electives:
Spanish 121, Spanish Drama of the Golden Age 3
Spanish 122, Picassian Novel 3
Spanish 123, 19th Century Spanish Novel 3
Spanish 124, 19th Century Spanish Drama 3
Spanish 125ab, Spanish-American Literature 6
Spanish 127, Contemporary Spanish Drama 3
Spanish 128, Advanced Spanish Conversation 1
Spanish 129, Contemporary Spanish Novel 3
Spanish 131, Commercial Spanish 3

*For students who enter the University with two or more units of high school credit in French or Spanish, the teaching minor requirement is defined as successful completion of French 119 or Spanish 18 rather than completion of 30 credits. Likewise, for such students, the teaching major requirement is defined as successful completion of the aforementioned courses plus 14 advanced credits in French or 12 in Spanish.

Music

Teaching Major (45 credits)  Teaching Minors (30 credits)  Instrumental and Vocal

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Instrumental</th>
<th>Vocal</th>
<th>and Vocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 11abc, Theory</td>
<td>12</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Music 25, String Instruments in Class</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music 29, Wind Instruments in Class</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Music 31a, Conducting</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music 35a, Listening to Music</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music 123a, School Music (elem.)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music 123b, School Music (Jr. H.S.)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music 123c, School Music (sr. H.S.)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music 18c, History of Music</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music 1-8, Applied Music</td>
<td>12</td>
<td>5 (Instrt)</td>
<td></td>
</tr>
<tr>
<td>Music 52, Band and Orch. Management</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music 51, Choral Techniques</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Physical Science

Teaching Major (45 credits)  Teaching Minor (30 credits)

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>as follows:</th>
<th>as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 11 or 13, General Chem. or Inorganic Chem. and Qualitative Analysis</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Phys. 61abc or 20abc, General Physics</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

15 credits from the following:

<table>
<thead>
<tr>
<th>Electives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 15, Adv. Qualitative</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 17, Quantitative Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 19, Organic Chem.</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 101, Carbon Compounds</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 103, Physiological Chem.</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 60, Weather</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 114, Electricity</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 122, Light</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 131, Selected Topics</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 146, Heat</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 152, Atomic Physics</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 154, Analytical Mechanics</td>
<td>5</td>
</tr>
</tbody>
</table>
English

Professors Rufus A. Coleman, Edmund L. Freeman, Harold G. Merriam (Chairman), Lucia B. Mirrieles; Associate Professor Ralph Y. McGinnis; Assistant Professors Leslie Fiedler, Joseph S. Hall, Irene R. Mann, John E. Moore; Instructors Robert W. Albright, Robert P. Armstrong, Byron R. Bryant, Mary B. Clapp, Ruth Cole, Marcella Frankenstein, Gussie Gilliland, LeRoy Hinze, John Shepherd, George W. Sherman, George Smith, Lewis Stoerker, Calder T. Williams.

Major Requirements: 45 or more credits in English. The required courses in English are listed in the schedules given below, which are designed for students of different types of needs and interests. By the beginning of his junior year the student should have decided definitely which of the schedules he is to follow. History of Art (F. A. 31abc); Listening to Music (Music 35abc); Social Psychology (Psych 14), History of Philosophy (Psych 52ab), Introduction to Philosophy (Psych 55); at least two quarters of study in sociology and in history are strongly recommended. A reading knowledge in the literature of some foreign language, classical or modern, is required. See also Speech page 104, Drama page 106.

Senior comprehensive examinations must be taken by all students who do major work in English or in Speech or in Drama. The examinations will include the writings of certain authors, the course materials taken by students, together with a general knowledge of the history of English and American literature, and elementary knowledge of critical literary and linguistic terms. A list of the authors will be furnished each major student at the end of his sophomore year. Students in Schedules E and F will take a modified form of this examination.

Seniors in Schedules A and B will present for graduation an undergraduate thesis; in Schedule D, a body of creative writing; in Schedule E, a platform performance; in Schedule F, original plays or prompt books for production of plays.

Candidates for honors will take the senior comprehensive examinations and an additional examination in a special field of study. This special field will be prepared for by study during the three quarters of the senior year. (See English 198abc). Any incoming senior who has a university index in his studies of 1.85 may announce his desire to become a candidate for honors.

Students who plan to secure a teacher's certificate with minor preparation in English should consult the course requirements listed on page 86.

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

Required in all Schedules

Freshman Year: (Eng 12abc).

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

Schedule A is planned to give the prospective teacher of English in high schools and in adult education an understanding of the basic relations between literature and human life and a training in the techniques required of the successful teacher of English.
Sophomore Year: American Literature (Eng 59abc) (two quarters).

Junior and Senior Years: Teaching of Composition and Literature (Educ 105); Literary Values (Eng 169abc) (two quarters); British Literature, 1500-1745 (Eng 173ac), British Literature, 1745-1890 (Eng 174bc); History of English Literature (Eng 191); Major Writers (Eng 192) (one quarter, preferably Chaucer); Seminar (Eng 199) (two quarters, 4 cr.); The High School Newspaper (Journ 126). Magazine Article Writing (Journ 33) is strongly recommended. The student should also prepare himself to handle speech and drama in the high school.

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

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

Junior and Senior Years: Literary Values (Eng 169abc) (two quarters); British Literature, 1500-1745 (Eng 173abc), British Literature, 1745-1890 (Eng 174abc) (three quarters); The English Language (Eng 187); History of English Literature (Eng 191), Major Writers (Eng 192) (one quarter); Seminar (Eng 199) (two quarters, 4 cr.).

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

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

Junior and Senior Years: The Novel (Eng 75abc) (two quarters); The Drama (Eng 77abc) (two quarters); Literary Values (169abc) (two quarters, or Technique of Poetry, Eng 19, in the sophomore year); British Literature, 1745-1890 (Eng 174abc) (two quarters); History of English Literature (Eng 191).

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

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

Junior and Senior Years: Writing of Drama (Eng 70) or Literary Composition (Eng 72abc) (at least 6 credits); The Novel (75 abc) (one quarter); The Drama (Eng 77abc) (one quarter); English Club (Eng 90) (two quarters); Creative Writing (160abc) (at least 3 cr.); Literary Values (Eng 169abc) (two quarters or Technique of Poetry, Eng 19, in the freshman or sophomore year); British Literature, 1500-1745 (Eng 173abc), British Literature, 1745-1890 (Eng 174abc) (two quarters); The English Language
Composition, Language and Literature

For Undergraduates

A. Preparatory Composition. 1 Q. Autumn. Winter. Summer. No credit. Sub-freshman course designed to meet the needs of freshmen who fall to establish an acceptable college performance in the English placement examination at the time of entrance. A fee of $5 is charged for this course. Mr. Hall and Staff.

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

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

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

19. Technique of Poetry. 1 Q. Spring. 4 cr. Open to all students. Understanding of poetry through analysis of forms, conceptions, and modern trends. Guidance in writing verse for students who desire it. Mr. Sherman.

S28a. Western American Literature. 1 Q. Summer. 2-4 cr. Open to all students. A quick view of Trans-Mississippi writing for the last hundred years. Mr. Merriam.

29abc. Lectures and Readings. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to all students. American civilization. Staff.

30ab. Composition. 2 Q. Autumn, Winter. 30a. Spring, Summer. 3 cr. each quarter. Students may enter any quarter. Prerequisite, English 11ab or 12abc, and sophomore standing. (a) Autumn and winter. Work in exposition. (b) Spring. A beginners course in the writing of narrative. Mr. Armstrong.

55abc. Contemporary Literature. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, sophomore standing. Students may enter any quarter. (a) Contemporary American magazines. (b) American essay and fiction. (c) Biography, drama, short story. Some attention is given to verse and non-fictional material in b and c. Miss Mirrielee. Mr. Smith.

57abc. Shakespeare and Contemporaries. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 57ab or c. Prerequisite, sophomore standing. Students may enter any quarter. Students who have completed English 22abc may not receive credit in 57c. (a) Dramatic beginnings in England; Shakespeare and his fellow craftsmen contrasted in relation to different dramatic forms. About twelve plays will be read. (b) Intensive study of three of Shakespeare’s plays. Source materials. (c) Extensive reading of Shakespeare’s plays. Background material. Staff.

59abc. American Literature. 3 Q. Autumn, winter, spring. Summer. 4 cr. each quarter. Students may enter any quarter. Prerequisite, sophomore standing. (a) Edwards through Emerson. (b) Longfellow through Dickinson. (c) Clemens through Hemingway. Mr. Coleman. Mr. Moore.

70. The Writing of Drama. 1 Q. Autumn, Winter, Spring. Summer. 1-2 cr. each quarter. A maximum of 6 credits may be taken. Prerequisite, junior standing and 6 credits from EDr 20, 40, 41, 50, 51. Technique and practice in writing the one-act play and full-length play. Worthy plays will be given experimental performance. Mr. Merriam.
72abc. Literary Composition. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing and English 38a or 50b or consent of instructor on the basis of submitted writings. The writing of fiction and other literary forms. Mr. Moore.

75abc. The Novel. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, Junior standing. (a) English fiction. (b) Continental fiction. (c) American fiction. Given in 1948-49, and in alternate years. Staff.

77abc. The Drama. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) Periods of world drama. (b) Drama since Ibsen, in England and in Europe. (c) Contemporary American drama. Given in 1949-50, and in alternate years. Mr. Merriam. Mr. Coleman.

96. English Club. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to English major or minor senior students. Discussion of current trends in literature; papers. Staff.

For Undergraduates and Graduates

For the Teaching of English (Course 105), see Special Methods courses, page 91.

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

165. Middle English Literature. 1 Q. Winter. 4 cr. Prerequisite, junior standing. History 13a strongly recommended. A study of middle English literary types and themes, including the origins and evolution of the romance, the mystery play, the ballad, related continental forms, the Arthurian, Grail, and Tristram legends. Mr. Hall.

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

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

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

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

174abc. British Literature (1745-1890). 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer 174b. Students may enter any quarter. Prerequisite, junior standing and 8 credits in literature; 173c recommended for 174a. (a) Late eighteenth century literature. (b) Writing of the Romantic and early Victorian periods. (c) Victorian and Edwardian literature. Given in 1949-50, and in alternate years. Mr. Freeman.

175. The Novel (Continental Fiction). 1 Q. Summer. 1½-3 cr. Prerequisite, junior standing. Approaches and techniques in the development of the prose fiction of European writers of the nineteenth and twentieth centuries. Reading in their entirety of ten novels. Stendahl, Flaubert, Turgenev, Tolstoy, Dostoevski, Hamsun, Mann, Proust, Joyce, Kafka. Reading of literary and critical appraisals of the works studied and those of other significant figures. Lectures and discussions. (Not offered Summer, 1948.)

177b. Modern Continental Drama. 1 Q. Summer. 1½-3 cr. Prerequisite, junior standing. A study both as literature and as theater of plays from Hebbel to Sartre. (Not offered Summer, 1948.)

186. Philosophical Backgrounds of Literature. 1 Q. Winter. Summer. 3 cr. Prerequisite, junior standing. Psychology 52abc and 55 and 8
Montana State University

credits in literary study recommended. Study of writings by Plato, Dante, Shakespeare, and Dostoevski that are typical of the pagan, medieval, renaissance, and modern times. Not offered in 1948-49.

187. The English Language. 1 Q. Spring. 4 cr. Prerequisite, junior standing and 8 credits in Composition or literature. Survey of the development of the English language. Words and word histories. Mr. Hall.

191. History of English Literature. 1 Q. Winter. 4 cr. Prerequisite, senior standing and 18 credits in literature. The subject and the instructor change from quarter to quarter. Each year a study of Chaucer will be offered. Staff.

192. Major Writers. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, senior standing and 18 credits in literature. The principal aims of this course are the establishment of a time chart in the minds of students and a knowledge of the flow of British thought and feeling and the chief writers who contributed to it. Mr. Merriam.

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

198abc. English Studies. 3 Q. Autumn, winter, spring. 2 cr. May be entered any quarter. Prerequisite, senior standing and consent of the chairman of the department. Independent study for English seniors and graduate students, particularly seniors who are seeking honors. Work in several fields of literature. Mr. Merriam and Staff.

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

For Graduates

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

Speech

Schedule E prepares students for public address, formal and informal, and for teaching speech and coaching debate.

Courses to be taken: ESp.20 (Principles of Speech); ESp.21 (Argumentation); ESp.42 (Discussion); either ESp.43 (Phonetics) or ESp.68 (Voice and Dictation); ESp.67 (Debate) (2 cr.); ESp.69 (Oral Interpretation); ESp.134 (Correction of Speech Disorders); ESp.135 (Speech Clinic Practice); ESp.143 (Advanced Public Speaking); EDr.15 and 16 (Applied Acting and Applied Stagecraft) (2 cr.); EDr.30 (Introduction to Drama); EDr.40 (Elementary Acting); EDr.41 (Elementary Direction); and 5 credits selected from ESp.45 (Radio Speech); ESp.46 (Radio Production and Directing); EDr.45 (Radio Drama); ESp.61 (Business and Professional Speech); ESp.67 (Debate); ESp.150 (History of Public Address); ESp.121 (The Teaching of Speech).

For Undergraduates


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

Esp. 43. Elementary Phonetics. 1 Q. Spring. 3 cr. Prerequisite, sophomore standing. The sounds of English, how they are made, and their function in American pronunciation. Recommended for students in speech, radio, and theater. Course includes a working knowledge of the International Phonetic Alphabet. Given in 1948-49, and in alternate years. Mr. Albright.

Esp. 45. Radio Speech. 1 Q. Autumn. 2 cr. Prerequisite, junior standing. A laboratory course, covering basic principles of good speech as applied to radio broadcasting. Course includes preparation and practice in delivery of speeches, interviews, commercial announcements, descriptive dialogue and ad. lib. programs. Mr. Shepherd.

Esp. 46. Radio Production and Directing. 2 Q. Winter, spring. Continuous. 4 cr. Prerequisite, Esp. 45 and Music 45a. A laboratory and lecture course in the writing, production and direction of all types of radio programs. Students will participate in productions, either as performers or technicians. Mr. Shepherd.

Esp. 61. Business and Professional Speaking. 1 Q. Spring. 3 cr. Prerequisite, junior standing and Esp. 20 or 21. Organization and adaptation of speech and materials to special types of audiences. Preparation of lectures on subjects of business and professional interest to the student. Given in 1948-49 and in alternate years. Mr. McGinnis.

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

Esp. 68. Voice and Diction. 1 Q. Autumn. 3 cr. Prerequisite, junior standing. The course includes an elementary knowledge of the speech mechanism and its use. Students receive individual help in improving their speech. Recommended for those with defects of voice or articulation. Mr. Albright.

Esp. 69. Oral Interpretation. 2 Q. Winter, spring, continuous. 4 cr. Open to major and minor students of junior standing; to others with consent of the instructor. First half of the course will stress communication of thought and emotion from printed page to others. Second half will be concerned with program planning and the preparation of materials for public presentation. Mr. Shepherd.

For Undergraduates and Graduates

Esp. 121. The Teaching of Speech. 1 Q. Autumn. Summer. 2 cr. Prerequisite, senior standing, much work in Speech, and consent of the instructor. A study of curriculum planning, instructional materials, methods and practices of teaching in the field of speech on the secondary level. Given in 1948-49 and alternate years. Mr. Shepherd.

Esp. 134. Speech Correction. 1 Q. Winter. Summer. 2 cr. Prerequisite, junior standing. The nature of speech defects, their causes, and methods of correction. Practice in the University Speech Clinic is included. Recommended for students interested in teaching, clinical psychology, and speech correction. Mr. Albright.

Esp. 135. Speech Clinic Practice. 1 Q. Autumn. Winter. Spring. Summer. 1 cr. May be repeated for a total of 3 cr. Prerequisite, Esp. 134 or its equivalent and consent of the instructor. Supervised training in the University Speech Clinic. Mr. Albright.

Esp. 143. Advanced Public Speaking. 1 Q. Autumn. 3 cr. Prerequisite, junior standing and Esp. 20 or 21 and 68 or 69. Theory of oral style. Study of models of speech composition. Given in 1949-50, and in alternate years. Mr. Shepherd.

Esp. 150. History of Public Address. 1 Q. Winter. 3 cr. Prerequisite, Esp. 20 and junior standing. A study of the biographies and speeches of representative public speakers from ancient Greece to modern times, the issues with which they were identified, and their influence on the history of their period. Given in 1948-49 and in alternate years. Mr. McGinnis.
Drama and Theater

Schedule F provides training for students who desire to continue study after graduation in drama and the theater in any of its phases and for those who wish to teach dramatics in schools, colleges, and communities and to produce plays.

Courses to be taken: EDr.30 (Introduction to Theater); EDr.40 (Elementary Acting); EDr.41 (Elementary Direction); EDr.50 (Making of Sets); EDr.75 (Stage Makeup); EDr.100 (Theater Organization and Management); EDr.190 (Theater Projects) (2 cr.); EDr.181 (Readings in Theater) (3 cr.); ESp.68 (Voice and Diction); ESp.69 (Oral Interpretation); Eng.77abc (Drama) (6 cr.); plus at least 11 credits to be elected from: EDr.15 (Applied Acting) and/or EDr.16 (Applied Stagecraft) (maximum of 3 cr.); EDr.51 (Stage Lighting); EDr.60 (Advanced Acting); EDr.70 (Advanced Stagecraft); EDr.76 (Stage Costuming); EDr.105 (American Drama and Theater); EDr.110 (Theater in the Community); EDr.195 (Advanced Direction); EDr.197 (Stage Design); Eng.57bc (Shakespeare); and Eng.70 (Writing of Drama).

For Undergraduates

EDr. 15. Applied Acting. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to all students. Students may enter any quarter. A laboratory course in acting. Participation in scenes and one-act plays. Those students taking the three quarters in sequence will be given increasingly heavier roles. May be taken to a maximum of 3 credits. Mr. Hinze.

EDr. 16. Applied Stagecraft. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to all students. Students may enter any quarter. A laboratory course in the principles and practice of stagecraft. Students will work on production crews of major productions. May be taken to a maximum of 3 cr. Mr. Wollock.

Note: 3 credits of EDr. 15 and/or EDr. 16 may be applied to the drama major.

EDr. 30. Introduction to the Theater. 1 Q. Autumn. 3 cr. Prerequisite, sophomore standing. A survey course covering the elements which make up the art of play production. Consideration of the principles underlying all the arts, with particular emphasis on play production as an art. Mr. Hinze.

EDr. 40. Elementary Acting. 1 Q. Winter. 3 cr. Prerequisite, EDr. 30. Principles of pantomime and characterization with attention to expressive bodily action. Techniques of voice in acting and exercises for vocal flexibility, range, articulation, and enunciation. Mr. Hinze.

EDr. 41. Elementary Direction. 1 Q. Spring. 3 cr. Prerequisite, EDr. 40. Principles and techniques of stage direction and rehearsal. The production of the one-act play form will be considered and used in the course. Mr. Hinze.

EDr. 45. Radio Drama. 1 Q. Winter. 2 cr. Prerequisite, English 15 (2 cr.). Presentation of Drama before the microphone. Mr. Shepherd.

EDr. 50. Making of Sets. 1 Q. Winter. 2 cr. Prerequisite, sophomore standing. Principles of and practice in the construction of stage scenery. Students will work on the construction crews of major production. Mr. Wollock.

EDr. 51. Stage Lighting. 1 Q. Spring. 2 cr. Prerequisite, sophomore standing. Principles and practice in stage lighting. Primary purpose is to acquaint the student with theatrical lighting equipment and instruments, and their use. Study of the elements of electricity. Mr. Wollock.

EDr. 60. Advanced Acting. 1 Q. Winter. 3 cr. Prerequisite, EDr. 40 and junior standing. Study and practice in creating a role. Application of the principles of voice, bodily action, pantomime, characterization. Mr. Hinze.

EDr. 70. Advanced Stagecraft. 1 Q. Spring. 3 cr. Prerequisite, EDr. 50 and junior standing. Study of types of stage scenery. Principles of and practice in scene painting. Advanced problems in scene construction and painting. Students will head construction and painting crews for major productions. Mr. Wollock.
EDr. 75. Stage Makeup. 1 Q. Autumn. 2 cr. Prerequisite, junior standing and EDr. 30 or considerable previous experience and consent of the instructor. Principles of and practice in theatrical makeup. Students will work on makeup for major productions. Mr. Wollock.

EDr. 76. Stage Costuming. 1 Q. Autumn. 2 cr. Prerequisite, EDr. 30 and junior standing or considerable previous experience and consent of the instructor. History of costumes of various periods. Principles of adapting the period style to the period play. Students will work on costumes for major productions. Mr. Wollock.

For Undergraduates and Graduates

EDr. 100. Theater Organization and Management. 1 Q. Winter. 3 cr. Prerequisite, junior standing and consent of the instructor. Study of backstage, technical, house, box office organization and management. Mr. Wollock.

EDr. 105. American Drama and the Theater. 1 Q. Spring. 3 cr. Prerequisite, junior standing. A study of the American theater and of the principal American plays, with special emphasis on the drama as an expression of the national life and culture. Given in 1948-49 and alternate years. Mr. Hinze.

EDr. 110. Theater in the Community. 1 Q. Spring. Summer. 3 cr. Prerequisite, junior standing. Consideration of the place in society of the children's theater, the high school theater, and the community and little theaters. Recommended for teachers. Given in 1949-50 and alternate years. Mr. Hinze.

EDr. 190. Theater Projects. 3 Q. Autumn, winter, spring. 2-4 cr. each quarter. Open to seniors and graduates who have taken at least 10 credits in EDr. or in English 57abc and 77abc, and demonstrated ability in theater and drama; to others with consent of the instructor on the basis of much work in drama and the theater. Independent work in design, lighting, costume design, direction, playwriting, study of drama. Mr. Hinze. Mr. Merriam. Mr. Wollock.

EDr. 191. Readings in Theater. 3 Q. Autumn, winter, spring. 2-4 cr. each quarter. Open to seniors and graduates who have taken 10 credits in EDr. or in English 57abc and 77abc, and consent of the instructor. The student may study the plays of a dramatist, inform himself about actors or playwrights, theaters, or movements in drama. Mr. Hinze. Mr. Merriam. Mr. Wollock.

EDr. 195. Advanced Direction. 1 Q. Autumn. 3 cr. Prerequisite, EDr. 41 and senior standing. Technique of rehearsing and directing long plays. Principles of producing farce, fantasy, comedy, melodrama, tragedy. Mr. Hinze.

EDr. 197. Stage Design. 1 Q. Autumn. 3 cr. Prerequisite, EDr. 70 and senior standing. Study of the principles of stage design and the relation of the scene to the play. Practice in designing stage settings. Mr. Wollock.

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Fine Arts

ASSOCIATE PROFESSOR ADEN F. ARNOLD; INSTRUCTOR JAMES E. DEW.

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

The Fine Arts requirements for a major include: classical or modern language, 5 quarters (23 to 25 credits) in one language or a reading knowledge of a language.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates

23. Drawing. 3 Q. Autumn, winter, spring. Summer. 3 cr. each quarter. Open to all students. Fundamentals of objective and expressive drawing, using varied methods and subject matter.
27. Elementary Crafts. 1 Q. Spring. Summer. 2 cr. Open to all students. May not be given every quarter as indicated.

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

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

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

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

39. Water Color. 1 Q. Spring. Summer. 3 cr. Prerequisite, 6 credits of Fine Arts 23. Water color techniques and expressive use of subject matter. With consent of instructor, this course may be repeated for a maximum of 6 credits.

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

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

For Undergraduates and Graduates

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

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

School of Forestry

Professors Fay G. Clark, Kenneth P. Davis (Dean), Thomas C. Spaulding, Charles W. Waters; Associate Professors Melvin S. Morris, Paul E. Bruns; Assistant Professor Thomas A. Walbridge, Jr.; Instructor and Staff Forester O. M. Patten; Instructor Kenneth E. Moore; Secretary Esther L. Hopper; Librarian Helen Ettenger.

General Information

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

Location. Situated in the heart of a major forest region, the School of Forestry has a marked advantage in location. Within 100 miles of the campus are ten national forests, several state forests, Glacier Na-
School of Forestry

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

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

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

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

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

Field work. Advantage is taken of the proximity to the campus of varied forest and range lands and industries by carrying on as much technical instruction as possible in the field. Frequent field trips, sometimes of several days duration, are made as a part of a regular instruction during the junior and senior years.

A field camp and trip of approximately six weeks duration is held during the spring quarter of the senior year for intensive field training, practice and observation. All spring quarter senior courses are integrated in this period. Upperclass and graduate students must be prepared to bear the expense of such trips.

Seniors taking the senior spring camp and trip in which forestry courses 136b, 140c, 145b and 146 are in part given, are required to pay a forestry camp fee of $20 for this trip when registering for these courses.

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

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

Requirements for Admission and Graduation

The regular University requirements for admission apply to the School of Forestry. To take junior and senior subjects in the School of Forestry (courses numbered 100 or over in the catalog), students must have and maintain a grade point index of 1.0.

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

Candidates for the degree of Bachelor of Science in Forestry must meet the following requirements:
1. The general University requirements for graduation.
2. A minimum of 186 credits of work, not including credits obtained by required work in Military Science and Physical Education.
3. A curriculum in forestry satisfactory to the staff of the School. Senior examinations will not be given except to candidates for honors.

Summer Work

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

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

Summer School and Camp

A summer quarter or camp is not at present required. As indicated above, emphasis is placed on summer field work on the job and frequent field trips during instruction. However, to meet the needs of large numbers of returning veterans, courses in surveying and mapping will be offered on the campus as a part of the regular Summer School in 1948, and as long as the need continues.
Graduate Work

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

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

Curriculum

The School of Forestry emphasizes undergraduate instruction in the management of forested lands for the production and utilization of timber, forage, wildlife and water. Graduates are prepared for entering Civil Service positions in the Federal Government, state forestry, private forest industry and for subsequent graduate work. Optional specialization during the third and fourth years is provided in (a) Timber Management, (b) Range Management, (c) Wildlife Management.

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

The curriculum of the third and fourth years is designed to give all students training in the fundamentals of forestry and at the same time permit some undergraduate specialization and optional selection of both forestry and non-forestry courses to meet special interests. Certain key forestry courses, without which a man can hardly lay claim to professional training, are required of all students.

The minimum course requirements for the Bachelor's degree in forestry are so arranged that they can be completed in four academic years. However, students with inadequate high school preparation at the time of entrance or those who are not able to complete all courses on schedule will require more time to complete the work. Although the schedule includes broad preparatory work for a professional degree, there is limited space for elective courses desirable in rounding out a more general education. Many students will find it advantageous to allow more time to complete their undergraduate work.

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

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

First Year

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<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
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<td>For. 11b, Survey of For. 1</td>
<td>For. 11c, Survey of For. 1</td>
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<tr>
<td>Zoology 10 or Botany 10a</td>
<td>Zoology 10 or Botany 10a</td>
<td>Botany 10b</td>
</tr>
<tr>
<td>Chemistry 11a or 13a</td>
<td>Chemistry 11b or 13b</td>
<td>Chemistry 11c</td>
</tr>
<tr>
<td>Math. 10, Algebra</td>
<td>English 11a</td>
<td>Math. 13, Trigonometry</td>
</tr>
<tr>
<td>P. E. 11a, Physical Ed. 1</td>
<td>P. E. 11b, Physical Ed. 1</td>
<td>P. E. 11c, Physical Ed. 1</td>
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<tr>
<td>Mil. Sc. 11a</td>
<td>Ed.</td>
<td>Ed.</td>
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<td></td>
<td>Mil. Sc. 11b</td>
<td>Mil. Sc. 11c</td>
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Second Year

<table>
<thead>
<tr>
<th>First Year</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Phycics 11a or 12a</td>
<td>Phycics 25</td>
<td>English 11b</td>
</tr>
<tr>
<td>Economics 14a</td>
<td>Bot. 22, Physiology</td>
<td>Bot. 125, Pathology</td>
</tr>
<tr>
<td>For. 12, Mapping</td>
<td>For. 25, Soils</td>
<td>Bot. 145b, Forest Management</td>
</tr>
<tr>
<td>For. 20a, Surveying</td>
<td>P. E. 12b, Physical Ed.</td>
<td>P. E. 12c, Physical</td>
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<td>P. E. 12a, Physical Ed. 1</td>
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<td>Mil. Sc. 12a</td>
<td>Mil. Sc. 12b</td>
<td>Mil. Sc. 12c</td>
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<tr>
<td>Geol. 11a, Geology</td>
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<td>(Normally scheduled in third year)</td>
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Note: Students who have had the equivalent of Mathematics 10, Intermediate Algebra, before entering the University should take English instead, in autumn of first year, and are advised to take Math. 25, Statistics, in the spring quarter of second year. Students taking Chemistry 13ab are strongly urged to take Chem. 19, Organic Chemistry, or Chem. 13c, Qualitative Analysis, in the spring quarter of the first year. Students planning to take additional wildlife work should take Zoology 14ab instead of Zoology 10.

Upper Division Forestry Curriculum

The following forestry courses are required of all students:

Autumn                              | Winter                                         | Spring                      |
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<tbody>
<tr>
<td>For. 105a, Silviculture</td>
<td>For. 105b, Silviculture</td>
<td>For. 110c, Measurements</td>
</tr>
<tr>
<td>For. 110a, Measurements</td>
<td>For. 110b, Measurements</td>
<td>Bot. 125, Pathology</td>
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<td>For. 100, Dendrology</td>
<td>For. 115, Wood Technology</td>
<td>Bot. 145b, Forest Management</td>
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<td>For. 130, Valuation</td>
<td>For. 145a, Forest Management</td>
<td>P. E. 146, Regional</td>
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<td>For. 148, Forest Silviculture</td>
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Several curricula can be built around these required courses. Three of them are indicated below. However, once a student selects a specific course of study, changes must be approved by the student's adviser.

Timber Management

Third Year

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>For. 100, Dendrology</td>
<td>For. 105b, Silviculture</td>
<td>For. 105c, Silviculture</td>
</tr>
<tr>
<td>For. 105a, Silviculture</td>
<td>For. 110b, Measurements</td>
<td>For. 110c, Measurements</td>
</tr>
<tr>
<td>For. 110a, Measurements</td>
<td>For. 115, Wood Technology</td>
<td>Bot. 125, Pathology</td>
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<tr>
<td>Geol. 11a, Geology</td>
<td>For. 120, General Range Management</td>
<td>Zool. 118, Entomology</td>
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<td>Fourth Year</td>
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<tr>
<td></td>
<td>For. 125a, Utilization</td>
<td>For. 125c, Utilization</td>
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<td></td>
<td>For. 130, Valuation</td>
<td>For. 136b, Forest Engineering</td>
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<td>For. 133, Logging</td>
<td>For. 145b, Forest Management</td>
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<td></td>
<td>For. 138, Wildlife Management</td>
<td>For. 146, Regional</td>
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<td></td>
<td>Economics</td>
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</table>

Fourth Year

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>For. 114, Fire Control</td>
<td>For. 115, Wood Technology</td>
<td>For. 125c, Utilization</td>
</tr>
<tr>
<td>For. 12a, Forest Engineering</td>
<td>For. 145a, Forest Management</td>
<td>For. 145b, Forest Management</td>
</tr>
<tr>
<td>For. 148, Forest Silviculture</td>
<td>Economics</td>
<td></td>
</tr>
</tbody>
</table>
Range Management

Third Year

For. 100, Dendrology... 5
For. 105a, Silviculture... 4
For. 110a, Measurements................. 3
Geol. 11a, Geology................. 5

Fourth Year

For. 130, Valuation ....... 4
For. 138, Wildlife Management ....... 4
For. 140a, Range Management ....... 4
For. 145a, Forest Management ....... 4
For. 148, Forest Economics ....... 4
For. 140b, Range Management ....... 4
For. 145b, Forest Management ....... 4
For. 141, Regional Range Management ... 6
For. 140c, Range Management ....... 2
For. 146, Regional Silviculture ...... 2

Wildlife Management

Instruction in wildlife is provided along two general plans:

(a) For students whose major field is in forestry and general wildland management, but who are also especially interested in wildlife and wish to take additional work in this subject. Such students should take the courses required in all forestry schedules with additional courses in zoology, botany and range management. The following additional courses are recommended: Elementary Zoology (Zool 14ab), Field Zoology (Zool 15), Comparative Vertebrate Zoology (Zool 23), Parasitology (Zool 103), Aquatic Biology (Zool 107), Ornithology (Zool 108), Mammalogy (Zool 109), Genetics (Zool 125), Animal Ecology (Zool 128), Advanced Vertebrate Zoology (Zool 131), Systematic Botany (Bot 161ab), General Range Management (For 120), Range Forage Plants (For 121), and Range Management (For 140abc). Students should plan on 5 years to complete this curriculum.

(b) For students whose major interest is in wildlife technology. Such students should take the wildlife technology curriculum leading to a degree in that field.

For Undergraduates

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


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

For Undergraduates and Graduates

100. Dendrology. 1 Q. Autumn. 5 cr. Prerequisite, Botany 22 or consent of instructor. The microstructural and taxonomic relations and distribution of the principal forest trees of the United States and Canada, with some consideration of important foreign species. Mr. Waters.
105abc. Silviculture. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Prerequisite, Botany 51. (a) The foundations of silviculture upon an ecological basis. The effects of climatic, edaphic, and biotic factors on the growth and development of trees and stands. The influences of the forest upon the site. Principles underlying the regeneration, care, and protection of forest stands. (b) The silvicultural systems of harvesting and reproducing the final crop and the intermediate treatments such as weedings, thinning, and improvement cuttings. Application of silvicultural methods in the various forest regions of America. (c) Artificial reproduction of the forest, including sowing, planting, and nursery practice. Mr. Waters. Mr. Bruns. Mr. Patten.

106. Field Silviculture. 1 Q. Autumn. 3 cr. Prerequisite, Forestry 25, and Forestry 105abc. A field course designed to acquaint the student with the application of silvicultural techniques to local forest stands. Field silvical studies, planting and intermediate cuttings on the Lubrecht Experimental Forest and vicinity. Mr. Bruns.

110abc. Forest Measurements. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, Math. 13 and Forestry 20a for 110a; Forestry Layout for 110bc. Math. 25 (Statistics) advised. Determination of mathematical methods to forest and range measurement problems. Measurement of the volume and content of timber products; determination of the volume, growth, and yield of trees and timber stands. Mr. Clark.

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

115. Wood Technology. 1 Q. Winter. 4 cr. Prerequisite, For. 100 or consent of instructor. The physical, chemical, and mechanical properties of wood. Mr. Waters.

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

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

125abc. Forest Utilization. 3 Q. Autumn, winter. 2 cr. Spring. 2 cr. Prerequisites, Forestry 115 and in addition Botany 125 for 125c. Chemistry 11abc or 12ab or consent of instructor. A survey course covering the fields of forest products, their uses and their preservation. (a) lumbering, pulp and paper, plywood and fibre products. (b) major and minor uses, plastics, derived chemical products, naval stores, etc. (c) wood preservation in its various phases. Extended field trips required. Mr. Spaulding.

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

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

133. Logging. 1 Q. Autumn. 4 cr. Prerequisite, junior standing. Equipment and methods of logging and forest transportation in the United States. Field trips. Mr. Bruns.

136ab. Forest Engineering. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Forestry 20ab, Forestry 110abc or consent of instructor. (a) Layout and grading railroadso and truck roads, forest improvements and earthwork computations, determination of logging costs and time studies. (b) Application of forest engineering techniques and methods to practice problems and including a 6-weeks field trip. Mr. Walbridge.

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

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

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

141. Regional Range Management. 1 Q. Spring. 6 cr. Prerequisite,
Forestry 140ab. Study of regional range management problems and situations. Work done on senior spring trip. Mr. Morris.

145ab. Forest Management. 2 Q. Winter, Spring. 4 cr. Prerequisite, Forestry 106ab, 110 and 130 (180 may be taken concurrently.) Organization and management of forest properties; determination of allowable cut and regulation of the growing stock. Forest taxation and forest insurance. Spring quarter mainly spent in field. Mr. Bruns.

146. Regional Silviculture. 1 Q. Spring. 2 to 4 cr. Prerequisite, senior standing. Study observation and application of silviculture to regional problems. Major part of course carried on in field in connection with senior trip. Mr. Bruns.

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

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


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


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

192ab. Research Methods. 2 Q. Autumn. 4 cr. Winter. 5 cr. Students may enter any quarter. Prerequisite, senior standing and consent of instructor. (a) Scientific method, application of statistical methods to the design of experiments, research techniques, organization of research projects. (b) Analysis and presentation of research results, report writing. Not limited to forestry students. Mr. Davis.

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

195. Public and Private Administration. Extension course. Winter. 5 cr. Prerequisite, undergraduate degree from a college or university of recognized standing or consent of the Dean of the School of Forestry based on applicants' experience and competence. Intensive instruction in the fundamentals of sociology, psychology, speech, writing, business administration, public relations and related fields. One month, 20 hours per week. Staff of university specialists in fields involved.

For Graduates


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

Geology

ASSOCIATE PROFESSOR WAYNE R. LOWELL (Chairman).

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

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

**Major Requirements:** Major students must complete 40 or more credits in Geology. The following courses must be completed: General Geology (Geol 11ab), Historical Geology (Geol 22), Stratigraphy of North America (Geol 23), Mineralogy (Geol 24), Petrology (Geol 26), Field Geology (Geol 35), and Structural Geology (Geol 121). Inorganic Chemistry and Qualitative Analysis (Chem 13), Advanced German (Mod Lang 15) or Advanced French (Mod Lang 15), Plane Trigonometry (Math 13), Plane Analytic Geometry (Math 21), and General Physics (Physics 20ab). Students preparing for graduate training in Economic Geology must also complete Economic Geology (Geol 101) and Mineral Deposits (Geol 103), Calculus II (Math 23), and Physical Chemistry (Chem 106). Students preparing for graduate training in Paleontology and Stratigraphy must complete Economic Geology (Geol 101), Invertebrate Paleontology (Geol 111), Elementary Zoology (Zool 14ab), Field Zoology (Zool 15), Comparative Vertebrate Zoology (Zool 23), and Advanced Invertebrate Zoology (Zool 132).

Students enrolling in geology courses with required field excursions will share transportation costs on a prorated basis. Geology 22, 35, 101, 121, 135 will have required field trips.

Senior examinations will not be given.

**For Undergraduates**

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

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

22. Historical Geology. 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, Geology 11a. The stratigraphic record of North America in terms of paleogeography.

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

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

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

35. Field Geology. 1 Q. Spring. 2-5 cr. Prerequisite, Geology 11b. A course designed primarily to illustrate geologic features and principles by study of actual cases in the field.
For Undergraduates and Graduates


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

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


135. Geologic Surveying. 1 Q. Spring. Summer. 2-5 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.

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

For Graduates

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

Graduate School

DEAN W. P. CLARK, Classical Languages.

Members of the Graduate Council: L. G. BROWMAN, Zoology; D. J. EMBLE, Business Administration; C. R. JEPPESEN, Physics; J. W. MAUCKER, Education; P. C. PHILLIFS, History; STANLEY M. TEEEL, Music; C. H. WALDRON, Pharmacy; C. W. WATERS, Botany and Forestry.

Administration

Graduate instruction in the University is administered by a Dean and Council on Graduate Study acting for the general faculty. The Registrar is the ex-officio Secretary of the Council.

Degrees Offered

(1) The degrees of Master of Arts and Master of Science in the College of Arts and Sciences and Master of Science in Forestry, Master of Science in Pharmacy, Master of Science with a combined major in Botany and Forestry and a Master of Arts in Business Administration, Master of Arts in Journalism, Master of Arts in Education are granted to those who complete a satisfactory course of at least one year in graduate work beyond that required for a Bachelor's degree.

Candidates who have pursued their work in the sciences and have met all the requirements for either the Master of Arts or Master of Science degree may choose either of these degrees.

The Dean and the Council reserve the right to appraise the competence of staffs, standards of courses and adequacy of equipment in laboratory and library for Graduate Studies.

(2) The degree of Master of Education is offered in the School of Education.

No thesis is required for the Master of Education degree but beginning June 1, 1947 a professional paper will be required for this degree.
The degree of Master of Forestry is offered in the School of Forestry. In lieu of a thesis a professional paper is required.

The degree of Master of Music in Music Education is offered in the School of Music. In lieu of a thesis a professional paper is required.

**Graduate Record Examination**

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

**Admission to the Graduate School**

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

In the School of Education, applicants may be admitted to major graduate study who have the Bachelor's degree and who have completed the certification requirements of the state in which they secured their undergraduate degree or of Montana.

At the discretion of a Department or School, qualifying examinations may be administered in order that there may be no question regarding a candidate's preparedness for graduate study. Such examinations may be oral or written or both.

Members of the faculty of Montana State University above the rank or instructor may not become candidates for advanced degrees from this University. This does not prevent such members from taking advanced courses for transfer to other institutions.

**Admission to Candidacy for an Advanced Degree**

If an applicant's record is satisfactory (at least a "B" average) during his first quarter of attendance he may be admitted to candidacy for the Master's degree at the beginning of his second quarter. At this time, or at least two quarters prior to qualifying for the degree, he must file in the Graduate Office an application for Admission to Candidacy for the Master's degree, and submit a tentative thesis title. These forms must be filed in triplicate. "Candidates for Master of Education, Master of Forestry and Master of Music in Music Education do not file titles of professional paper."

**Graduate Credit Courses**

Undergraduate courses of advanced character are accepted for graduate credit. Such courses, however, must be of at least junior, i.e., senior college character. Courses numbered from 100 to 199 will generally meet this requirement. Courses numbered 200 or over are open to graduate students only.

An undergraduate of senior standing who needs less than 9 quarter
credits to complete the requirements for the baccalaureate degree may enroll in courses for graduate credit. All requests for such enrollment must be submitted to and be approved by the major professor and the Dean of the Graduate School in advance of registration.

Study Load

Fifteen hours of graduate credit per quarter is considered a maximum graduate study load.

Graduate students who are well qualified can complete the requirements for the Master's degree during one academic year of three quarters, if they give full time to their academic studies.

Graduate students employed as teaching assistants, or in other part time employment must carry a reduced number of credits. Such students, of course, cannot fulfill all the requirements for the Master's degree in three quarters. Grades below B will not be transferred.

Transfer of Graduate Credit

Graduate credit for courses completed in other institutions of approved standing may be transferred in a total amount not to exceed 12 quarter credits. Transfer of such credit does not shorten the period of residence requirement. Grades below B will not be transferred.

Residence Requirement

Three regular quarters or three summer sessions of 10 weeks each is the minimum residence requirement for the Master's degree. (Exception to this is made in the case of extension courses as noted below.) Beginning with the session 1945-46, all credit that is applied to the fulfillment of the requirements for the Master's degree must be earned within a period of six years before the degree is granted.

Quality of Work

No grade below a C is accepted in any course offered for graduate credit and an average of B must be maintained for all courses offered for the Master's degree.

Extension and Correspondence Work

With the approval of the Graduate Council, credits earned in Extension lecture courses of graduate caliber taught by members of the University faculty may be accepted for a Master's degree to a maximum of 15 quarter credits. One quarter residence (of the 3 regularly required) may be waived by the satisfactory completion of 15 credits so earned. Correspondence courses will not be accepted for graduate credit.

Credit Requirements

(1) Master of Arts and Master of Science Degree

Before receiving the Master of Arts or the Master of Science degree the candidate must present evidence of intensive study and investigation in his field of special interest. He must present at least 45 credits in graduate courses and a thesis.

(2) Master of Education Degree

Candidates for the Master of Education degree must have completed a minimum of 3 years' satisfactory teaching (one of which may have been military teaching experience) and offer 45 credits in graduate courses, at least ten hours of which must have been earned follow-
ing completion of the teaching experience. Work for this degree may be completed in the minimum required residence of 3 regular quarters or 3 summer sessions of 10 weeks each. No thesis is required but beginning June 1, 1947, each candidate must present a professional paper.

The subject matter of this paper must be approved by the Dean of the School of Education and one copy of this paper will be transmitted by him to the Dean of the Graduate School together with certification that the candidate has successfully passed the final oral and/or written examinations for the M. E. degree. One copy of the paper will be deposited in the library.

Students who began their work for the Master of Education degree prior to the session 1940-41 may satisfy the credit requirement by the completion of 40 graduate credits.

Qualifying examinations, oral or written or both, may be given by the School of Education for admission to candidacy.

The degree of Master of Education and Master of Arts in Education are mutually exclusive, so that both degrees may not be conferred upon the same individual.

(3) Master of Forestry Degree

Candidates for the Master of Forestry degree must offer 45 credits in graduate courses and a professional paper. This paper is to be prepared under the direction of the Major professor. The subject matter must be approved by the Dean of the School of Forestry. After the candidate's examination one copy of the professional paper must be submitted to the Dean of the Graduate School. Such copy will be deposited in the University Library.

(4) Master of Music in Music Education

Work leading to a degree of Master of Music in Music Education, begun in the summer of 1947, discontinued during the regular session 1947-48, will be resumed in the summer of 1948 and thereafter continued.

Candidates for the Master of Music degree in Music Education must present 45 credits in courses numbered 100 or above, at least 15 of them being in courses numbered 200 or above. In lieu of a thesis a professional paper is required. Regulations are the same as for Master of Education and Master of Forestry.

Major and Minor Work

(1) A minimum of two thirds of the course credits offered for a Master of Arts degree and Master of Science degree must be in the major field. The remainder of the credits may be in any field approved by the major adviser and the Dean of the Graduate School.

(2) For the Master of Education degree, if the candidate's undergraduate major was Education, a maximum of 30 quarter credits may be offered in minor fields, otherwise the maximum which may be offered in fields other than Education is 15 quarter credits.

(3) For the Master of Forestry degree, candidates must offer a minimum of 25 credits in forestry. The remainder of the credits may be in fields other than forestry.

Thesis

For the degrees of Master of Arts and Master of Science a thesis is required. The subject of the thesis must receive the approval of the major professor and the Dean of the Graduate School. By the end
of the sixth week of the final quarter before the degree is to be secured, the candidate must file with the Graduate School Office three unbound copies of the thesis. Final acceptance of the thesis is subject to the approval of a special Examining Committee which also conducts the examinations. This Committee will be appointed by the Dean of the Graduate School, in consultation with the major professor, and must, if possible, include at least two members of the staff of the major field.

Three copies of a statement of all graduate courses to be offered, and experience, such as in teaching, research work, etc., must be filed with the Graduate Office when the thesis copies are submitted.

Foreign Language Requirement

Students who have met the foreign language requirement in Montana State University for the Bachelor of Arts or Bachelor of Science degree in the College of Arts and Sciences will be counted as having fulfilled this requirement for the Master of Arts or Master of Science degree without special designation. Others must demonstrate by test a reading knowledge of at least one foreign language for either the Master of Arts or Master of Science degree without special designation.

Examination for Master of Arts or Master of Science Candidates

Candidates for the Master of Arts or Master of Science degree must pass examinations over the whole field of their special studies and these examinations, either oral or written or both, may be taken only after the thesis is accepted.

After the examination, three bound copies of the thesis must be placed on file with the Dean of the Graduate School.

Examinations for the Master of Forestry, Master of Music in Music Education, and the Master of Education Candidates

Candidates for the Master of Forestry, Master of Music in Music Education, and the Master of Education degrees must take, during the final month of the quarter in which they expect to receive their degrees, an examination, oral and written, over the course work which they have completed and the subject matter of the professional papers. Arrangements for these examinations are made by the deans of the respective schools.

Graduate Assistantships

The University maintains Graduate Assistantships in various departments and schools. These Assistants are required to do various tasks such as assisting in laboratories, grading papers, teaching freshman-sophomore classes, not exceeding fifteen hours a week. Students with good scholarship records and strong recommendations from their departments and schools should make application through the Graduate Office.

Health and Physical Education

Professor Douglas A. Fessenden; Associate Professors Harry F. Adams, George P. Dahlberg, Charles F. Hertler (Acting Chairman), Agnes L. Stoodley; Assistant Professors Edward S. Chinske, Vincent V. Wilson; Instructors Ellen Duffalo, Robert Oswald, Margaret Sarsfield, Paul Szakash.

Major Requirements: 53 credits in Physical Education in addition to Freshman and Sophomore Physical Education (P.E. 11abc and 12abc); Elementary Bacteriology (Bact 19); Elementary Zoology (Zool 10); Human Physiology (Zool 24). The following must be completed:

Students may elect to take 5 quarters (23-25 credits) in one classical or modern language or may elect to substitute the following courses for the language: Eng. 20a, Principles of Speech; Sociology 16, Elementary Sociology or 17, Social Problems; Sociology 129, The Family; Psychology 13, Child and Adolescent Psychology or 14, Social Psychology; and Psychology 116, Psychology of Adjustment and Mental Hygiene. All work must be fulfilled in the choice elected by the student. Partial fulfillment in one may not be combined with partial work in the other.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

**General Information.** All students taking part in the work of the Department are required to take a physical examination.

All students enrolled in Montana State University are required to take 1 credit each quarter until 6 credits of Physical Education 11abc, 12abc have been completed. See also page 33. Students who are physically unable to take the regular class work are given excuses or exemptions by the University Health Service after consultation with the physician in charge of the case, or are required to enter corrective classes, or to do individual corrective work suited to their needs.

**Athletics.** All intercollegiate athletics are under the supervision of the Director of Athletics and the Faculty Athletic Committee, varsity teams being maintained in football, basketball, track, baseball, tennis, swimming and the minor sports, boxing and wrestling.

Facilities are provided by the Department for participation in athletic work for every member of the student body, intra-mural competition being maintained in touch football, basketball, softball, track, tennis, boxing, wrestling, swimming and fencing.

**For Undergraduates**

11abc, 12abc. **Freshman and Sophomore Physical Training (Men).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in swimming, floor work, apparatus work, competitive games, track, boxing, wrestling, tennis, and fencing. No student will be given the final grade in the last quarter of this course until he has passed the elementary examination in swimming. Note: A total of not more than 6 credits in 11abc and 12abc will be accepted in addition to the 180 credits required for graduation. Mr. Wilson and Staff.

11abc, 12abc. **Freshman and Sophomore Physical Training (Women).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in hockey, tennis, recreative games, mass class drills, apparatus work, elementary and advanced dancing, swimming, fencing, basketball, volleyball, baseball, track,
and tennis. Note: A total of not more than 6 credits in 11abc and 12abc will be accepted in addition to the 180 credits required for graduation. Miss Stoodley and Staff.

14abc. Activity Skills. 3 Q. Autumn, winter, spring. 14a, b or c. Summer. 1 cr. Students may enter any quarter. Prerequisite, 11abc, 12abc, or consent of instructor. This course intended to give students an opportunity to become more proficient in basic skills by participating in activity classes of 11 and 12abc. Students may not repeat an activity in which they have received credit and may not register in Varsity Sports for credit in this course. A total of not more than 3 credits will be accepted in this course. Credits earned will be in addition to the 180 required for graduation.

15abc. Activity Skills. 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Students may enter any quarter. Prerequisite, 12abc and consent of instructor. Practice in activities. Emphasis upon fundamentals and progression safety and supervision, tumbling, apparatus, stunts, games, fencing, boxing and wrestling. Mr. Hertler.

20ab. Human Anatomy. 2 Q. Autumn. Winter. 20a will be offered during the summer of 1948 and in alternate summers. 20b will be offered during the summer of 1949 and in alternate summers. 5 cr. each quarter. Prerequisite, sophomore standing. Students may enter either quarter. Autumn, the skeleton, muscles and joints of the body. Winter, the systems of the body and the structure of organs composing these systems. Mr. Wilson.

32. First Aid. 1 Q. Autumn. Spring. Summer. 2 cr. Prerequisite, for majors, Phys Ed 20ab, others, consent of instructor. Recognition and treatment of common injuries. Red Cross certification may be secured on completion of the course. Mr. Oswald.

40. Athletic Training. 1 Q. Winter. Summer. 2 cr. Prerequisite, for majors, Phys Ed 20a, for others, consent of instructor. Common athletic injuries, their causes, prevention and care. Practical work in bandaging and wrapping. Staff.

45abc. Dance Methods and Materials. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 54b. 4 cr. Students may enter any quarter. Prerequisite, junior standing. (a) Basic dance. (b) Folk dancing and square dance. (c) Tap and social dance. Miss Stoodley and Staff.

59. Coaching of Baseball. 1 Q. Spring. 2 cr. Prerequisite, sophomore standing. Mr. Chinske.

60. Coaching of Basketball. 1 Q. Autumn. 4 cr. Summer S60. 2 cr. Open to junior men. Theory and practice in handling work in basketball. Mr. Dahlberg.

61ab. Coaching of Track. 2 Q. Winter, spring. 2 cr. each quarter. Summer, 61a or b. 2 cr. Open to junior men. (a) Theory. (b) Practice. Mr. Adams.

62ab. Coaching of Football. 2 Q. Spring, winter. 2 cr. each quarter. Summer, 62a or b. 4 cr. Open only to men of at least sophomore standing. (a) Practice. (b) Theory. Mr. Fessenden.

63abc. Teaching of Sports for Women. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, 63a, b or c. 2 cr. Prerequisite, junior standing. Course includes methods and materials. (a) Hockey, speedball. (b) Basketball, volleyball. (c) Tennis, softball, archery. Staff.

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. (Not offered 1948-49.)

135. Supervision and Teaching in Physical Education. (Combination of former 35a and 35b Systems and Methods). 1 Q. Winter. Summer. (Even years). 4 cr. Prerequisite, junior standing. Techniques and procedures in setting up and presenting a graded program of Physical Education activities. Includes rhythmical work, gymnastics, stunts, conditioning exercises, and achievement testing. Mr. Hertler.

136. Kinesiology. 1 Q. Winter. Summer (Odd years). 5 cr. Open only to major students. Prerequisite, Physical Education 20ab. The study of bodily movements, joint mechanics and the action of muscles in relation to Physical Education and activities of daily life. Mr. Wilson.

137. School Gymnastics. 1 Q. Summer. Odd years. 4 cr. Prerequisite, Physical Education 135. Growth and development of the child.
Theory and practice in selecting and teaching activities for each school grade. Mr. Hertler.

141. Corrective Physical Education. 1 Q. Spring. 5 cr. Given in summer of 1948 and in alternate summers. Prerequisite, Physical Education 136 or consent of instructor. Methods of detecting the more common physical defects which come to the attention of the physical educator, consideration of the possible follow-up program the medical doctor may advise. Mr. Wilson.


150. Organization and Administration. 1 Q. Autumn. Given in summer of 1949 and in alternate summers. 4 cr. Open to junior major students. The organization and administration of high school physical education departments. Management of the physical education plant. Mr. Hertler.

151. Curriculum Construction. 1 Q. Autumn. 3-4 cr. Prerequisite, Physical Education 137. Classification and analysis of physical education activities; construction of programs and adaptation of programs to specific situations. (Not offered 1948-49.) Mr. Hertler.

152. Physical Therapy. 1 Q. Spring. 4 cr. Prerequisite, Physical Education 136 and 141. This course is a direct continuation of corrective Physical Education dealing in more detail with the treatment of defects which come within the field of Physical Education. Theory and practice of massage is given. Mr. Wilson.

153. Health Education. 1 Q. Spring. Summer. (Even years). 4 cr. Open to junior students. The aims, objectives, and possible curricula for teaching health education in the elementary and high schools. Mr. Hertler.

160. Seminar in Health Education. Autumn. Winter. Spring. Summer. 1 cr. each Q. Prerequisite, senior standing and consent of instructor. This course may be repeated for credit not to exceed 3 credits. A study of the problems connected with the administration of community and school health programs by means of reviews of current literature and topical discussions. Mr. Hertler.

170. Recreational Leadership. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, junior standing. May be repeated for credit not to exceed 9 credits. Philosophy of recreation, theory and practice of group leadership, development of recreational skills. Given jointly by the Departments of Health and Physical Education, Sociology, and the School of Music. Miss Stoodley. Mr. Tascher. Mr. Teel.

For Graduates

203. Tests and Measurements in Physical Education. 1 Q. Autumn. 4 cr. Types of tests and their reliability as part of a testing program. Methods for establishing distribution of scores; pupil rating in groups; correlation of scores. (Not offered 1948-49.) Mr. Hertler.

204. Research in Health and Physical Education. 1 Q. Any Quarter. 3-5 cr. Up to a maximum of 15. Prerequisite, graduate standing.

History and Political Science

PROFESSORS EDWARD E. BENNETT, WESLEY P. CLARK, J EARLL MILLER (Chairman), PAUL C. PHILLIPS; ASSISTANT PROFESSORS ROBERT BATES, OSCAR J. HAMMEN, ROBERT T. TURNER, MELVIN C. WREN; INSTRUCTOR JULES A. KARLIN.

Major Requirements: 50 credits in History and Political Science, 20 of which must be taken from courses numbered over 100. Freshmen who expect to take major or minor work in the Department should register for course 12. Major students must elect a particular field and offer the larger portion of their credits in the one selected. Specialization is possible in American History, European History, Government, Public Administration, Foreign Service and International Relations.

Students who plan to teach should consult the certification requirements on page 86. The rule concerning specialization will be adjusted to fulfill the practical needs of such students.
Double majors may be arranged with the Departments of Modern Languages, Economics and Sociology, and students may, with permission, offer such courses as Economics 103, 104 and 118, Journalism 110, and Business Administration 152 in partial fulfillment of the requirements for a degree.

The department of history and political science requires either five quarters of a foreign language or the passage of a test demonstrating a satisfactory reading knowledge of historical or political science material.

Senior examinations are required of all students who major in the department.

**History**

**For Undergraduates**

12ab. Political and Economic Development of Modern Europe. 2 Q. Autumn, winter. 5 cr. each quarter. Open to all students. Students may enter either quarter. (a) 1500-1815. The beginnings of Modern Europe; the Protestant Revolt; the Age of Louis XIV; the rise of Prussia and Russia; the Ancient Regime; the Industrial and the French Revolutions. (b) 1815-1948. Liberalism versus Reaction: Nationalism; Imperialism; World Politics; the First and the Second World Wars. Staff.

13abc. English History. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 13c. Prerequisite, sophomore standing. Students may enter any quarter. The political, economic, and social history of England and the British Isles. Mr. Miller. Mr. Wren.

15. History of Greece. 1 Q. Winter. 4 cr. Prerequisite, sophomore standing. The cultural, social and political development of ancient Greece from prehistoric times to the Roman conquest. Mr. Clark.

16. History of Rome. 1 Q. Spring. Summer. 4 cr. Prerequisite, sophomore standing. The institutional, social, and cultural development of Rome to 395 A. D., with emphasis upon the period from the founding of the Republic to the death of Marcus Aurelius. Mr. Clark.

21abc. United States History. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 21c. Prerequisite, sophomore standing. Students may enter any quarter. (a) 1600-1812. Colonial beginnings and progress; the Revolution, Confederation, and Constitution; early political development; the War of 1812. (b) 1812-1850. The new nationalism; sectionalism; Civil War and Reconstruction: the New West: agricultural and industrial development. (c) 1880-1947. Capitalism and constitutional changes; the Progressive Movement; World War I; the Depression and the New Deal; World War II. Mr. Bennett, Mr. Karlin, Mr. Phillips.

29. French Revolution and Napoleonic Era. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. Economic, social, political, and religious developments, and the international reaction to the Revolution. Mr. Turner.

30ab. Europe in the 19th Century. 2 Q. Autumn, winter. Summer, 30a. 3 cr. each quarter. Students may enter either quarter. Prerequisite, sophomore standing. The internal economic, social, political, and religious development of France, Germany, Austria, and Italy. (a) 1815-1870. (b) 1870-1900. Mr. Hammen.

33. Medieval Europe. 1 Q. Autumn. 3 cr. Prerequisite, sophomore standing. The political, social, and economic development of Europe from the barbarian invasions to 1300. Mr. Hammen.

34. Renaissance and Reformation. 1 Q. Winter. 3 cr. Prerequisite, sophomore standing. The political, social and cultural development of Europe from 1300 to 1600. Mr. Bennett.

35. The Ancient Regime. 1 Q. Spring. 3 cr. Prerequisite, sophomore standing. The political, social and cultural history of Europe from 1600 until the outbreak of the French Revolution. Mr. Turner.

**For Undergraduates and Graduates**

101. American Frontiers. 1 Q. Autumn. 3 cr. Prerequisite, course 21ab. A survey of frontiers in America from the first settlements on the continent to the end of the 19th century. Emphasis is placed on the political, social, and economic factors of frontier life and the reaction of the frontier upon American and European history. Mr. Phillips.

102ab. History of the Northwest. 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, course 21abc or 101. Students may enter either quarter.
The most significant factors in the history of the northwestern states and their relation to the nation. Mr. Phillips.

103. The Early 20th Century (1900-1931). 1 Q. Spring. 3 cr. Prerequisite, junior standing and a college course in modern European history. Internal development of Britain and of the continental powers. Colonial development and international rivalry prior to the First World War. The War and its aftermath to 1931. Mr. Hammen.

104. Historical Methods. 1 Q. Autumn. Summer. 3 cr. Prerequisite, senior standing with 25 credits in History and Political Science. Methods of investigation, evaluation and synthesis in historical and political writings, with a survey of technical literature on the subject. Mr. Phillips and staff.

105ab. Seminar in History and Political Science. 2 Q. Winter, spring. 3 cr. each quarter. Summer, 105a. 4 cr. Prerequisite, course 104.

110. The British Empire. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 12b or 13bc. English exploration and colonization. The First British Empire. Developments in the 19th century. The Empire today. Mr. Bennett.

111. Medieval Civilization. 1 Q. Spring. 3 cr. Prerequisite, junior standing and either course 13a or 33. Institutional, social, and cultural progress in the Middle Ages. Mr. Miller.


114ab. Russia and Poland. 2 Q. Autumn, winter. 4 cr. each quarter. Summer, 114a, 4 credits. Prerequisite, junior standing and a college course in modern Russian history. (a) Beginnings of Russia. Early expansion. Russia and the west until the Congress of Vienna. (b) Russia in the 19th and 20th centuries. Mr. Wren.

117ab. History of the Far East. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, junior standing and a college course in modern European history. Course 111b required for registration in 117b. The social, political, and economic aspects of the modernization of China, Japan, and the Philippine Islands; the conflicting interests of the Great Powers in the East. World War II. Mr. Wren II. Mr. Wren.

119. Constitutional History of the U. S. 1 Q. Spring. 4 cr. Prerequisite, History 21abc. The origin and growth of the constitution in relation to the institutional development of the United States. Mr. Karlin.

121ab. Central Europe. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, junior standing and a college course in modern European history. The growth and development of the states of Central Europe and the Balkans since early modern times. Mr. Hammen.

122. Montana History. 1 Q. Autumn. 3 cr. Prerequisite, History 21abc. Early settlements, gold mining, social and economic conditions, transportation, development of silver and copper mining, agriculture, territorial and state government and political questions. Given in 1947-48 and in alternate years. Mr. Phillips.

123abc. Hispanic-American History. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 123b. Prerequisite, junior standing. (a) The European background; the political and economic development of Spain and Portugal to the foundation of the Latin American colonies. (b) The Spanish and Portuguese colonies; the revolutionary period and the foundation of present-day Latin American states. (c) The development of Latin American states in the 19th and 20th centuries. Mr. Turner and Staff of the Spanish Department.

125. Economic History of the United States. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and either course 21bc or Economics 14ab. Colonial economy; the expansion of the United States; industrial and pioneer economics; the heyday of laissez-faire; the agrarian movement; war and post-war prosperity; the great depression and recovery. Mr. Karlin.

126. Economic History of Western Europe. 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and a course in modern European history or Economics 14ab. The background and the development of the economic problems of 20th century Europe. Mr. Wren.

127ab. English Constitutional History. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, History 13abc. (a) English institutional development to the end of the Middle Ages. (b) English institutions since the Middle Ages. Mr. Miller.

128. American Colonial History. 1 Q. Winter. 4 cr. Prerequisite, History 21abc. Discovery and settlement; development of colonial society; government at home and in England; the causes, character and consequences of the American Revolution. Mr. Bennett.

129. Social and Cultural History of the United States. 1 Q. Winter. Summer. 4 cr. Prerequisite, History 21abc. English 59abc is desirable. An
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examination of attitudes in political, economic and social questions and of appreciation of amusements and esthetics. Mr. Phillips.

131. Recent American History. 1 Q. Spring. 4 cr. Prerequisite, course 21bc. The internal affairs and external relationships of the United States in the 20th century. Mr. Phillips.

132. Contemporary European History. 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and a college course in Modern European history. The internal affairs and external relationships of the principal European states during the past fifteen years. Mr. Hammen.

For Graduates

200. Seminar in American History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Open to graduates who have a major or minor in history or political science, including course 21abc. A study of special problems in American History. Mr. Phillips.

201. Seminar in European History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 30 credits in history. A study of special problems in European history. Mr. Hammen. Mr. Wren.

Political Science

For Undergraduates

14. Introduction to Government. 1 Q. Spring. 5 cr. Open to all students. An elementary study of the origin and the nature of the state, of sovereignty and of forms of government with an introduction to the principles and problems of government today. Staff.

17. American Government and Politics. 1 Q. Autumn. Summer. 4 cr. Prerequisite, sophomore standing. The organization and functions of federal government and the problems of the present time. Mr. Turner.


20. Comparative Governments. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing and either course 12b, 14 or 17. A study of representative types of government; constitutional beginnings, organization, methods of legislation and administration. Soviet, Fascist and other programs.

37. Elements of Law. 1 Q. Spring. 3 cr. Prerequisite, course 14 or 17. The development of the Anglo-American legal systems; the development of the English common law, and of courts and procedures. Contributions from the canon law and the law merchant; the rise of equity. The English legal system in early America. American developments. Mr. Bates.

For Undergraduates and Graduates

106ab. International Public Law. 2 Q. Autumn, winter. 3 cr. each quarter. 106a required for registration in 106b. Prerequisite, junior standing and 15 credits in the department. The law of nations in relation to peace, war, and neutrality. Mr. Bates.

107ab. Diplomatic History of Europe. 2 Q. Autumn, winter. Summer, 107b. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in the department. Students may enter either quarter. International relations and world politics from the Congress of Vienna to World War I. Mr. Turner.

108. Present World Problems. 1 Q. Spring. 3 cr. Prerequisite, course 103 or 107. Problems leading to or arising out of the Second World War. Mr. Turner.

109. American Political Problems. 1 Q. Winter. 4 cr. Prerequisite, course 21bc or 17 and 18. Present day political problems, such as governmental reorganization, taxation and budget, states' rights, and powers of Congress and the Chief Executive. Mr. Phillips.

115. Theories of the State. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and 15 credits in the department. The theories of ancient and modern political philosophers with regard to the origin, the nature, the attributes, and the functions of the State. Mr. Karlin.

116ab. Principles of Public Administration. 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, junior standing and courses 17 and 18. (a) Development of public administration in relation to other branches of government; conduct of administrative functions; processes of centralization and integration; types of administrative controls. (b) Problems and techniques of administration; relation of administration to the public, to the law and to politics. Technical problems of public administration.
120. American Foreign Relations. 1 Q. Winter. 4 cr. Prerequisite, junior standing and History 21abc. The policies and practices of the United States in her relations with foreign powers. Mr. Karlin.

124. International Organizations. 1 Q. Spring. 3 cr. Prerequisite, junior standing. The efforts for and machinery of international cooperation; the great European congresses since 1815; the Hague tribunal; the Pan-American Union; the International Labor Bureau; the World Court; the League of Nations; the UNO. Mr. Bates.

130. American Political Theories. 1 Q. 3 credits. Prerequisite, course 17, 21bc, or 115. American political thinking both in systematic writing and in popular ideas from Jefferson to the New Deal. Mr. Karlin.

133. The American Constitutional System. 1 Q. Autumn. 3 cr. Prerequisites, courses 17 and 21bc. Growth and development of the constitution of the United States, the fundamental principles of constitutional law, judicial interpretation, relation of state and national governments, the jurisdiction of the courts.

134. The Principles of Administrative Law. 1 Q. Spring. 3 cr. Prerequisites, courses 17, 18 and 116. Administrative law in the United States with reference to other countries. Administrative authorities, the scope and the limitations of their powers, remedies, judicial control of administrative action.

136. Government Regulation of Business. 1 Q. Spring. 4 cr. Prerequisite, one quarter of course 116 or Econ. 103 or Bus. Ad. 129. The necessity for and the theories of government regulation; regulation in practice by legislation, by commission, and by judicial decision; the government in business.

138. Diplomatic and Consular Law and Procedures. 1 Q. Spring. 2 cr. Prerequisite, course 106ab or 108. The functions and activities of foreign offices and of diplomatic and consular services. The duties of foreign service officers. The law and custom of diplomatic practice. Given in 1948-49 and in alternate years. Mr. Bates.

For Graduates

203. Seminar in Political Science. 3 Q. Autumn, winter, spring, Summer. Credit variable. Prerequisite, 30 credits in Political Science. A study of special problems in political science. Staff.

Home Economics

Professors Helen Gleason (Chairman), Eleanor MacArthur, Anne C. Platt; Assistant Professor Molfred Moe; Instructors Harriet Douglas, Dorthea Hauge.

Major Requirements: 50 or more credits in Home Economics, selected from courses listed under one of the following groups, in addition to General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13), Organic Chemistry (Chem 19), and Physiological Chemistry (Chem 103).

1. General: Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), and Experimental Foods (Home Ec 138).

2. Teaching. Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), Textiles (Home Ec 82), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127),
Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138). In addition, a major student should take History of Art (FA 31abc) and Educational Psychology (Educ 25a), Principles of Education (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), Problems in Teaching Home Economics (Educ 163), Home and Family Life Education (Educ 183). These courses prepare teachers of Vocational Home Economics in reimbursed schools.

3. **Institutional Management**: Introduction to Home Economics (Home Ec 119abc), House Planning and Furnishing (Home Ec 119), Nutrition (Home Ec 122), Nutrition in Disease (Home Ec 123), Child Nutrition (Home Ec 125), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138), Problems in Home Economics (Home Ec 198). In addition, a major student should select one or more from the following: Problems in Home Equipment (Home Ec 80), Child Development (Home Ec 124), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131). To qualify for a dietetic internship in a hospital the following are also required: Elementary Bacteriology (Bact 19), Human Physiology (Zool 24), Elementary Accounting (Bus Ad 11a), Elementary Sociology (Soc 16), and a minimum of 5 credits in Education.

Other opportunities in business and professional fields are open to Home Economics graduates.

The combined fields of Journalism and Home Economics offer excellent opportunities for special careers in advertising publications, and radio programs for the home. With this in mind the Home Economics Department recommends the following courses which offer valuable background and training for these and similar positions: Reporting (Journ 21abc), Copyreading (Journ 30), Principles of Advertising (Journ 40ab), Typography (Journ 38), Newscasting (Journ 48abc), Trade and Technical Publications (Journ 34), Promotion and Public Relations (Journ 35).

The combined fields of Business Administration and Home Economics also offer excellent opportunities for special careers in merchandizing. With this in mind, the Home Economics Department recommends the following courses in the School of Business Administration which offer valuable background and training for positions in this field: Bus Ad 151, Marketing; Bus Ad 159, Retail Stores; Bus Ad 160, Retail Store Management.

For further information students should consult the chairman of the department.

Foreign languages will not be required but strongly advised for some students.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.
For Undergraduates

17abc. Introduction to Home Economics. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Students may enter any quarter. (a) Education for personal and family life today. (b) Selection and preparation of food. (c) Selection, planning, and construction of clothing. Miss Gleason. Miss Platt. Miss Moe. Mrs. Hauge.

16. Clothing Design. 1 Q. Winter. 4 cr. The principles of design and their application to clothing. Miss Gleason.

19. Food Conservation. 1 Q. Summer. 5 cr. Open to all students. The fundamental methods used in conserving, processing, and storing the various foods for family needs. Miss Platt.


82. Textiles. 1 Q. Spring. 4 or 5 cr. Fibers, their manufacture and use; physical and chemical tests to aid in the selection of clothing and household furnishings. Miss Gleason.

99. Weaving. 1 Q. Summer 1-4 cr. Open to all students. A lecture and laboratory course in weaving textiles, using traditional and historic examples as source materials. Mrs. Douglas.

For Undergraduates and Graduates

119. House Planning and Furnishing. 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing. The aesthetic, economic, and hygienic problems in house planning and furnishing. Miss Gleason.

120. Clothing. 1 Q. Winter. 5 cr. Prerequisite, Home Economics 17c and 18; 82 recommended. The clothing problem of the family studied from the economic and social point of view. Miss Moe.

121. Nutrition. 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 17b and Chemistry 103. Dietetics given in the light of the chemistry and physiology of digestion. Miss Platt.


124. Child Development. 3 Q. Autumn, winter, spring. Summer. 3-5 cr. Prerequisite, Psychology 11 and junior standing. Development of motor, linguistic, and intellectual skills and abilities of young children studied through observation and participation in the Nursery School. May be repeated for credit with approval of nine credits. Miss Gleason.

125. Child Nutrition. 1 Q. Winter. 3 cr. Prerequisite, Home Economics 122. The science of human nutrition as it applies to children, using the University Nursery School as a laboratory for many of the problems studied. Miss Platt.

Note: Courses 127 and 128 must be taken concurrently. The two courses require approximately 24 hours a week for lecture and laboratory time.

127. Home Living Center. 1 Q. Autumn. Winter. Spring. Summer. 5 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Residence in the home living center for one term, applying principles gained in other courses to home problems. Mrs. Hauge.

128. Home Management. 1 Q. Autumn. Winter. Spring. Summer. 2 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Management studies and discussion presented on problems in the home living center. Mrs. Hauge.

129. Problems in Family Living. 1 Q. Autumn. Summer. 3 cr. Prerequisite, Psychology 11 and Home Economics 17abc. A critical study of theories and practices in relation to the home and family life. Miss Gleason.

131. Problems of the Consumer. 1 Q. Spring. Summer. 3 cr. Prerequisite, 8 cr. in Economics and Sociology and consent of instructor. A critical analysis of problems confronting the consumer. Mrs. Hauge.

133. Institutional Cookery. 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 122 or concurrent registration. The application of scientific, economic, and sociological principles to the feeding of large numbers of people.

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.


183. Home and Family Life Education. See School of Education page 92. Miss Moe.

198. Problems in Home Economics. 1 to 6 Q. Any quarter. Cr. variable. Prerequisite, senior standing in Home Economics. Qualified students may select for study special problems of the Home and the community in any of the following fields: Nutrition, textiles, child development, advanced design, family economics, teaching. Staff.

School of Journalism

Professor James L. C. Ford (Dean); Associate Professors Olaf J. Bue, Andrew C. Cogswell, Edward B. Dugan; Assistant Professors W. L. Alcorn, Robert P. Struckman; Instructors Parker B. Lusk, Harlan G. Bower; Professional Lecturers Ralph H. Dyar, John Ryan.

Through honest and accurate channels of communication, democratic government must find a source of information. Through the media of such communication, democratic living can progress. Journalism thus may help to guide the citizen towards intelligent participation in his community and in his world. Journalism education, accepted and supported today by practicing journalists throughout the United States, is the professional training of tomorrow’s editor and reporter, radio commentator and advertising executive.

The Montana State University School of Journalism was organized in 1914 and is one of the nation’s pioneer institutions for journalism education. Its high rank was recognized in 1917 through its charter membership in the American Association of Schools and Departments of Journalism. In 1948, the School of Journalism was recognized formally by the American Council on Education for Journalism as one of 34 accredited journalism departments in the United States. Its training in the news-editorial field, in advertising, in radio journalism, and in the community-weekly newspaper area also was given special approval.

Four fundamental objectives have been maintained by the School of Journalism. They are:

1. To qualify the journalism student for the profession of journalism through a broad and liberal education, so that he will be equipped with an appreciation and knowledge of his world and its problems.

2. To provide professional training in the fundamental journalistic techniques for his future lifework—on the newspaper, the magazine staff, in advertising, or radio journalism.

3. To further the progress and standing of all journalism through a realization by the student of the social responsibilities of his profession so that he will contribute to its growth in public service and esteem.

4. To create a greater number of informed and intelligent readers of the newspaper and listeners to the radio, through special courses open to non-majors, and thus serve the general education of the American college student.
Requirements for Admission

The regular University requirements for admission apply to the School of Journalism (pages 27 to 31). During Orientation Week, new students are required to take special aptitude and achievement tests as a guide to their admission as journalism majors.

Requirements for Graduation

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

1. The general University requirements for graduation, (pages 31 to 36).
2. The recommended curriculum for majors in journalism, (pages 134 and 135).
3. Senior examinations will not be given except to candidates for honors.

Candidates for the degree of Master of Arts in Journalism must comply with the regulations governing graduate work set forth on pages 117 to 121.

The Journalism Curriculum

The School of Journalism's course is four years.

During the first two years of enrollment in the School of Journalism, the student is required to complete the survey courses of the divisions of the College of Arts and Sciences. These serve as a foundation of general education for the professional training in journalism. The School of Journalism may accept equivalent substitutes for survey courses to meet cases of individual necessity or special interest.

In addition to the professional journalism courses which the student selects with the aid of careful guidance, he is given a wide choice of electives in other departments during his college program. Journalism training should not emphasize narrow specialization. With this in mind, the School of Journalism especially stresses the importance of a good background in the social sciences—history, political science, economics, and sociology. All journalism majors should possess facility and skill in typewriting; all written work for journalism courses must be typed. In addition, a knowledge of shorthand will be most useful.

Field trips to study and edit Montana newspapers are made each year as a requirement in the Senior Seminar course. Students taking such trips will pay for their expenses on a pro rata basis.

For certain students who have special journalism interests—in advertising, in radio, in community journalism, in free-lance writing, in various vocations where women journalists have been especially successful—the School of Journalism recommends the following programs of elective work:

**Advertising:** Principles of Economics (Econ 14ab); Economics of Consumption (Econ 109); Marketing (Bus Ad 151); General Psychology (Psych 11); Color and Design (Fine Arts 25ab).

In Journalism, in addition to the recommended curriculum, the following courses should be taken: Advertising Layout and Copy (Journ 43); Retail Store Advertising (Journ 44); Promotion and Public Relations (Journ 35).

**Free-lance Writing:** Composition (Eng 30ab); Literary Composition (Eng 72abc); Creative Writing (Eng 160abc); General Psychology (Psych 11).
In Journalism, in addition to the recommended curriculum, the following courses should be taken: Magazine Article Writing (Journ 33); Trade and Technical Journalism (Journ 34); News Photography (Journ 42).

**Journalism Specialties for Women:** Careers in the combined fields of home economics and journalism offer splendid opportunities for women journalism majors. The girl who seeks a journalistic future will find certain fields especially, and often exclusively, open to women in retail and department store advertising and promotion, in women's magazines and specialized publications, and in radio programs for the home.

With this in mind, the School of Journalism recommends the following courses which offer valuable background and training for these and similar positions: Clothing Design (Home Ec 18); Elementary Nutrition (Home Ec 24); Child Development (Home Ec 124); Textiles (Home Ec 82); House Planning and Furnishing (Home Ec 119); Problems of the Consumer (Home Ec 131).

All courses suggested under the curricula for Advertising and Radio Journalism will be equally useful for students following this program. In addition to the recommended Journalism curriculum, these Journalism courses should be taken: Magazine Article Writing (Journ 33); Trade and Technical Journalism (Journ 34); News Photography (Journ 42).

**Radio Journalism:** Microphone and Program Technique (Music 45a); Radio Speech (Eng 45ab). Microphone and Program Technique (Music 45a) should be taken concurrently with the Newscasting course (Journ 45).

In Journalism, in addition to the recommended curriculum, the following courses should be taken: Newscasting (Journ 45), Radio Editing (Journ 46), Special Events (Journ 47).

**Teaching Minor in Journalism:** The State Department of Public Instruction has authorized a teaching minor of 30 quarter hours in Journalism for inclusion among the academic requirements for the Montana Secondary State Certificate.

**Required:**

- Journalism 18 Public Opinion ................................................................. 3 credits
- 21ab Reporting .......................................................... 4
- 22a Reporting Practice .................................................. 2
- 25 Copyreading ............................................................. 2
- 30 Copyreading Practice ........................................... 2
- 40ab Principles of Advertising .................................. 6
- 49 History of Journalism ............................................... 2
- 126 High School Newspaper ........................................... 3

Total: 25 credits

A minimum of five additional credits must be selected from the following:

- Journalism 38 Typography ................................................................. 2 credits
- 39 Graphic Arts .......................................................... 3
- 42 News Photography ........................................................... 2
- *45 Newscasting ............................................................... 3
- *46 Radio Editing .............................................................. 3
- *47 Special Events ............................................................. 3

*(Radio courses are required to be taken in numerical sequence.)*

It should be noted, however, that students majoring in English must include in their qualifications for the teaching certificate a minor in a field other than Journalism. They may, of course, submit a major and two minors (including Journalism).
**Community Journalism:** In Journalism, in addition to the recommended curriculum, the following courses should be taken: Community Journalism (Journ 23ab); Newspaper Management (Journ 24); Editorial Writing (Journ 25); Graphic Arts (Journ 30) and Retail Store Advertising (Journ 44).

Fifteen graduates of the School of Journalism are publishers of weekly or small daily papers in Montana, a state in which 92 per cent of the press is in the community field.

**General Information**

The School of Journalism is unusually well-equipped to give the student contact with the technical phases of journalism. Few journalism departments in the United States can equal its physical plant. Laboratories offer the future journalist the opportunity to acquaint himself with typography, engraving, news photography, printing and press work, and radio processes. The Journalism building is essentially a model newspaper plant and offers unsurpassed teaching facilities.

The relationship between the School of Journalism and the press of Montana is close and cordial, involving a number of mutual services. The field secretary-manager of the Montana State Press Association also serves on the faculty of the School and has his office in the Journalism building.

For 25 years, the School of Journalism has sponsored the Montana Interscholastic Editorial Association, the state organization of high school newspapers, and has issued its monthly publication. Thus it seeks to serve the beginning journalist in secondary education as well as the college student desiring a professional training.

The Montana Kaimin, University student newspaper, is published in the School of Journalism building. On this newspaper, the students supplement class instruction with actual reporting, advertising, and business experience under the expert guidance of a journalism faculty member.

Several special scholarships and prizes are offered exclusively to journalism students. These include: the Dean Stone Scholarship, awarded by the Montana State Press Association to a senior student; the Warden Scholarship, for the student who has made the outstanding freshman record; the Mosby Scholarship, to the outstanding student in radio journalism; the Western Montana Press-Radio Scholarship; the Theta Sigma Phi Scholarship; the Warsinske Scholarship in Agricultural Journalism; the Gannaway Prize in Rural Journalism; the Coffey Award in Advertising; the Great Falls Newspaper Guild Feature Story Award; the Sigma Delta Chi Kaimin Service and Scholarship Awards. More details regarding these scholarships are given on pages 48 to 54.

The two nationally recognized journalism fraternities, Sigma Delta Chi for men and Theta Sigma Phi for women, both maintain chapters in the School of Journalism and have for thirty years. In addition, the School itself supports the Press Club, organization to which all journalism students belong.

**Recommended Curriculum for Journalism Majors**

**Freshman Year**

<table>
<thead>
<tr>
<th>Autumn Quarter Credits</th>
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<tbody>
<tr>
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<tr>
<td>General 11abc, Introduction to Social Sciences</td>
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<td>General 12abc, Introduction to Biological Sciences</td>
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<tr>
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16-17 16-17 16-17
### Sophomore Year

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<td>Journalism 22ab, Reporting Practice</td>
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<td>Journalism 30, Copyreading</td>
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<td>Journalism 37, Law of Journalism</td>
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<td>Journalism 46ab, Principles of Advertising</td>
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<td><strong>16</strong></td>
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<td><strong>48</strong></td>
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</table>

Total elective hours, 78 hours.
Total recommended hours in general education, 54 hours.
Total recommended hours in journalism, 54 hours.

### For Undergraduates

**10abc. Introduction to Journalism.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Open to all students; required of freshman journalism majors. Introduction to the field of journalism; elementary work in reporting and copyreading; analysis of the opportunities and various professions in journalism; ethics of journalism; journalism in the world today. Mr. Ford. Mr. Bower. Mr. Lusk.

**21ab. Reporting.** 2 Q. Autumn, winter. Summer, S21. 2 cr. each quarter. Prerequisite, Journalism 10abc or consent of instructor. Open to non-majors. Reporting methods, news story construction, evaluation of news, the coverage of public affairs, press association techniques. Mr. Bue.

**22ab. Reporting Practice.** 2 Q. Autumn, winter, Winter, spring, Spring, autumn. 2 cr. each quarter. Prerequisite, Journalism 21ab or concurrent registration. A laboratory and lecture course, involving Kaimin news coverage, presenting reporting and publishing problems. Mr. Dugan.

**23ab. Community Journalism.** 2 Q. Autumn, winter, 2 cr. each quarter. Prerequisite, Journalism 21ab. A study of news, editorial, circulation, and advertising problems of weekly and small daily newspapers. Mr. Dugan.

**24. Newspaper Management.** 1 Q. Spring. 3 cr. Prerequisite, junior standing. The problems of management in the daily and weekly newspaper fields; actual financial setups and operation of newspaper and printing plants; cost-finding practice and systems in general use. Mr. Alcorn.

**25. Editorial Writing.** 1 Q. Winter. 3 cr. Prerequisite, junior standing or consent of instructor. Preparation and presentation of editorial interpretation and comment. Editorial history; functions of editorial page. Mr. Lusk.

**30. Copyreading.** 1 Q. Autumn. Spring. Summer, S30. 2 cr. Prerequisite, Journalism 21ab or concurrent registration with consent of adviser. The editing of local, state, and wire copy; headline writing; makeup. Mr. Bower.

**31ab. Copyreading Practice.** 2 Q. Autumn, winter. Winter, spring. Spring, autumn. 2 cr. each quarter. Prerequisite, Journalism 30 or concurrent registration. Laboratory and lecture course involving desk work on the Kaimin. Mr. Struckman.

**32. Magazine Article Writing.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing and consent of instructor. Open to non-majors. The preparation and writing of articles for magazines of general circulation. Techniques of analyzing and selling to magazine markets. Mr. Struckman.
34. Trade and Technical Journalism. 1 Q. Winter. 3 cr. Prerequisite, junior standing and consent of instructor. Open to non-majors. The writing and editing of trade and business journals, technical and specialized publications. Mr. Struckman.

35. Promotion and Public Relations. 1 Q. Spring. 3 cr. Prerequisite, junior standing and consent of instructor. Open to non-majors. The techniques of promotion and the handling of public relations. Mr. Struckman.

36. Current Events. 1 Q. Any quarter. May be repeated for 12 quarters. 1 cr. Open to all students. Current history of the world; its background; its relationships and probable influences. Emphasis on current journalistic handling. Mr. Struckman. Mr. Luik.

37. Law of Journalism. 1 Q. Winter. 3 cr. Prerequisite, junior standing or consent of the instructor. The laws of libel, slander, and right of privacy as they affect both press and radio. Contempt of court by publication; newspaper rights in news-gathering; property rights in news; regulatory provisions of state and federal statutes. Mr. Struckman.

38. Typography. 1 Q. Autumn. Winter. Spring. Summer, S38. 2 cr. Prerequisite, consent of instructor. Students may enter any quarter. Problems of typographical design and application. Elementary work in printing and in the handling of type. Mr. Bue.

39. Graphic Arts. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, Journalism 38, or consent of instructor. Open to non-majors. Students may enter any quarter. Study of various printing and engraving processes, including letter press, offset lithography, intaglio, electrotype and stereotype. Attention is paid to the use of inks, paper, color, and other materials of the graphic arts. Mr. Alcorn.

40ab. Principles of Advertising. 2 Q. Autumn, winter. Summer, S40a. 3 cr. each quarter. Prerequisite, junior standing. Open to non-majors. Fundamentals of advertising theory and techniques with emphasis on the role of advertising as it applies to the producer, the distributor, the consumer. Analysis of media use and the advertisement itself. Mr. Duigan.

41. Advertising Practice. 1 Q. Autumn. Winter. Spring. 2 cr. each quarter. Prerequisite, Journalism 40ab or concurrent registration. Preparation, promotion, and sale of advertising. Lecture, and staff work on the Kaimin. Mr. Duigan.

42. News Photography. 1 Q. Autumn. Winter. Spring. Summer. S42. 2 cr. Prerequisite, Journalism 21ab, and consent of instructor. The news picture and how to take it: laboratory practice in use of Speed Graphic camera, synchroflash, and processing of film and prints. Mr. Bue.

43. Advertising Layout and Copy. 1 Q. Spring. 3 cr. Prerequisite, Journalism 40ab. Open to non-majors. Application of typographical and advertising principles to preparation of layouts and copy, with practice in sales promotion. Mr. Duigan.

44. Retail Store Advertising. 1 Q. Spring. 3 cr. Prerequisite, Journalism 40ab. Open to non-majors. Integration of retail store merchandising among advertising media. Study of technical aspects of advertising schedules for retail stores. Mr. Duigan.

45. Newscasting. 1 Q. Autumn. 3 cr. Prerequisite, Journalism 21ab or consent of instructor, and concurrent or previous registration in Music 45a. Basic consideration of radio as a news medium; preparation of local news broadcasts; practice in newscasting. Mr. Bue.

46. Radio Editing. 1 Q. Winter. 3 cr. Prerequisite, Journalism 45. Preparation of radio news scripts from wire and local copy; continuities and commercials; practice in newscasting. Mr. Bue.

47. Special Events. 1 Q. Spring. 3 cr. Prerequisite, Journalism 46. Radio interviews, sports, interpretation, and comment; practice in newscasting. Mr. Bue.

49. History of Journalism. 1 Q. Autumn. 3 cr. Prerequisite, junior standing or consent of the instructor. Open to non-majors. The historical background of the American press. Mr. Luik.

For Undergraduates and Graduates

100abc. Senior Seminar. 3 Q. Autumn, winter, spring. Summer, S100. 6 cr. each quarter, with a maximum of 18 credits. Prerequisite, senior standing in journalism. An over-all journalism course on the seminar pattern, incorporating the project method. Correlates work of the four years in journalism and other fields, covering: history and ethics of journalism, public opinion and propaganda problems: technological phases of journalism; editorial and advertising techniques; the press as a social institution. Mr. Ford.

110. Public Opinion. 1 Q. Spring. 3 cr. Prerequisite, junior standing. Open to non-majors. A study of the theories of public opinion, the
factors involved in its formation, and methods used in its measurement.
Mr. Lusk.

128. The High School Newspaper. 1 Q. Spring. Summer, S126. 3 cr.
Prerequisite, junior standing and consent of instructor. Open to non-majors.
A course for students who plan to teach journalism courses in high schools
or act as advisers to school publications, Mr. Struckman.

Summer, S136. Credit variable. Prerequisite, junior standing and consent
of the dean. Training and research in advanced journalism problems. Mr.
Ford and Staff.

For Graduates

201. Research in Journalism. 1-3 Q. Autumn. Winter. Spring. Sum-
mer, S201. Credit variable. Prerequisite, graduate standing and consent
of the dean. Research in journalism for graduate students. Mr. Ford and
Staff.

School of Law

PROFESSORS EDWIN W. BRIGGS, CHARLES W. LEAPHART (Dean),
DAVID R. MASON, WALTER L. POPE, J. HOWARD TOELLE; ASSISTANT PRO-
FESSORS FRANCIS E. COAD, WILLIAM H. COLDIRON, JAMES C. GARLINGTON,
RUSSELL E. SMITH; INSTRUCTORS WILLIAM BOONE, EDMUND T. FRITZ,
DONOVAN WORDEN; LIBRARIAN CHARLOTTE RUSSEL.

The School of Law is located in a modernly equipped law school
building with adequate class, office, library, and court room facilities.
The school has a good working library of more than thirty thousand
volumes. To a very great extent the library is the result of the gen-
erous gifts and legacies of Mrs. W. W. Dixon, and gifts of John J.
McHatton, and the Anaconda Copper Mining Company. The school is
a member of the Association of American Law Schools and is one of
the schools approved by the American Bar Association.

The School of Law will operate on a four quarter basis as long
as the needs of returning veterans require it. Nine quarters work in
residence are requisite for the Bachelor of Laws degree. Students who
attend continuously and who do satisfactory work will be able to secure
the degree in two and one-quarter calendar years.

Requirements for Admission

Non-veteran applicants for admission must present credits equal
to one-half of the work acceptable for a Bachelor's degree in Montana.
Non-theory courses are not acceptable under the above rule with the ex-
ception that required courses in physical education and military drill
are acceptable up to 10% of the total credit offered for admission. This
work must be done in residence at an approved college or university and
have been passed with a scholastic average at least equal to the aver-
age required for graduation in the institution attended, and this average
shall also be attained by the student in his theory courses.

Furthermore, he must have obtained a number of grade points
at least equal to all of the credits for which he has registered and for
which he has received a grade. Negative grade points (1 for each
credit of I, E, or F) must be subtracted from the positive grade points
earned to determine the number of grade points acquired toward meet-
ing grade point requirements. For methods of computing grade points
see General Catalog page 41. When credits are accepted from another
institution, grade points are evaluated at the time of transfer; however,
where a student has had pre-legal work at Montana State University
and at another institution, he must meet the above requirements on credits earned at Montana State University as well as on his entire record.

A veteran of the present war must present the same amount of credits with the same restrictions as to the percentage of non theory courses and scholastic average as the non veterans. He may, however, in lieu of, or in addition to, offering for admission credits obtained in regular college or university courses, offer credits for:

(1) Military training as such (not to exceed 12 quarter credits). For purposes of admission credits so obtained are classed as credits in theory courses.

(2) Work done on a college campus in class under the direction of regular members of the college faculty while the applicant was a member of the armed services, if that college will give credit for such work towards its own degree and the work is of superior caliber.

He may satisfy the residence requirements by five quarters or four semesters of study in residence, either as a civilian or in the uniform of his country, in an approved college or university if he has completed at least 62 semester or 78 quarter credits of work acceptable for the bachelors degree at the institution attended and the quality of his work has been equal to the quality required for graduation by the institution.

Although students are admitted who have met the foregoing requirements, three years of pre-legal preparation are recommended.

It is recommended that pre-legal students at Montana State University complete the curriculum of the Division of Social Sciences, page 60.

Special students are not admitted to the School of Law.

For the University admission requirements, see page 27.

Requirements for Graduation

Candidates for the Bachelor of Laws degree are required to complete:

(1) The requirements for admission listed above.

(2) Nine quarters of work in a law school of recognized standing, the last three of which must be completed in residence in Montana State University. Two summer sessions of approximately 6 weeks each will be counted as one quarter.

(3) The following courses: Contracts, Property, Torts, Criminal Law and Procedure, Practice Court, Forms of Action and Code Pleading, or Civil Procedure, and Legal Writing.

(4) A total of 128 credits in law with an average of at least one grade point for each credit.

Candidates for the Bachelor of Arts degree with Law as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 31 to 36 and page 60).

Any student who has conditions or failures in more than nine hours of work standing against him at the end of any year will be dropped from the Law School. Any student who has a condition or a failure in one course of six hours or more at the end of his first year will be dropped from the Law School, unless he obtained at least eighteen grade points in his other courses; and any student having a deficiency of fifteen or more grade points at the end of his first year
will be required to repeat, during the next year in which he is in attendance at the Law School, at least one-half of the hours of work in which he received a grade of D or less. Any student having a deficiency of more than twelve grade points at the end of his second year will be dropped from the Law School.

No student will be recommended for a degree in Law who is markedly deficient in English, or who, in the opinion of the majority of the members of the faculty of the School of Law, is unfitted for admission to the practice of law by reason of a lack of honesty and integrity.

The special senior examination provided for on page 36, will not be given except to candidates for honors.

**General Information**

No student will be allowed credit in any one quarter for over 15 hours of work in the School of Law; except that in addition, within the discretion of the Dean, a student may be allowed to take an examination to remove a condition and be given credit upon satisfactory passage of the same. A student may also be allowed one additional credit for Legal Writing.

The case system of instruction is employed. Special attention is given to practice court work, in which the students are required not only to argue legal questions, but to try cases, prepare appeals, and go through all the steps incident to the trial of a law suit. A thorough course is given in the use of law books.

Where courses extend over more than one quarter, credit is conditional upon the completion of and final satisfactory examination over the whole course except where because of unusual circumstances arrangements have been made in advance for examination and credit at the end of other quarters.

In continuous courses examinations will also be given at the end of the first quarter. Conditions may be removed only in the regular examination at the end of a repetition of the course.

The honor system has been in successful operation since the foundation of the School.

The curriculum of the School of Law is designed to afford preparation for the practice of law in any of the United States, but special attention will be given in all courses to the codes and decisions of Montana.

Graduates of the School of Law may, in the discretion of the Supreme Court of Montana, be admitted to practice in the courts of Montana without further examination.

**Combined Degrees**

Undergraduate students in regular standing, candidates for the degree of Bachelor of Arts, electing law as a major subject at the beginning of the junior year may count not to exceed 65 credit hours of the law course towards graduation and the degree of Bachelors of Arts. Foreign languages will not be required of candidates for the B.A. degree with law as a major.

Students may also combine Business Administration and Law so as to secure in six years the degree of Bachelor of Arts in Business Administration and the degree of Bachelor of Laws.

**Courses for Non-Professional Students**

Courses in the Law School are open to students in other departments and schools in the University who meet its entrance require-
ments. Credits obtained may apply toward degrees in such departments.

Curriculum

First Year

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<tr>
<th></th>
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Second and Third Years

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<td>Future Interests</td>
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<td>Insurance</td>
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<tr>
<td>(e) Irrigation Law</td>
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<td>(a) Labor Relations</td>
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<td>Legal Ethics</td>
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<td>Legal Writing</td>
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<td>(f) Mining Law</td>
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<td>(b) Municipal Corporations</td>
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<td>Practice Court</td>
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<td>Division I</td>
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<td>Sales</td>
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<td>Suretyship and Mortgages</td>
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<td>(d) Taxation</td>
<td>3</td>
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<td>6</td>
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<td>(g) Trade Regulation</td>
<td>3</td>
<td>3</td>
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<td>6</td>
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<tr>
<td>Trusts</td>
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<tr>
<td>Use of Law Books</td>
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<tr>
<td>Wills and Administration</td>
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</table>

(a) To be given in Summer 1949, not in 1948.
(b) To be given in Summer 1948, not in 1949.
(c) To be given Autumn and Winter 1948-49, not in 1949-1950.
(g) Not to be given in Summer 1948. To be given in Summer 1949. To be given Autumn and Winter 1948-1949.

Courses

Administrative Law. 2 Q. Autumn, winter. Continuous, 6 cr. McFarland and Vanderbilt's Cases on Administrative Law. Mr. Mason.


Appellate Practice. 3 Q. Autumn, winter, spring. Continuous, 3 cr. Smith's Cases and Materials on Appellate Practice. Mr. Worden and Mr. Boone.

Bills and Notes. 3 Q. Autumn, winter, spring. Continuous, 6 cr. Smith and Moore's Cases on Bills and Notes, 4th edition. Mr. Mason.

Business Organizations. 3 Q. Autumn, winter, spring. Continuous, 9 cr. Frey's Cases and Statutes on Business Associations. Mr. Briggs.

Civil Procedure. 3 Q. Autumn, winter, spring. Continuous, 1 Q. Summer, 9 cr. Sunderland's Cases and Materials on Judicial Administration.
### School of Law

(Magill's Cases on Civil Procedure, 3rd edition.) Mr. Mason. Mr. Toelle. Mr. Coldiron.


**Contracts.** 3 Q. Autumn, winter, spring. Continuous. 1 Q. Summer, 1949. 9 cr. Williston's Cases on Contracts, 4th edition. Mr. Leaphart and Mr. Boone.

**Creditors' Rights.** 3 Q. Autumn, winter, spring. Continuous, 6 cr. Hanna and McLaughlin's Cases on Creditors' Rights. Mr. Toelle.


**Damages.** 1 Q. Spring. 3 cr. Crane's Cases on Damages, 2nd edition. Mr. Briggs. Mr. Coldiron.

**Domestic Relations.** 1 Q. Summer 1948. 3 cr. Jacob's Cases on Domestic Relations, 2nd edition. Mr. Briggs.

**Equity.** 3 Q. Autumn, winter, spring. 6 cr. Continuous. Chafee and Simpson Cases on Equity, 2nd edition. Mr. Coldiron. Mr. Coad.

**Evidence.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. McCormick's Cases on Evidences. Mr. Smith.

**Future Interests.** 1 Q. Spring. 3 cr. Casebook to be announced. Mr. Coldiron.

**Insurance.** 1 Q. Spring. 3 cr. Vance's Cases on Insurance, 3rd edition. Mr. Mason.

**Irrigation Law.** 1 Q. Spring. 2 cr. Bingham's Cases on Water Rights. Mr. Toelle.

**Labor Relations.** 1 Q. Summer 1949. 3 cr. Casebook to be announced. Mr. Briggs.

**Legal Ethics.** 1 Q. Autumn. 2 cr. Costigan's Cases and Materials on the Legal Profession and its Ethics, 2nd edition. Mr. Toelle.

**Legal Writing.** 1 Q. 1 cr. For third year students. No test. Staff.


**Practice Court.** 2 Q. Autumn and winter. Summer and autumn. 3 cr. Continuous. Montana Code of Civil Procedure, selected cases and practical exercises. Mr. Garlington.

**Property.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Fraser's Cases on Property, vols. 1 and 2, 2nd edition; Kirkwood's Cases on Conveyances, 2nd edition. Mr. Coad. Mr. Coldiron.

**Property.** 1 Q. Summer. 3 cr. Fraser's Cases on Property, vol. 2, 2nd edition. Mr. Coad.

**Sales.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Williston's and McCurdy's Cases on Sales. Mr. Coad. Mr. Coldiron.

**Suretyship and Mortgages.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Campbell's Cases on Suretyship. Campbell's Cases on Mortgages, 2nd edition. Mr. Leaphart. Mr. Coldiron.


**Trade Regulation.** 2 Q. Autumn, winter. Continuous. 1 Q. Summer, 1949. 6 cr. Handler's Cases and Materials on Trade Regulation. Mr. Coldiron.

**Trusts.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Scott's Cases on Trusts, 3rd edition. Mr. Leaphart.


**Wills and Administration.** 2 Q. Winter, spring. Continuous. 4 cr. Bingham's Costigan Cases on Wills and Administration, 3rd edition. Mr. Toelle.
Mathematics

Professor A. S. Merrill (Chairman); Assistant Professor, T. G. Ostrom; Instructors Mrs. Edna K. Bennett, Mrs. Helen D. Gillespie, Mrs. Elizabeth M. R. Smith.

Major Requirements: 45 or more credits. However, for students presenting three and a half entrance units in mathematics, a 40 credit minimum, and for students with four entrance units, a 35 credit minimum may be permitted at the discretion of the Department. No student may offer in fulfillment of these minimum requirements more than four of the following courses or their high school equivalents: Survey of College Mathematics (Math 12), Plane Trigonometry (Math 13), Spherical Trigonometry (Math 14), College Algebra (Math 16), Elementary Mathematics of Investments (Math 19), Plane Analytic Geometry (Math 21), Statistics (Math 25). Courses in Intermediate Algebra (Math 10), Solid Geometry (Math 11), Introductory Business Mathematics (Math 18), and Descriptive Astronomy (All) may not be counted toward a major in Mathematics. Students majoring in Mathematics must complete General Physics (Physics 20abc) or the equivalent, and a reading knowledge of some one foreign language, preferably French or German (23-25 credits or satisfactory examination at the four quarter level.)

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

Students who plan to secure a certificate to teach should consult the certificate requirements listed on page 86.

General Information. Major students are expected to take part in extra-curricular activities of the Department, such as the Mathematics Club and the Mathematics Fraternity.

The Mathematics Library contains complete sets of all the American mathematics journals and several of the most important foreign journals, such as Crelle, Annalen, Liouville, Fortschritte. Important new books are constantly added.

Courses in Elementary Algebra (Math A), Descriptive Astronomy (Math All), Solid Geometry (Math 11), and Teaching of Secondary Mathematics (Math 181) and those numbered over 100 [except Ordinary Differential Equations (Math 101) and Calculus III (Math 107a), Calculus IV (Math 107b)] are offered subject to demand.

During the early post-war period elementary courses will be repeated according to the demand in so far as the limitations of the staff permit. Math A and Math B will not be offered after Summer 1948.

For Undergraduates

A. Elementary Algebra. 1 Q. Spring, Summer. No cr. A sub-freshman, refresher course for students who have had no algebra in high school or who wish to cover this ground for review. Staff.

B. Plane Geometry. 1 Q. Summer. No cr. Prerequisite, Mathematics A or one unit of high school algebra. A sub-freshman refresher course for students who have had no geometry in high school or who wish to cover this ground for review. Staff.

10. Intermediate Algebra. 1 Q. Autumn, Summer. 5 cr. Prerequisite, 1 entrance unit of algebra. That portion of algebra usually described as "quadratics and beyond." Students entering with 1½ units of algebra or who have completed Mathematics 18 or 35a may not receive credit in this course. Staff.

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 may not receive credit in this course. Staff.

13. Plane Trigonometry. 1 Q. Winter, Spring, Summer. 5 cr. Prerequisite, plane geometry and Mathematics 10 or equivalent. Students who present entrance credit in trigonometry or who have completed Mathematics 35b may not receive credit in this course. Staff.
14. **Spherical Trigonometry.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 16 and 13 or equivalent. Spherical trigonometry and certain topics in plane trigonometry. Staff.

15. **College Algebra.** 1 Q. Autumn, Summer. 5 cr. Prerequisite, Mathematics 10 or equivalent. Students who present 2 entrance units of high school algebra must have the permission of the Mathematics Department before receiving credit in this course. Staff.

16. **Introductory Business Mathematics.** 1 Q. Autumn. 5 cr. Prerequisite, 1 entrance unit of algebra. This course covers practically the same field as Mathematics 10, except that work on progressions and binomial theorem replaces the study of quadratic equations and systems. Students who present 1½ entrance units of algebra or who have completed Mathematics 10 or 35a may not receive credit in this course. Staff.

17. **Elementary Mathematics of Investments.** 1 Q. Winter, Summer. 5 cr. Prerequisite, Mathematics 18 or 1½ entrance units of algebra.

18. **Advanced Mathematics of Investments.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 19 or 25 credits in the Department of Mathematics. Not given in 1948-49. Mr. Merrill.

19. **Plane Analytic Geometry.** 1 Q. Spring, Summer. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 16. Staff.

20. **Calculus I.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 21. Differential calculus, including introductory work on integration. Staff.

21. **Calculus II.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Applications of differential calculus; integral calculus. Staff.

22. **Statistics.** 1 Q. Spring. Summer. 5 cr. Prerequisite, Mathematics 10 or 18 or equivalent. Staff.


For Undergraduates and Graduates

101. **Ordinary Differential Equations.** 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 23. Staff.

104. **Theory of Equations.** 1 Q. 5 cr. Prerequisite, Mathematics 22. Staff.

107a. **Calculus III.** 1 Q. Spring. 5 cr. Prerequisite, Mathematics 23. Infinite series; expansion of functions; hyperbolic functions; partial differentiation; multiple integration. Staff.

107b. **Calculus IV.** 1 Q. Winter. 5 cr. Prerequisite, Mathematics 107a. Introductory theory of functions. Staff.


150. **Seminar.** 1 Q. Any quarter. Credit variable. Prerequisite, junior standing and consent of instructor. This course provides guidance in special work for advanced students. Staff.

For Graduates

200. **Graduate Seminar.** 1 Q. Any quarter. Credit variable. Prerequisite, graduate standing and consent of instructor. This course provides guidance in graduate subjects or research work. Staff.

A11. **Descriptive Astronomy.** 1 Q. Spring. 5 cr. Open to all students. An introductory course. Credit does not apply toward the restricted elective requirement in laboratory science.

**Medical Technology**

Clinical analyses are based on a knowledge of serology, bacteriology, chemistry, physics, and zoology. It is, therefore, essential for the laboratory technicians to have accurate knowledge in these sciences. It is also important that the workers receive routine practical training in a hospital laboratory under the supervision of a qualified clinical pathologist.

For students desiring to enter this work a four-year course is offered in the Division of Biological Sciences. The curriculum for this course has been designed for those students who have had adequate
high school preparation, which should include one and one-half units of algebra, one unit of geometry, and one of chemistry.

Upon completion of the work at the University, the student should spend a year in a hospital which has been recognized by the American Association of Clinical Pathologists. Following this year's work in the hospital, the student will have to pass the examination given by the American Association of Clinical Pathologists in order to qualify as a registered medical technician. At least the fourth year of University work described in this course must be taken in residence at Montana State University. It would be better for the student to plan to take the last two years of this work in residence at Montana State University. Satisfactory completion of this course leads to the degree of Bachelor of Science in Medical Technology.

Since the number of hospital internships available is limited, the department will recommend candidates for these internships largely on the basis of superior scholarship.

### Freshman Year

<table>
<thead>
<tr>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Zoology 14ab, Elementary Zoology, and Psych. 11, General Psychology, or Mathematics 10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 13abc or 11abc, Inorganic Chemistry and Qualitative Analysis</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>English 11ab, Language in Action, Math. 10, or Psych. 11, General Psychology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Phys. Ed. 11abc, Physical Education</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mil. Sci. 11abc, Military Science (Men)</td>
<td>1</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16-17</strong></td>
<td><strong>16-17</strong></td>
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### Sophomore Year

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<thead>
<tr>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Physics 11abc, General Physics</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 101, The Carbon Compounds, and Chem. 103, Physiological</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>General 15abc, Introduction to Humanities</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Phys. Ed. 12abc, Physical Education</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mil. Sci. 12abc, Military Science (Men)</td>
<td>1</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16-17</strong></td>
<td><strong>16-17</strong></td>
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### Junior Year

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<thead>
<tr>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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<tbody>
<tr>
<td>Bact. 117, Pathogenic Bacteriology, Bact. 118, Immunology, Bact. 119, Pathogenic Bacteriology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Pharm. 175, X-ray Technique</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Chem. 13c, Qualitative Analysis, or an Elective, and Chem. 17, Quantitative Analysis</td>
<td>5</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
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### Senior Year

<table>
<thead>
<tr>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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</thead>
<tbody>
<tr>
<td>Bact. 125, Hematology, Bact. 122, Foods and Water, Bact. 121, Diagnostic Methods</td>
<td>5</td>
<td>5</td>
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<tr>
<td>2 quarters Bact. 131, Advanced Bacteriology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2 quarters Bact. 125, Journals</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>4</td>
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</tr>
<tr>
<td>Zool. 105, Histology, Zool. 24, Human Physiology</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>16</strong></td>
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Department of Military Science and Tactics

PROFESSORS J. B. LOVELSS, (Colonel, Infantry) (Chairman), JOE E. GOLDEN, (Lt. Colonel, Infantry); ASSOCIATE PROFESSORS GEORGE B. CULLISON, (Major Infantry); JOSEPH S. CONLIN, (Major, U.S. Air Force); GEORGE R. HAHN, (Major, Air Force); ASSISTANT PROFESSOR ROBERT R. RATLIFF, (Captain, Infantry); ASSISTANTS JEAN A. MULLER, (M/Sgt., Inf.), JOHN D. SWENTY, (M/Sgt., Inf.), EVERETT H. SWANN, (M/Sgt., USAF), EVERETT J. ALLEN, (F/Sgt., Inf.), JOHN M. SNOODRASS (F/Staff., Inf.), BURNIE L. EUBANKS, (F/Sgt., Inf.), MILTON C. HANSEN, (F/Sgt., CAC), ROGER J. GARNER, (M/Sgt., USAF), all Assistants, United States Army.

2. The University maintains a unit of the Senior Division of the Reserve Officers' Training Corps, organized in 1920 under authority of the National Defense Act. The unit consists of the Basic and Advanced courses in both Infantry and Air Force, the latter being organized in the Fall Quarter, 1946.

3. "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. Every effort is made to develop initiative and other qualities of leadership necessary for success in any walk of life."

4. Students enrolled in the ROTC courses have no obligation for military service in a national emergency other than that of an able-bodied citizen. Students satisfactorily completing the advanced course are commissioned as second lieutenants in the arm of the Advanced Course Branch that they attend while at the University.

5. All resident men students of freshman and sophomore standing who are citizens of the United States, who are physically qualified are required to take the elementary ROTC course, except those who may claim exemption under any of the following reasons:

SECTION I. Complete exemption.

(a) Military Requirements: (Upon presentation of the necessary credentials).

1. Completion of two (2) years of military instruction in a Senior Division ROTC Unit.
2. Students who had ASTRP training at this institution.
4. Honorable Service in either the Army, Navy, Marine or Coast Guard during World War II.
5. Those persons who are graduates from the United States Merchant Marine Academy at Kings Point, New York; New London, Connecticut; or Alameda, Calif., and who received reserve commissions in the Navy or equivalent in the Maritime Service (third class).

SECTION II. Other exemptions:

(a) Students who have had previous military training or service and who plan to take the advanced course should contact the PMS&T.

(b) Students who have had ROTC in High School or in another college should contact the PMS&T concerning exemptions.
A first or second year student claiming exemption because of non-citizenship, physical disability, or age must present to the Department of Military Science and Tactics a petition for such exemption. Pending action on this petition, the student must enroll in the course for the year and enter the work of the course.

6. The **Basic Course** is Branch Immaterial. Its specific purpose is to lay the foundation of intelligent citizenship and provide training in military subjects common to all branches of the Army, prerequisites to the specialized training of the Advanced Courses. Basic students are not exempt from registration, induction, training or service under the Selective Service Training Act.

7. The **Advanced Course** is Branch Material (Infantry and Air Force). Its specific purpose is to provide training in branch material and branch immaterial subjects. All students formally enrolled in the advanced course of the Senior Division must:

   (1) Not have reached 27 years of age at the time of the initial enrollment in the advanced course. Advanced students are exempt from registration, induction, training, or service under the Selective Service Training Act.

   (2) Successfully complete such survey and general screening tests as may be prescribed.

   (3) Be selected by the PMS&T and the head of the institution.

   (4) Execute a written agreement with the Government requiring that he complete the advanced course of training, to attend at Government expense the advanced camp at the time specified unless he is sooner discharged for the convenience of the Government.

   (5) Have completed the basic course, Senior Division, Interim ROTC, or the basic course of the post-war Senior Division ROTC, or received credit in lieu thereof as prescribed for previous service above.

8. During their period of participation in the advanced course, duly enrolled students will be paid monthly a monetary allowance in lieu of subsistence at a daily rate equal to the value of the commuted ration (about seventy-nine cents per day current rate).

9. The Federal Government supports military training at this institution by providing uniforms and by furnishing instructional material, weapons, equipment and Army and Air Force 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 special deposit is required for military property issue, but articles lost, worn out, or damaged through other than fair wear and tear must be paid for by the student. Uniforms must be kept in first class condition and so returned at the close of the college year or when the student for any reason discontinues military training.

10. Military books are provided for the students in all courses.

**For Undergraduates**

*Note:* Students who are irregular in the sequence of the basic courses 11abc and 12abc should note that the work in any one quarter may not be substituted for that of any other quarter. Not more than two quarters of the autumn, winter or spring work will be accepted in fulfilling the general university requirement.
Modern Languages

PROFESSORS RUDOLPH O. HOFFMAN, BART E. THOMAS (Chairman); ASSOCIATE PROFESSOR PAUL A. BISCHOFF; ASSISTANT PROFESSORS ROBERT M. BURGESS, THEODORE H. STOEMAKER, THORA SORENSEN.

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 34). Students who have one high school unit in a modern language should enter course 13a; those with two units, course 15; those with three units, courses numbered over 100, subject, however, to a placement examination.

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

French

Major Requirements. Candidates for the degree of Bachelor of Arts in French must meet the following requirements:

1. French 11 to 119 inclusive, or equivalent, and 15 credits selected from courses numbered 121 to 132 inclusive. If a student, on
the basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

2. Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

3. Two quarters in the history of Europe, chosen from the following: French Revolution and Napoleonic Era (Hist 29), Europe in the 19th Century (Hist 30ab), Medieval Europe (Hist 33), Renaissance and Reformation (Hist 34), The Ancient Regime (Hist 35).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates

11. Elementary French. 2 Q. Autumn, winter. Continuous. 10 cr. Summer. 5 cr. French Staff.

13a. Intermediate French. 1 Q. Spring. Summer. 5 cr. Prerequisite, French 11 or equivalent. French Staff.

13b. Intermediate French. 1 Q. Autumn. Summer. 4 cr. Prerequisite, French 11 or equivalent. French Staff.

15. Advanced French. 1 Q. Winter. Summer. 4 cr. Prerequisite, French 13b or equivalent. French Staff.

17. French Grammar Review and Composition. 1 Q. Spring. Summer. 4 cr. Prerequisite, French 15 or equivalent. French Staff.

For Undergraduates and Graduates

115. Practical Phonetics. 1 Q. Any quarter. 1 cr. Prerequisite, French 15 or equivalent. French Staff.

119. General Survey of French Literature. 1 Q. Autumn. 4 cr. Prerequisite, French 17 or equivalent. Mr. Hoffman.

121. The 17th Century French Literature. 1 Q. Autumn. 3 cr. Prerequisite, French 17 or equivalent. Given in 1947-48, and in alternate years. Mr. Hoffman.

123. The 18th Century French Literature. 1 Q. Winter. 3 cr. Prerequisite, French 17 or equivalent. Given in 1947-48, and in alternate years. Mr. Hoffman.

125. French Culture and Life. 1 Q. Autumn. 3 cr. Prerequisite, French 17 or equivalent. Given in 1948-49 and in alternate years. Mr. Hoffman.

126. French Poetry. 1 Q. Spring. 3 cr. Prerequisite, French 17. Given in 1948-49 and in alternate years. Mr. Hoffman.

127. The 19th Century French Literature. 1 Q. Winter. 3 cr. Prerequisite, French 17 or equivalent. Given in 1948-49 and in alternate years. Mr. Burgess.

128. Advanced French Conversation. 1 Q. Any quarter. 1 cr. Prerequisite, French 17. May be repeated to a maximum not to exceed 3 credits. Staff.

131. Advanced French Composition. 1 Q. Spring. 3 cr. Prerequisite, French 17 and one additional course numbered over 100, or equivalent. Given in 1948-49, and in alternate years. Mr. Burgess.

132. Seminar: Studies in Outstanding Writers. 1 to 3 Q. Autumn, Winter, Spring. 2-3 cr. Open to French majors of senior standing with consent of instructor. Writer and instructor change from quarter to quarter, and from year to year. French Staff.

German

Major Requirements. Candidates for the degree of Bachelor of Arts in German must meet the following requirements:

1) German 11 to 119 inclusive, or equivalent, and 15 credits of German Readings (German 150). If a student, on the basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

2) Five quarters (or equivalent) of another language. Students
should not start another language until they have had three quarters of work in the first language.

(3) Two quarters in the history of Europe, chosen from the following: French Revolution and Napoleonic Era (Hist 29), Europe in the 19th Century (Hist 30ab), Medieval Europe (Hist 33), Renaissance and Reformation (Hist 34), The Ancient Regime (Hist 35).

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

For Undergraduates

11. Elementary German. 2 Q. Autumn, winter. Continuous. 10 cr. Summer 11a. 5 cr. German Staff.
13a. Intermediate German. 1 Q. Spring. Summer. 5 cr. Prerequisite, German 11 or equivalent. German Staff.
15. Advanced German. 1 Q. Winter. Summer. 4 cr. Prerequisite, German 13b or equivalent. German Staff.
17. German Grammar, Composition, Conversation. 1 Q. Spring. 4 cr. Prerequisite, German 15 or equivalent. German Staff.

For Undergraduates and Graduates

*119. General Survey of German Literature. 1 Q. Autumn. 3 cr. Prerequisite, German 17 or equivalent. Given in 1947-48, and in alternate years. German Staff.
*150. German Readings. 1 Q. Any quarter. 2-5 cr. Prerequisite, German 17 or equivalent. Advanced readings which fit the interests and needs of the student selected from outstanding German writers. Course may be repeated during succeeding quarters by variations in content to a maximum of 25 credits. German Staff.

Spanish

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

Major Requirements: For (1) above, courses 11 to 119 inclusive, or equivalent, 15 credits selected from courses 121 to 133 inclusive, and Hispanic-American History (Hist 123abc).

For (2) above during the first two years the student should select his courses and electives in the curriculum of the Division of Humanities (see page 59), to include Spanish 11 through 117, or equivalent: Introduction to Humanities (Gen 15abc) or Introduction to Biological Science (Gen 13abc); General Psychology (Psych 11); Language in Action (Composition, Eng 11ab), American Literature (Eng 59b); Principles of Economics (Econ 14ab); American Government and Politics (Hist 17), State and Local Government (Hist 18), Comparative Governments (Hist 20).

Junior Year: General Survey of Spanish Literature (Spanish 119) and two other courses from the group numbered 120 to 129 inclusive: Hispanic-American History (Hist 123abc); Elementary Anthropology (Econ 15), Descriptive Archeology: North America (Econ 141), Ethnography: America (Econ 145), and American Literature (Eng 59c).

Senior Year: Basic Values in Religion (Rel 20R) or electives; The Early 20th Century (1900-1931) (Hist 103); Current Events (Journ 36); Business Law (Bus Ad 41ab) or electives. In addition, from each of the following groups three one-quarter courses should be selected (a) International Public Law (Hist 106ab), Present World

*Classwork will not be given unless the demand is sufficient. Qualified students may be permitted to register independently for tutorial instruction.
Problems (Hist 108), American Political Problems (Hist 109), Theories of the State (Hist 115); History of Philosophy (Psych 52abc); Foreign Trade (Bus Ad 152). (b) Listening to Music (Music 35abc); History of Art (Fine Arts 31abc); The Novel (Eng 75abc), The Drama (Eng 77abc). (c) Spanish, the remaining courses not yet completed in the group numbered 120 to 129, 131 to 133 inclusive.

Note: The total number of college credits required in Spanish varies with the student's high school preparation; the minimum requirement is 21 credits. Students who intend to complete the work in this field should consult early with the adviser of Pan American studies.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates


13a. Intermediate Spanish. 1 Q. Autumn. Spring. Summer. 5 cr. Prerequisite, Spanish 11 or equivalent. Spanish Staff.

13b. Intermediate Spanish. 1 Q. Autumn. Winter. Summer. 4 cr. Prerequisite, Spanish 13a or equivalent. Spanish Staff.

15. Advanced Spanish. 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 13b or equivalent. Spanish Staff.

17. Spanish Grammar, Composition, Conversation. 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 15 or equivalent. Mr. Thomas, Mr. Bischoff.

18. Advanced Spanish Composition and Conversation. 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. This is a required course for Spanish majors. Mr. Thomas.

For Undergraduates and Graduates

119. General Survey of Spanish Literature. 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. A general survey of the literary history of Spain. Assigned readings and class discussions of masterpieces. Required for Spanish majors. Mr. Thomas, Mr. Shoemaker.

121. Spanish Drama of the Golden Age. 1 Q. Winter. 3 cr. Prerequisite, Spanish 17. Given in 1947-48, and in alternate years. Mr. Thomas.

122. Picarese Novel. 1 Q. Spring. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1948-49, and in alternate years. Miss Sorenson.


124. 19th Century Spanish Drama. 1 Q. Winter. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1947-48, and in alternate years. Mr. Bischoff.

125ab. Spanish-American Literature. 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, Spanish 17. (a) General survey of the literary movement from Colonial times through the Modernista movement. (b) Contemporary prose writers with emphasis on the novelists of the Argentine, Mexico, Colombia, and Venezuela. Given in 1948-49, and in alternate years. Mr. Thomas, Mr. Shoemaker.

127. Contemporary Spanish Drama. 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. Given in 1948-49, and in alternate years. Mr. Bischoff.

128. Advanced Spanish Conversation. 1 Q. Any quarter. 1 cr. Prerequisite, Spanish 17. Staff.

129. Contemporary Spanish Novel. 1 Q. Winter. 3 cr. Prerequisite, Spanish 17. Given in 1948-49, and in alternate years. Staff.

130. Spanish American Civilization. 1 Q. Summer. 4 cr. The geography of Hispanic-America, the native and European origins and factors in the development of Latin American civilization, the everyday life of the peoples of the Spanish American countries of the present day; economic, racial and cultural. Prerequisite, junior standing and consent of the instructor. Mr. Thomas.

131. Commercial Spanish. 1 Q. Spring. 3 cr. Prerequisite, Spanish 17. Writing of Spanish commercial letters and a study of commercial practices.

S132. Language-Area Seminar in Spanish. 1 Q. Summer. 1 1/2-3 cr. Prerequisite, History and Spanish majors and consent of departmental chairman. 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. Mr. Shoemaker.

For Graduates

200. Graduate Seminar in Spanish. Any quarter. Credits variable. Prerequisite, graduate standing and consent of chairman of department. This course provides guidance in individual work. Staff.

School of Music

Professors John B. Crowder (Dean), John Lester, Florence R. Smith, Stanley M. Teel; Associate Professor Bernice B. Ramskill; Assistant Professors Daryl Gibson, Rudolph Wendt; Instructors Eugene Andreie, Lois Cole, Hasmig Gedickian, J. Justin Gray, Norman Gulbrandsen, Leona Marvin, A. T. Meter, Elizabeth Myers.

General Information

The Montana State University School of Music is a member of the National Association of Schools of Music, and the requirements for entrance and graduation as set forth in this catalog are in accordance with the published regulations of that association.

The School of Music seeks to develop the musical interests and talents of students planning a professional career and of students whose major interests lie in other fields wishing to add to the enjoyment of their lives through the recreation of music for their own satisfaction. The curricula include not only systematic and progressive instruction in the structure, history, appreciation, and practice of music; but also instruction in those branches of higher learning which bear most directly upon music and without a knowledge of which success in the higher domain of music is impossible.

Equipment. The School of Music has 6 grand pianos, 37 upright pianos, 2 Hammond Organs for teaching and practise, 25 piano practise rooms, 5 wind instrument practise rooms, 70 band instruments and 30 string instruments. In the music library there are 1500 volumes and scores including the Carnegie Library, the Harriet Gardner Lennes complete Bach works, the Mary Evans Coffee Chopin library, and the Lowndes Maury collection of modern scores, 4,000 records and 5 phonographs for student and class listening and study, and a recording machine. In addition to the libraries of the bands, orchestra, and choral organizations, the music library contains the latest sample releases from publishers.

Musical Organizations. Membership in the University A Cappella Choir, Men's Glee Club, Women's Glee Club, Mixed Chorus, Symphony Orchestra, and Symphonic and Marching Bands is open to all students who qualify. These groups offer unlimited opportunity for thorough study of large amounts of choral and instrumental literature, the value of which cannot be overestimated.

Concerts and Recitals. Many opportunities are given to hear good
music and to acquire the experience of public appearance. Faculty and student recitals are scheduled weekly. The musical organizations present several programs each year, sometimes combining their efforts to present major works such as oratories and dramatic musical productions. The Associated Students of the University obtain seats to the Community Concert series of four great artists; in addition, other artists of national reputation are presented throughout the year.

Scholarships and Loans. For information concerning the Music School Foundation Scholarships and the State Board of Education Music Scholarships, see pages 48-54. The Music School Foundation has received funds from the students’ Music Club to establish a loan fund for music majors. The funds are administered by the music faculty and loans are made without interest charges.

Five-year Course. In keeping with advanced thought of leading educators, the faculty of the School of Music recommends to its students the adoption of a five-year course leading to a Bachelor’s degree. This plan will enable the student to prepare more fully for professional activity and for post-graduate study. An adjusted curriculum will be worked out to meet the needs of the individual as follows:

1. Students who wish to combine a high degree of performance with music education will elect to take a double major in music education and applied music within the Bachelor of Music Degree and thereby combine Curricula A and B.

2. Students interested not only in music education but in the academic field will elect to take the Bachelor of Arts Degree in Music as well as the Bachelor of Music Degree in music education.

3. Students who wish to combine advanced performance with a broad academic background will elect to take Curricula B and C and receive the Bachelor of Music Degree with a major in applied music and a Bachelor of Arts Degree with a major in music.

Students electing any of the suggested combinations above should consult the Dean of the School not later than the freshman year concerning the modification of the various curricula.

Students who are candidates for degrees other than the Bachelor of Music will be allowed to count towards graduation only 6 credits in ensemble and 12 credits in applied music. These students may register for one credit where one lesson per week is taken or for two credits if two lessons per week are taken.

Ensemble music courses are indicated by an asterisk (*) affixed to the number of the course description, and applied music courses are indicated by a dagger (†) affixed to the number of the course description.

Music majors who have not included Music 10 and Music 40 in their electives may be required to participate in these courses without credit.

Students are required to appear in recitals at the request of the instructor. The instructor’s permission must be obtained before the student appears in public.

Students registered for applied music may be required to attend the lessons of another student or group discussions as arranged by the instructor. Beginning students in piano or voice may be registered for class lessons (Music 14abc or Music 12abc respectively) instead of individual lessons (Music 1).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.
Requirements for Admission

1. The regular University requirements for admission apply to the School of Music, pages 27 to 31. Credit for applied music is granted only to students who are eligible to register for regular University courses and to accredited applied music teachers desiring to meet the requirements for life certificates.

2. An entrance examination in music aptitude and placement tests in applied music are required.

3. There are no specific entrance requirements in applied music for students desiring to enter courses leading to the Degree of Bachelor of Arts with a major in music or the Bachelor of Music with a major in music education; however, students should have previous training on the instrument of their choice and some knowledge of the piano.

Students desiring to enter courses leading to the degree of Bachelor of Music in applied music must meet the following entrance requirements in the field of applied music in which they wish to major:

**Voice.** Must be able to demonstrate musical talent, quality and range of voice, and ability to pursue the course.

**Piano.** Major and minor scales, major and minor arpeggios in moderate tempo, some standard études such as Heller, Op. 47; small works of Bach such as Little Preludes and Two-Part Inventions; easy sonatas and standard compositions such as Haydn Sonata in G Major, Schubert Impromptu Op. 142, No. 2.

**Violin.** Ability to perform études such as Kreutzer Études Nos. 1 to 32 and Tartini G Minor Sonata.

**Organ.** Same as Piano.

**Wind Instruments.** Must have mastered elementary technic of instrument.

Requirements for Graduation

1. Senior examinations are required of all students who major in music.

2. Candidates for the Bachelor of Arts degree with music as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 31 to 36 and page 69), and complete music courses suggested in Curriculum C. A foreign language is required.

3. Candidates for the degree of Bachelor of Music in music education are required to complete satisfactorily 186 credits as outlined in suggested Curriculum A.

4. Candidates for the degree of Bachelor of Music in applied music must meet the general university requirements for graduation (pages 31 to 36), with the exception that only two of the restricted elective requirements (to be selected from sections 2, 3 and 4 under "Restricted Elective Requirements") must be completed. In addition, they must complete the music courses suggested in Curriculum B and meet the following requirements in the field of specialization:

**Voice.** The candidate must have the ability to perform satisfactorily and to demonstrate a knowledge of the technic of singing, including breath control, resonance, placement, diction, and interpretation. He must have both a singing and teaching knowledge of lieder, art song, oratorio, opera, and sacred literature, and a singing knowledge of French, Italian, and German.

For his specialization requirements the student in voice must in-
include Choral Groups, (Music 10, 2 years), Conducting (Music 31ab), Piano (Music 1, 2 years or its equivalent in performing ability).

**Piano.** Candidates must be able to demonstrate the ability to play scales, arpeggios, chords, octaves, and double notes in various speeds and with various tonal effects. Repertoire must include classic, romantic, and modern compositions such as Bach, Chromatic Fantasia and Fugue, preludes and fugues from the Well-Tempered Clavier; Beethoven Sonata Op. 53 and a concerto; Brahms Sonata in F Minor, Mozart Concerto in E-Flat Major, large compositions of Chopin, Liszt, and Grieg; compositions from modern composers such as Rachmaninoff, MacDowell, Debussy, and Ravel. Candidates must be able to read compositions of moderate difficulty and average song accompaniments at sight.

For his specialization requirements the student in piano must include Choral Groups (Music 10, 2 years), Class Piano Methods (Music 23abc), Ensemble Groups (Music 40, 1 year), Keyboard Harmony (Music 47abc), and Interpretation and Style (Music 140abc).

**String Instruments.** The candidate majoring in violin must be able to play scales, arpeggios, thirds, sixths, octaves, and harmonics satisfactorily and must have studied such representative works as Études of Kreutzer, Fiorillli, Rode; concertos chosen from Bach, Mozart, Viotti, Rode, Beethoven, Wieniawski, Vieuxtemps, Bruch, and Brahms, and sonatas chosen from Bach, Mozart, Beethoven, Grieg, and Brahms; miscellaneous concert pieces in the standard repertoire.

Candidates in cello must be able to play scales in 3 octaves, thirds, sixths, all bowings, studies by Duport, Piatte; concertos by Saint Saens, Haydn, and modern composers.

For his specialization requirements the student in string instruments must include Orchestra (Music 10, 4 years), Conducting (Music 31ac), Ensemble Groups (Music 40, 1 year), Orchestration (Music 129abc), and Piano (Music 1, 2 years or its equivalent in performing ability).

**Note:** Requirements for majors in viola or string bass would be approximately the same as for violin and cello respectively with changes in study materials and repertory and minor differences in technical approach.

**Organ.** The candidate must be able to demonstrate ability in sight reading, in accompaniment of oratories and masses, and in general service playing. He should have a large repertoire of organ literature of all schools, classic and modern, of the degree of difficulty indicated by the following: Bach, Fantasia and Fugue in B minor; Handel, Concerto in G; advanced works in Gumbert, Widor, Franck, Vierne, Dupre, Mendelssohn, and others; works of contemporary French, English, German, and American schools.

For his specialization requirements the student in organ must include Choral Groups (Music 10, 2 years), Conducting (Music 31ab), Ensemble Groups (Music 40, 1 year), Keyboard Harmony (Music 47abc).

**Wind Instruments.** The candidate must be able to perform representative solos from the literature for his instrument and to carry his part in a professional or semi-professional band or orchestra.

For his specialization requirements the student in wind instruments must include Band (Music 10, 3 years), Conducting (Music 31ac), Ensemble Groups (Music 40, 2 years), School Instrumental Program (Music 152), and Piano (Music 1, 2 years).
MASTER OF MUSIC DEGREE IN MUSIC EDUCATION

The School of Music offers graduate work leading to the Master of Music Degree in Music Education. This degree is designed for public school music teachers who wish to continue their study of music, performance, teaching methods and procedures, supervision, and cultural subjects. No specific curriculum is required of all students. Each applicant will be assigned an adviser who will help plan a course of study. For more specific information concerning the requirements for this degree, see page 120.

A. Curriculum for Bachelor of Music Degree in Music Education

Curriculum A prepares for teaching in the public school if the electives are so chosen as to meet the state requirements. See certification requirements page 86.

Applied music electives may be chosen as follows:

VOICE, 4 years ........................................ 12 cr. (12abc not required under this combination)
   Piano, 2 years ..................................  6 cr.
   ______________________________________________________________________  18 cr.

STRING INSTRUMENT, 4 years .... 12 cr.
   Piano, 2 years ................................  6 cr.
   ______________________________________________________________________  18 cr.

WIND INSTRUMENT, 4 years ...... 12 cr.
   Piano, 2 years ................................  6 cr.
   ______________________________________________________________________  18 cr.

PIANO, 4 years .................................. 12 cr.
   Voice, wind or string instrument, 2 years cont. ..................  6 cr. (12abc is not required)
   ______________________________________________________________________  18 cr.

Freshman Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Autumn Credits</th>
<th>Winter Credits</th>
<th>Spring Credits</th>
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</tbody>
</table>

| Applied Music Elective | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra | 1 | 1 | 1 |
| Music 11abc, Theory I | 4 | 4 | 4 |
| Music 12abc, Voice in Class, Music 25, String Instruments in Class or Music 29, Wind Instruments in Class | 1 | 1 | 1 |
| Music 35abc, Listening to Music | 3 | 3 | 3 |
| English 12abc, Language in Action | 3 | 3 | 3 |
| Phys. Ed. 11abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 11abc, Military Science (Men) | 1 | 1 | 1 |
| **Total** | **15-16** | **15-16** | **15-16** |

Sophomore Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Autumn Credits</th>
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<th>Spring Credits</th>
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</table>

| Applied Music Elective | 2 | 2 | 2 |
| Music 10, Choral Groups, Band or Orchestra | 1 | 1 | 1 |
| Music 12abc, Voice in Class, Music 25, String Instruments in Class or Music 29, Wind Instruments in Class | 1 | 1 | 1 |
| Music 31abc, Conducting | 3 | 3 | 3 |
| Music 41abc, Theory II | 4 | 4 | 4 |
| Psych. 11, General Psychology | 5 | 5 | 5 |
| Electives | 4 | 4 | 4 |
| Phys. Ed. 12abc, Physical Education | 1 | 1 | 1 |
| Mil. Sci. 12abc, Military Science (Men) | 1 | 1 | 1 |
| **Total** | **16-17** | **16-17** | **17-18** |
B. Curriculum for Bachelor of Music Degree in Applied Music

Completion of the first two years of work in Curriculum B qualifies the student to receive the Elementary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Completion of the entire Curriculum qualifies the student to receive the Secondary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Students who intend to request a certificate in applied music by endorsement must include General Psychology (Psych. 11), Educational Psychology (Educ. 25a) and Principles of Education (Educ. 25b) in the free electives listed in the curriculum.
### Junior Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 7, Applied Music (Voice, piano, organ, string or wind instruments)</td>
<td>4</td>
<td>4</td>
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</tr>
<tr>
<td>Music 125abc, Counterpoint</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Music 158abc, Analysis of Form</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>4-5</td>
<td>4-5</td>
<td>4-5</td>
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<tr>
<td></td>
<td><strong>16-17</strong></td>
<td><strong>16-17</strong></td>
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</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 8, Applied Music (Voice, piano, organ, string or wind instruments)</td>
<td>4</td>
<td>4</td>
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</tr>
<tr>
<td>Music 134abc, History of Music</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music 141, Score Reading and Music 142, Senior Recital</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>2-5</td>
<td>5-7</td>
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<tr>
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<td><strong>14-16</strong></td>
<td><strong>14-16</strong></td>
<td><strong>14-16</strong></td>
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**Note:** In addition to the courses specified in Curriculum B above, the student must also complete the work outlined as specialization requirements under voice, piano, organ, string or wind instruments (pages 153, 154), dependent upon which of those fields he selects.

### C. Curriculum for Bachelor of Arts with a Major in Music

Curriculum C does not lead to certification for teaching in the public schools.

#### Freshman Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 1, Applied Music (Voice, Piano, organ, string or wind instruments)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music 11abc, Theory I</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Music 33abc, Listening to Music</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General 11abc, Introduction to Social Science or General 15abc, Introduction to Humanities</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>English 12abc, Language in Action</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Phys. Ed. 11abc, Physical Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Mil. Sci. 11abc, Military Science (Men)</td>
<td>1</td>
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<td><strong>17-18</strong></td>
<td><strong>17-18</strong></td>
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#### Sophomore Year

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<tr>
<th>Course Description</th>
<th>Credits</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Music 1, Applied Music (Voice, piano, organ, string or wind instruments)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music 41abc, Theory II</td>
<td>4</td>
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<td>4</td>
</tr>
<tr>
<td>General 13abc, Introduction to Biological Sciences</td>
<td>5</td>
<td>5</td>
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</tr>
<tr>
<td>Foreign Language</td>
<td>5</td>
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<td>5</td>
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<tr>
<td>Phys. Ed. 12abc, Physical Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mil. Sci. 12abc, Military Science (Men)</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td></td>
<td><strong>16-17</strong></td>
<td><strong>16-17</strong></td>
<td><strong>16-17</strong></td>
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</table>

**Note:** The work of the Junior and Senior years is devoted largely to completing any remaining University restricted electives, free electives, and music electives, including Music 125abc and Music 134abc, as well as Applied Music 5 during each quarter of these years.
For Undergraduates

11. Applied Music. (Voice, piano, organ, string or wind instruments.) 3 Q. Autumn, winter, spring. Summer, 1 or 2 cr. Scales, arpeggios, sight reading, and interpretation. A course for students not majoring in applied music and for students who are unable to meet the entrance requirements in Music 5. Staff.

15. Applied Music. (Voice, piano, organ, string or wind instruments.) 3 Q. Autumn, winter, spring. Summer, 1 to 4 cr. Prerequisite, placement examination as outlined in School of Music entrance requirements. Individual instruction designed to meet the requirements of first year students majoring in the various fields of applied music. Staff.

16. Applied Music. (Voice, piano, organ, string or wind instruments.) 3 Q. Autumn, winter, spring. Summer, 1 to 4 cr. Prerequisite, completion of Music 5. Continuation of individual instruction. Staff.

17. Applied Music. (Voice, piano, organ, string or wind instruments.) 3 Q. Autumn, winter, spring. Summer, 1 to 4 cr. Prerequisite, completion of Music 6. Continuation of individual instruction. Staff.

18. Applied Music. (Voice, piano, organ, string or wind instruments.) 3 Q. Autumn, winter, spring. Summer, 1 to 4 cr. Prerequisite, completion of Music 7. Continuation of individual instruction leading to fulfillment of requirements as outlined for applied music majors. Staff.


11abc. Theory I. 3 Q. Autumn, winter, spring. Summer, 11a. 4 cr. each quarter. The art and science of music structure, including the study of scales, keys, intervals, chords, cadences, melody writing, beginning modulation, and rhythms. Practice in two-, three-, and four-part writing, analysis, dictation, and keyboard application. The course is designed to acquaint the student with the fundamentals of musicianship, to increase his accuracy and understanding in musical performance, and to train him to think in tune so that he is able to sing, identify, and write the music he hears. Mr. Teel, Mr. Gray, Mr. Gibson.

12abc. Voice in Class. 3 Q. Autumn, winter, spring. Summer, 12a. 1 cr. each quarter. Breathing methods, tone placement, and enunciation leading to the singing of simple songs. Designed for students who desire practical training in singing without specialization. Miss Gedickian.

14abc. Piano in Class. 3 Q. Autumn, winter, spring. Summer, 14a. 1 cr. each quarter. Mrs. Ramskill.

23abc. Class Piano Methods. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, placement in Piano 5. A normal class for piano teachers and public school music instructors dealing with methods and materials for teaching piano classes in public schools and private studios. Practical demonstrations with children's classes. Mrs. Ramskill.

25. String Instruments in Class. 3 Q. Autumn, winter, spring. Summer, 1 cr. each quarter. Students may enter any quarter. One instrument each quarter to be selected by students with advice and consent of instructor. A course designed to enable music education majors to gain a practical knowledge of the stringed instruments. Mr. Meyer.

29. Wind and Percussion Instruments in Class. 3 Q. Autumn, winter, spring. Summer, 1 cr. each quarter. Students may enter any quarter. One instrument each quarter to be selected by the student with advice and consent of instructor. A course designed to enable music education majors to gain a practical knowledge of the instruments of the band. Mr. Gray. Mr. Gibson.

31abc. Conducting. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, 31a. Prerequisite, 10 credits in music. (a) Fundamentals of conducting. (b) Choral conducting. (c) Instrumental conducting. Choral and instrumental groups are made available for practical experience. 31a is a prerequisite for 31b or c. Mr. Gray. Mr. Gulbransen.

35abc. Listening to Music. 3 Q. Autumn, winter, spring. Summer, 35a. Section I—Music Majors, 3 cr.; Section II—Non-Music Majors, 1-3 cr. Students may enter any quarter. The elements of musical understanding; musical progress from ancient to modern times. Music of important periods of composition illustrated by means of phonograph selections and departmental programs. Mr. Gulbransen. Mr. Teel.

*Applied Music.
*Ensemble Music.
For Undergraduates and Graduates

**140. Ensemble Groups.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Any small group of two or more players or singers may have a course outlined by the instructor. Opportunity is offered for the development of sight reading and for gaining acquaintance with music literature; accompanying. Staff.

**41abc. Theory I.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 41a. 4 cr. A continuation of Theory I. Further practice in sight singing, ear-training, dictation, and keyboard work; the inter-relation of harmony and counterpoint; the analysis of Bach chorales; and creative work exemplifying the contents of the course. Mr. Meyer.

**45abc. Microphone and Program Technic.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. (a) Basic characteristics of sound, its perception by the human ear, and its transmission and reproduction by radio. The study of equipment and practical experience in its use. (bc) Prerequisite 45a. Production of musical programs and the selection of music for theme, bridges, sound effects, etc. (1 hour lecture; 2 hours lab. held in conjunction with English 45bc). Mr. Lester.

**47abc. Keyboard Harmony.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Music 41abc or concurrent registration and placement in Piano or Organ 5. Practical application of theory principles to the keyboard. Exercises in modulation, transposition, and development of extemporaneous playing. Mr. Wendt.

**105. Applied Music.** (Voice, piano, organ, string or wind instruments.) Autumn, winter, spring. Summer. 1-8 cr. Prerequisite, completion of Music 8 or graduate standing in music education and consent of the Dean of the School of Music. Individual Instruction. Staff.

**106. Unit Course in Music Education.** 1 Q. Summer. 1-3 cr. Prerequisite, junior standing in music or teaching experience and consent of instructor. Staff.

**S114. Piano Teaching Workshop.** 1 Q. Summer. 1-3 cr. Prerequisite, junior standing in music or teaching experience and consent of instructor. Staff.

**119ab. Band and Vocal Arranging.** 2 Q. Winter, spring. 2 cr. each quarter. Prerequisite, Music 129a. Individual and combined possibilities of instruments and voices: original work, arranging, and transcriptions for various combinations. Mr. Andrie.

**123abc. School Music.** See Special Methods courses page 91.

**125abc. Counterpoint.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite 41c or concurrent registration. 16th century vocal style and 18th century instrumental contrapuntal technic. Mr. Andrie.

**129abc. Orchestration.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite 125c. Study and application of the problems of transcription music for symphonic orchestra. Mr. Andrie.

**131. Advanced Conducting.** 1 Q. (May be repeated for credit to a maximum of 6 credits.) Autumn, Summer. 3 cr. Prerequisite, Music 31abc and junior standing. A continuation of 31abc. Techniques of conducting and problems of interpretation. Staff.

**134abc. History of Music.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Students may enter any quarter. Prerequisite, Music 35abc or senior standing in music. Music of all periods analyzed; the lives, works, and influences of all composers discussed and studied. Mr. Teel.

**135abc. Music Literature.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite Music 35abc. The historical background and comparison of selected symphonic and choral compositions by great composers. (a) Classical Period, (b) Romantic Period, (c) Modern Period. Staff.

**140abc. Interpretation and Style.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, Music 125c. Piano compositions of different national schools and periods and characteristics of each from the standpoint of interpretation and style. Mr. Crowder.

**141. Score Reading.** 1 Q. Autumn. 2 cr. Prerequisite, Piano 7. Staff.

**142. Senior Recital.** 1 Q. Spring. 2 cr. Prerequisite, registration in Music 8. Staff.

**151. School Choral Program.** 1 Q. Winter. Summer. 3 cr. Prerequisite, Music 125c and junior standing. An advanced course in the study of choral music for the junior and senior high school. Actual study of materials at

†Applied Music.

*Ensemble Music.*
hand, using procedures applicable to the group performing and materials used. Mr. Gulbrandsen.

152. School Instrumental Program. 1 Q. Spring, Summer. 3 cr. Prerequisite, Music 123c and junior standing. An advanced course designed to meet the needs of school music conductors and directors. A thorough study of suitable music materials for all levels of instruction. Demonstrations with organized groups. Mr. Gray.

*158abc. Analysis of Form. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 123c or concurrent registration. A course designed to familiarize the student with the melodic, harmonic, and formal structure of the different kinds of musical composition. Mr. Andrie.

*159abc. Composition. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 123c. A course in creative writing. Mr. Andrie.

S162. Seminar in Public School Music. 1 Q. Summer. Cr. variable. Prerequisite, junior standing. Mr. Teel.

170. Recreational Leadership. 1 Q. Autumn, winter, spring. 3 cr. Prerequisite, junior standing. May be repeated for credit not to exceed 9 credits. Philosophy of recreation, theory and practice of group leadership, development of recreational skills. Given jointly by the departments of health and physical education, sociology and the school of music. Miss Stoodley. Mr. Tascher. Mr. Teel.

For Graduates

200. Research and Professional Writing. Autumn. Spring. Summer. Credit variable to a total of 5. Prerequisite, graduate standing in music. Techniques of research in music education. Emphasis is placed on the selection of problems, the development of the steps of procedure, the technical tools to be used in the writing of a professional paper. Mr. Teel.

221. Contemporary Trends in Music Education. 1 Q. Winter. Summer. 3 cr. Prerequisite, graduate standing in music. A survey of basic needs and objectives in curriculum planning for junior and senior high school music. Study of new procedure and practices and a practical review of basic principles underlying music education. Mr. Teel.

223. School Music Administration and Supervision. 1 Q. Summer. 3 cr. Prerequisite, Music 123abc and graduate standing in music. Designed for graduate students whose primary purpose in advanced study is preparation for administrative or supervisory work in music education. A study of school systems, plans for organizing and administering the music program in the elementary, junior and senior high school. Mr. Teel.


Applied Music Fees per quarter.

A fee of $25.00 per quarter will be charged all music majors, to cover applied music instruction as required by the curricula and advised by the Dean of the School of Music.

For non-majors the fees per quarter will be:

Voice, Piano, String Instruments

Applied Music 1, 5, 6, 7, 8, 105. Two lessons a week..............$40.00
One lesson a week........... 20.00

Organ

Applied Music, 1, 5, 6, 7, 8, 105. Two lessons a week........ 36.00
One lesson a week........... 18.00

Wind Instruments

Applied Music 1, 5, 6, 7, 8, 105. Two lessons a week........ 24.00
One lesson a week........... 12.00

For majors and non-majors who register for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of $1.75 per private lesson will be made. Refunds are based on the number of weeks elapsed since the beginning of the quarter.

*Ensemble Music.
Lessons in applied music missed by the instructor will be made up within the quarter. Lessons missed by students or lessons falling on a legal holiday will not be made up.

Rentals, per quarter

- Piano and practice room. One hour daily: $3.00
- Additional hour daily: 2.00
- Organ and practice room. One hour daily: 6.00
- Additional hour daily: 5.00
- Wind and string instruments: 3.00

Students registered in Music 25 and 29 must rent instruments unless they provide their own.

Rentals must be paid for entire quarter. No refunds of rentals will be made.

(The above fees are subject to modification by action of the State Board of Education).

School of Pharmacy

Professors Charles E. F. Mollett, John F. Suchy, Curtis H. Waldon (Dean); Instructor Gordon H. Bryan; Secretary Barbara L. Fader; Librarian Sylvia Anderson.

The School of Pharmacy offers an opportunity to the individual who is properly qualified to obtain a professional education which will prepare him for a lifetime of service to his fellowmen. Well-trained pharmacists find good paying positions in the several fields of Pharmacy. A pharmacist may desire to undertake the practice of Pharmacy in a retail drug store, or he may want to seek employment with one of the pharmaceutical manufacturers. Many graduates engage in some pharmaceutical specialty, such as drug assay, food and drug analysis, toxicology, pharmacology, pharmacognosy or some other related scientific or professional work. Women in pharmacy have excellent opportunities in hospital pharmacy, quite often combining radiography and clinical analysis with pharmaceutical work.

Pharmacy graduates are eligible for commissions in the Pharmacy corps of the United States Army, and many accept position with United States Public Health Service or the Veterans Administration. The Federal Civil Service classifies Pharmacy in the professional classification requiring graduation from a recognized school of pharmacy.

There is an ever increasing demand for well-trained pharmacists in pharmaceutical manufacturing companies and for many other important scientific positions. The demand for pharmacists with advanced training, particularly those who go on and complete requirements for advanced degrees has never been satisfied.

The curriculum of the School of Pharmacy, Montana State University, is designed to yield an education and the training necessary for leadership in our ever increasing complex social and economic life; to make its graduates professionally and legally qualified for the distribution of medicaments through the operation of pharmacies; and to prepare its students for cooperation with the medical, dental, veterinary, nursing and other health professions. The student is given a well-founded training in the physical and biological sciences and the arts,
as well as a most thorough training in Pharmacy. The chief aim of
the School of Pharmacy is in training of a pharmacist who is well ad-
justed so as to meet the demands made upon him both professionally
and in his community life.

The laboratory facilities of the School of Pharmacy are of the
best. Each laboratory is equipped with the latest type of apparatus.
Besides the laboratories where basic training is acquired there are spe-
cial ones for advanced instruction, such as a manufacturing laboratory
where tablet manufacturing, etc., is carried on, a hospital pharmacy
laboratory where hospital techniques are acquired and a pharmacology
laboratory to demonstrate and evaluate the action of drugs. The
equipment in the various laboratories is being constantly augmented
in order to keep abreast of recent advances in laboratory techniques.

The School of Pharmacy maintains a medicinal plant garden
which is used as a means of supplying laboratory materials and for
training students in the recognition and culture of drug plants. The
garden offers a means of carrying on research in pharmacognosy and
plant chemistry.

The School of Pharmacy is a member of the American Association
of Colleges of Pharmacy and is fully accredited by the American Coun-
cil on Pharmaceutical Education.

The School of Pharmacy offers the degree of Bachelor of Science
in Pharmacy which can be completed in four academic years. The
curriculum for the Bachelor’s degree has been so arranged that all stu-
dents are required to take essentially the same courses in the freshman
and sophomore years. However, in the junior year and particularly in
the senior year, each student is encouraged to elect as far as possible
those courses which will fit him best for the work he contemplates
entering upon after graduation.

The Master of Science degree in Pharmacy ordinarily can be com-
pleted in one academic year beyond the Bachelor of Science degree. It
is possible to major in Pharmacy, Pharmaceutical Chemistry, or Phar-
macology. Each graduate student is required to select a major subject
and two minor subjects, one minor must be outside the School of Phar-
mary. A foreign language is not required for the Master's degree. (See
pages 117 to 121).

The American Foundation for Pharmaceutical Education annually
offers a number of scholarships for deserving students.

For the academic year 1948-49 there will be two graduate as-
sistantships available. For other awards and prizes, see pages 48-54.

The Montana Board of Pharmacy examines candidates for registra-
tion at least once a year. The law requires that to be entitled to
examination by the Board as a pharmacist, the applicant must be a
citizen of the United States, of good moral character, at least twenty-
one years of age, and shall be a graduate of the School of Pharmacy
of Montana State University or a college or a school of pharmacy
recognized and approved by the American Association of Colleges of
Pharmacy, but such applicant shall not receive a license until he has
at least one year of practical experience in a pharmacy which has been
approved by the Board of Pharmacy. During this year, provided the
applicant has passed such examination, he shall be licensed as an as-
sistant pharmacist only. (NOTE:) A recent ruling states that all
practical experience must be obtained in a pharmacy in the State of
Montana in order to qualify for registration.

Graduates of the School of Pharmacy are eligible for examination
to practice pharmacy in any state, but graduates of this School who
Successfully pass the Montana State Board of Pharmacy examination are privileged to reciprocate with forty-five other states and with the District of Columbia, Alaska and Puerto Rico, without further examination, provided they possess the experience requirement of these states before taking the examination.

**Requirements for Admission**

The regular University requirements for admission apply to the School of Pharmacy. (See pages 27 to 31).

It has been found that students who graduate in the lower third of their high school class have difficulty completing the work in the School of Pharmacy.

**Requirements for Graduation**

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

1. The general University requirements for graduation. (See pages 31 to 36).

2. Complete a course of study which is satisfactory to the staff of the School of Pharmacy.

3. Satisfactorily pass a comprehensive examination at the end of each academic year.

Candidates for the degree of Master of Science in Pharmacy must comply with the regulations governing graduate study as set forth on pages 117 to 121 and must complete a program satisfactory to the School of Pharmacy.

**Curriculum in Pharmacy**

<table>
<thead>
<tr>
<th>Course</th>
<th>Autumn Credits</th>
<th>Winter Credits</th>
<th>Spring Credits</th>
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<tr>
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<td>Pharm. 10, Principles of Pharmacy</td>
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<td>3</td>
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<tr>
<td>Pharm. 24a, Pharmacognosy</td>
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<tr>
<td>Pharm. 14, Pharmaceutical Chemistry</td>
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<tr>
<td>Chem. 11 or 13, Inorganic Chemistry</td>
<td>5</td>
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<tr>
<td>Eng. 12abc, Language in Action</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Botany 10, Pharmaceutical Botany</td>
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<td>5</td>
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<tr>
<td>*Math. Mathematics</td>
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<td>Phys. Ed. 11abc, Physical Education</td>
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<td>1</td>
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<tr>
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*Course entered dependent upon high school preparation.

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<tr>
<th>Sophomore Year</th>
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<tr>
<td>Pharm. 24b, Pharmacognosy</td>
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<tr>
<td>Pharm. 21, Operative Pharmacy</td>
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<tr>
<td>Pharm. 26, History and Literature of Pharmacy</td>
<td>1</td>
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<tr>
<td>Chem. 101, Organic Chemistry</td>
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<tr>
<td>Physics 11abc, General Physics</td>
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<tr>
<td>Psych. 11, General Psychology or approved elective</td>
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<tr>
<td>Phys. Ed. 12abc, Physical Education</td>
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<td>1</td>
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MONTANA STATE UNIVERSITY

### Junior Year

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<thead>
<tr>
<th>Course</th>
<th>Autumn Credits</th>
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<th>Spring Credits</th>
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<tbody>
<tr>
<td>Pharm. 52, Drug Analysis</td>
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<tr>
<td>Pharm. 50, Manufacturing Pharmacy</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pharm. 77, Pharmaceutical Economics</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pharm. 95a, Dispensing</td>
<td>5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Zool. 10, General Zoology</td>
<td>5</td>
<td></td>
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<tr>
<td>Zool. 24, Human Physiology</td>
<td>5</td>
<td></td>
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<tr>
<td>Bact. 117, General Bacteriology</td>
<td></td>
<td>5</td>
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<tr>
<td>Bact. 118, Immunology</td>
<td></td>
<td>5</td>
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<tr>
<td>Bus. Ad. 11, Accounting or approved elective</td>
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| Total Credits                        | 19             | 17            | 17            |

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>Pharm. 95b, Dispensing</td>
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<td>Pharm. 90, Proprietary Products, Pharm. 93,</td>
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<tr>
<td>Biologicals</td>
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<tr>
<td>Pharm. 75, Veterinary Pharmacy</td>
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<tr>
<td>Pharm. 97, Pharmaceutical Practice</td>
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<td>Pharm. 114, Organic Medicinal Products</td>
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<tr>
<td>Pharm. 140, Pharmacology</td>
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<td>Pharm. 141, Bioassay</td>
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<tr>
<td>Phys. Ed. 32, First Aid</td>
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<tr>
<td>Bus. Ad. 41, Business Law or approved elective</td>
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<tr>
<td>Electives</td>
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| Total Credits                        | 18-20          | 15-17          | 17            |

**NOTE:** It is possible to substitute professional electives for Accounting in the junior year and for Business Law in the senior year. A foreign language is desirable, particularly for those who contemplate continuing their work beyond the Bachelor's degree.

The following Pre-Pharmacy and Pharmacy curriculum is being offered as an optional course of study. The chief reasons for instituting two years of Pre-Pharmacy is to level out the credit hour load to approximately 15 hours per quarter. It is felt by doing this that the student will be better prepared when he enters the School of Pharmacy. Also, the three years in the School of Pharmacy will be purely pharmaceutical, which will make it possible for us to offer a much higher calibre of course and also allow more elective so that the pharmacist prepared under this curriculum will be much better qualified for the branch of pharmacy he contemplates entering.

### Pre-Pharmacy

#### First Year

<table>
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<tr>
<th>Course</th>
<th>Autumn Credits</th>
<th>Winter Credits</th>
<th>Spring Credits</th>
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<tbody>
<tr>
<td>Chem. 11 or 13, Inorganic Chemistry</td>
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<td>5</td>
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<tr>
<td>Eng. 12abc, Language in Action</td>
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<tr>
<td>*Math., Mathematics</td>
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<tr>
<td>Botany 15, Pharmaceutical Botany</td>
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<tr>
<td>Mil. Sci. 11abc, Military Science (Men)</td>
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| Total Credits                        | 15             | 15            | 15            |

#### Second Year

<table>
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<tr>
<th>Course</th>
<th>Autumn Credits</th>
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<th>Spring Credits</th>
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<tbody>
<tr>
<td>Chem. 101ab, Organic Chemistry</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Zoel. 10, General Zoology</td>
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<tr>
<td>Physics 11abc, General Physics</td>
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<tr>
<td>Electives (History, Pol. Science, Soc. Sci., Econ., Literature and Philosophy)</td>
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<td>Mil. Sci. 13abc, Military Science (Men)</td>
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| Total Credits                        | 17             | 17            | 17            |

*Course entered dependent upon high school preparation.*
### Pharmacy

#### First Year

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<thead>
<tr>
<th>Course</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
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<tbody>
<tr>
<td>Pharm. 10, Principles of Pharmacy</td>
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<td>Pharm. 14, Pharmaceutical Chemistry</td>
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<td>Pharm. 24ab, Pharmacognosy</td>
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<td>Pharm. 26, History and Literature of Pharmacy</td>
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<tr>
<td>Zool. 24, Human Physiology</td>
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<tr>
<td>Pharm. 21ab, Operative Pharmacy</td>
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#### Second Year

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<td>Bact. 118, Immunology</td>
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<tr>
<td>Pharm. 114ab, Organic Medicinal Products</td>
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<td>Pharm. 77ab, Pharmaceutical Economics</td>
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<td>Pharm. 140ab, Pharmacology</td>
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<td>Pharm. 95a, Dispensing</td>
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<tr>
<td>Pharm. 50, Manufacturing Pharmacy</td>
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<td>Chem. 103, Physiological Chemistry</td>
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#### Third Year

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<td>Pharm. 75, Veterinary Pharmacy</td>
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<td>Pharm. 141, Bioassay</td>
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<td>Pharm. 97, Pharmaceutical Practice</td>
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<td>Pharm. 90, Proprietary Products</td>
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<td>Pharm. 142, Toxicology</td>
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<td>Phys. Ed. 32, First Aid</td>
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<td>Electives (Hospital Pharmacy, Cosmetics, Advanced Manufacturing Pharmacy, Pharmacy Law, Pharmaceutical Accounting, Advanced Analysis, Hospital Practice, Drug Microscopy, Field Pharmacognosy, or other approved electives)</td>
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#### For Undergraduates

10ab. Principles of Pharmacy. 2 Q. Autumn, winter. 3 cr. each quarter. Continuous. Summer. The study of metrology and pharmaceutical techniques and processes. Staff.

14. Pharmaceutical Chemistry. 1 Q. Spring. 3 cr. Prerequisite, Chemistry 11b or 13b or equivalent. The pharmaceutical chemistry of the official inorganic chemicals used medicinally. Staff.

21ab. Operative Pharmacy. 2 Q. Winter, spring. 5 cr. each quarter. Continuous. Summer, 21a. Prerequisite, Pharmacy 10 and Pharmacy 24a. The study of waters, solutions, syrups, spirits, tinctures, fluid extracts, and other pharmaceutical preparations of the U. S. Pharmacopoeia and National Formulary. Staff.

24ab. Pharmacognosy. 2 Q. Autumn, winter. 5 cr. each quarter. Continuous. Prerequisite, Botany 13. A comprehensive macroscopic and microscopic study of the official crude plant and animal drugs, including their nomenclature, sources, preparation, identification, constituents, doses and uses. Staff.

25. Field Pharmacognosy. 1 Q. Spring. Summer, Autumn. 3 cr. Prerequisite, Pharmacy 24 or consent of instructor. The official indigenous plants; their growth in the medicinal garden are studied as to propagation, methods of collection and preservation of the parts used in pharmacy. Staff.

26abc. History and Literature of Pharmacy. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer. The origin, evolution and present status of the profession; the books and periodicals used in pharmacy and ethics of the profession. Staff.

50. Manufacturing Pharmacy. 1 Q. Spring. Summer. 4 cr. Prerequisite, Pharmacy 21 and Pharmacy 24. Study and manufacture of pharmaceuticals in quantities. Staff.
Dr. Pharmacy 14, Pharmacy 24, Pharmacy 21, or equivalent. Quantitative analysis of official drugs and preparation according to the methods of the U. S. P. and N. F. Staff.

Cosmetics. 1 Q. Winter. 5 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Chemistry 101, or equivalent. Study of the composition, manufacture and packaging of toilet preparations; laboratory instructions in the preparation of cosmetics. Staff.

Veterinary Pharmacy, 1 Q. Spring. 3 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Pharmacy 114. Study of pharmaceuticals used in the treatment of diseases in animals. Staff.

Pharmaceutical Economics. 2 Q. Winter, spring. 3 cr. each quarter. Continuous. Prerequisites, Pharmacy 21, Pharmacy 24. Lectures and recitations on the establishment, management and development of the modern drug store. Abstracts of assigned readings in current pharmaceutical literature. Staff.

Proprietary Preparations, 1 Q. Autumn. 3 cr. Prerequisite, senior standing. The currently used pharmaceutical products of the various drug manufactures are considered. Staff.

Hospital Pharmacy, 1 Q. Autumn. 5 cr. Prerequisite, Pharmacy 21 and junior standing. The various procedures and techniques employed in the practice of pharmacy in the hospital. Staff.

Hospital Practice. 1-3 Q. Autumn, Winter, Spring, Summer. 3 cr. each quarter. Prerequisite, Pharmacy 91. This is a laboratory course whereby the student is offered the opportunity of working in a hospital pharmacy. Staff.

Biologicais. 1 Q. Spring. 3 cr. Prerequisite, Bacteriology 117, 118. Biologicais of therapeutic importance are considered as to their source, use, handling, and storage. Staff.

Dispensing. 2 Q. Spring, Autumn. 5 cr. each quarter. Continuous. Prerequisites, Pharmacy 59 and 52. A presentation of the fundamental principles of prescription compounding by means of a detailed study of each class of preparations both in the classroom and laboratory. Staff.

Pharmaceutical Practice. 3 Q. Autumn, Winter, Spring. 2 cr. each quarter. Prerequisite, senior standing. Students are assigned to various pharmacies in order to acquaint them with pharmacy as it is practiced in different drug stores. Staff.
209. Advanced Pharmacology. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 140 or equivalent. Study of the more involved actions of drugs upon cells and organs. Staff.

210. Advanced Pharmacy. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 95 or equivalent. A study of the more difficult pharmaceutical preparations. Staff.

212. Advanced Bioassay. 1 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 141 or equivalent. The more involved biological assays are considered. Staff.

Physics

PROFESSORS C. RULON JEPPESEN AND GARVIN D. SHALLENBERGER (Chairman); ASSISTANT PROFESSOR DAVID O. MILLER.

Major Requirements: 40 or more credits in physics. In preparation for advanced courses, a student should take General Physics (Physics 20abc) in the sophomore year. Essential courses offered in other departments: Plane Trigonometry (Math 13), College Algebra (Math 16), Plane Analytic Geometry (Math 21), Calculus I (Math 22), Calculus II (Math 23) Calculus III (Math 107a), and Inorganic Chemistry and Qualitative Analysis (Chem 13). Students planning to teach should elect General Psychology (Psych 11), Educational Psychology (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), and 7 additional credits in the School of Education.

Foreign Language Requirement. Five quarters (23 to 25 credits) in one modern language or a reading knowledge of it subject to the conditions set forth on page 34. Senior examinations will not be given except to candidates for honors.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates

11abc. General Physics. 3 Q. Autumn, winter, spring. (For summer, see summer session bulletin). 5 cr. for each quarter. Prerequisite for 11a, Mathematics 10; 11a is prerequisite for 11b and 11c. This course satisfies medical school requirements in general physics. (a) Mechanics and wave motion; (b) sound, electricity and magnetism; (c) heat and light. Students may not receive credit in both 11abc and 20abc. Mr. Shallenberger. Mr. Miller.

20abc. General Physics. 3 Q. Autumn, winter, spring. 5 cr. for each quarter. Prerequisites for 20a, Mathematics 13; 20a is prerequisite for 20b, and 20b is prerequisite for 20c; high school physics is desirable. This course satisfies medical and technical school requirements in general physics. (a) mechanics and wave motion; (b) sound, electricity, and magnetism; (c) heat and light. Mr. Shallenberger.

25. Selected Topics from General Physics. 1 Q. Winter. 5 cr. Prerequisite, Physics 20a or 11a. Topics selected include heat, light, electricity, and magnetism. This course is essentially a duplication of parts of Physics 11abc and 20bc. Mr. Shallenberger.

60. Weather. 1 Q. Winter. 2 cr. Prerequisite, Physics 20abc. Not a laboratory course. Given in 1948-49, and in alternate years. Mr. Jeppesen.

70. Geometrical Optics. 1 Q. Spring. 2 cr. Prerequisite, Physics 20c or 11c and Mathematics 13 and 16. Lectures and Laboratory. Given 1948-49, and in alternate years. Mr. Jeppesen.

114. Electricity. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Lectures and laboratory. Given in 1948-49, and in alternate years. Mr. Miller.

122. Light. 1 Q. Autumn. 6 cr. Prerequisite, Physics 20abc and
Mathematics 22 or concurrent registration. Lectures and laboratory. Given in 1948-49, and in alternate years. Mr. Jeppesen.

131. Selected Topics. 1 Q. Given subject to demand. 3 cr. Pre-requisite, 25 credits in physics and Mathematics 23. Lectures and laboratory. Mr. Jeppesen. Mr. Miller.

146. Heat. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Not a laboratory course. Given in 1949-50, and in alternate years. Mr. Jeppesen.

152. Atomic Physics. 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 22 or concurrent registration. Lectures and laboratory. Given in 1949-50, and in alternate years. Mr. Jeppesen.


166. Electronics. 1 Q. Spring. 5 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Given in 1948-49, and in alternate years. Mr. Miller.

170ab. Theoretical Physics. 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Mr. Jeppesen.


For Graduates

201. Research. Given subject to demand. 2-5 cr. Prerequisites, graduate standing and consent of instructor. Mr. Jeppesen. Mr. Miller.

210abc. Advanced Theoretical Physics. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, a major or the equivalent in physics. Not a laboratory course. Given subject to demand. Mr. Jeppesen. Mr. Shallenberger.

212abc. Advanced Experimental Physics. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Subject to demand. Mr. Jeppesen. Mr. Shallenberger.

252. Radiation and Atomic Structure. Given subject to demand. 5 cr. Prerequisite, Physics 152 and graduate standing. Mr. Jeppesen.

Pre-Business Administration

Students who plan to enter the School of Business Administration should see the suggested curriculum, the requirements for graduation, and the courses in the School of Business Administration, page 66.

Pre-Education

Students who plan to enter the School of Education should consult an Education staff member before registering for courses in any field. For further information regarding the School of Education, see page 84.

Pre-Legal

Students who plan to enter the School of Law should complete the curriculum of the Division of Social Sciences. For further information regarding the School of Law, see page 137.
Pre-Medical Course

Montana State University offers courses which prepare students for entrance to any medical school in the United States. The entrance requirements to such schools as adopted by the Council on Medical Education of the American Medical Association are as follows:

High School. Students must have completed a four-year course of at least fifteen units in a standard accredited high school or other school of standard secondary grade, or have passed examinations for unconditional entrance to college. The subjects taken in high school should include, if possible, at least two years of work in Latin.

Colleges. The minimum requirement is two years of collegiate work extending through thirty-two weeks each and comprising ninety quarter credits. Many of the better medical schools, however, require three years of preparatory work and an increasing number require graduation from college.

Pre-Medical Curriculum

The following courses will satisfy the requirements of medical schools requiring only two years of preparatory work:

Chemistry: Fifteen credits in general chemistry which may include qualitative analysis; ten credits in organic chemistry.

Zoology. Fifteen credits in zoology and botany, but not in botany alone.

Physics: Fifteen credits in general physics.

English: Nine credits in composition.

French or German: A reading knowledge of one modern language. This includes at least one year's college work in addition to high school credits.

Electives: To make ninety credit hours, electives should be selected from non-science courses in general.

These requirements will be fulfilled in the University by completing Inorganic Chemistry & Qualitative Analysis (Chem 13), The Carbon Compounds (Chem 101), Elementary Zoology (Zool 14ab), General Physics (Phys 20abc), Language in Action (Eng 11ab or 12abc) and Intermediate French or German (Mod Lang 13b).

In a few cases the above courses somewhat more than satisfy the minimum requirements; but many medical schools require other courses in addition. Students should plan their pre-medical work to fit the demands of the particular school they wish to attend.

While the minimum requirements as outlined comprise college credits for only two years, pre-medical majors should note that the general requirements of Montana State University, which apply to all students, and the extra requirements of most medical schools take at least one more year to complete. Medical schools ordinarily urge students to undertake a more thorough preparation than the minimum course outlined above. If in addition pre-medical majors wish to graduate, they may complete a fourth year at Montana State University and receive the Bachelor of Arts degree with a major in Pre-Medical Sciences. The additional courses required for this degree include General Bacteriology (Bact 117), Immunology (Bact 118), Pathogenic Bacteriology (Bact 119), Quantitative Analysis (Chem 17), Elementary Physical Chemistry (Chem 40), General Psychology (Psych
11), Comparative Vertebrate Zoology (Zool 23), Vertebrate Embryology (Zool 102), and Advanced French or German (Mod Lang 15).

**Aptitude Test.** In addition to the work outlined above, each candidate for entrance to any medical school in the United States must pass an aptitude test. This will be given at Montana State University during the autumn and winter quarters of the regular school year.

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**Psychology and Philosophy**

**Professor E. A. Atkinson (Chairman); Associate Professors Phil W. Buck, Maurine Clow, Edwin L. Marvin; Assistant Professors David S. Brody, Charles E. Hamilton, Bert R. Sappenfield.**

**Major Requirements:** 45 or more credits. The following courses are suggested for those who specialize in Psychology; General Psychology (Psych 11), Experimental Psychology (Psych 12), Systematic Psychology (Psych 104), Advanced General Psychology (Psych 111), Advanced Experimental Psychology (Psych 112), Psychological Testing (Psych 130). Elementary Zoology (Zool 14ab), Statistics (Math 25), and Human Physiology (Zool 24) should be included.

Senior examinations will be given only to candidates for honors.

**For Undergraduates**

10. How to Study and Work Effectively. 1 Q. Any quarter. 3 cr. Prerequisite, permission of the instructor. Designed to assist students who have good aptitude but low performance record. Mr. Brody. Mr. Hamilton.

11. General Psychology. 1 Q. Autumn, Winter, Spring, Summer. 5 cr. Open to all students. An outline study of the whole field, and an introduction to the special courses in psychology. Atkinson and Staff.

12. Experimental Psychology. 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. Laboratory methods and apparatus used in the study of basic psychological processes. Mr. Hamilton.

13. Child and Adolescent Psychology. 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. The psychological development of the child from birth through adolescence. Mr. Buck.

14. Social Psychology. 1 Q. Autumn, Spring. 5 cr. Prerequisite, Psychology 11. Effects of social factors on the personality and behavior of individuals. Psychology of propaganda, leadership, morale, social attitudes and related topics. Mr. Sappenfield.

15. Psychology of Personality. 1 Q. Spring. 3 cr. Prerequisite, Psychology 11. Principles of personality organization and processes of disorganization. The social stimulus values of modes of behavior and personality characteristics. Mr. Atkinson.

25a. Educational Psychology. See courses in Education.

30. Applied Psychology. 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. General principles of applied psychology. Special reference to the psychology of student life. The psychology of industry, law, the arts, safety, medicine, student problems, and related subjects. Mr. Atkinson.

32. Psychology of Business. 1 Q. Winter. Spring. 5 cr. Prerequisite, Psychology 11. Mr. Buck.

40. Industrial Psychology. 1 Q. Winter. 3 cr. Prerequisite, Psychology 11. Applications of psychology in industry; job analysis; accident prevention; development of skill; fatigue; motives in industry; psychological problems of supervision and management. Mr. Buck.

41. Personnel Psychology. 1 Q. Spring. 3 cr. Prerequisite, Psychology 11. Psychological principles in personnel; development and usefulness of tests, rating scales and other technical personnel aids in selection, classification and training of personnel; psychological techniques in worker efficiency and adjustment problems. Mr. Buck.

**Note:** Students who have received credit in Psychology 33, Vocational Psychology, may not receive credit for Psychology 40 and 41.

50. Logic. 1 Q. Spring. 5 cr. A study of the valid forms of reasoning, the methods of science, and the detection of fallacies. Mr. Marvin.
DEPARTMENT OF PSYCHOLOGY AND PHILOSOPHY

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51. Ethics. 1 Q. Winter. 5 cr. Inquiry into the nature of moral values, the standards of moral judgment, and the moral problems arising in personal life and in social relations. Mr. Marvin.

52a. History of Ancient and Medieval Philosophy. 1 Q. Winter. 5 cr. Prerequisite, sophomore standing, or consent of instructor. Mr. Marvin.

52b. History of Modern Philosophy. 1 Q. Spring. 5 cr. Prerequisite, either Psychology 55 or Psychology 52a. Mr. Marvin.

55. Introduction to Philosophy. 1 Q. Autumn. 5 cr. Prerequisite, sophomore standing or consent of instructor. A study of human nature and the human effort to establish standards of thought, feeling, and conduct. Topics treated will include personal ethics, social and political philosophy, the meaning of religion for man, and the endeavor to reach a unified view of the world. Mr. Marvin.

For Undergraduates and Graduates

104. Systematic Psychology. 1 Q. Winter. 5 cr. Prerequisite, junior standing and Psychology 12. A study of the historical development of the major psychological systems: functionalism, structuralism, behaviorism, psychoanalysis, gestic, etc. Mr. Hamilton.

105. Physiological Psychology. 1 Q. Winter. 3 cr. Prerequisite, Psychology 11, Psychology 12, Zoology 14ab, and junior standing. A study of certain physiological and neurological functions related to psychological activity. Mr. Hamilton.

111. Advanced General Psychology. 1 Q. Winter. 5 cr. Prerequisite, Psychology 12. Mr. Hamilton.

112. Advanced Experimental Psychology. 1 Q. Spring. 5 cr. Prerequisite, Psychology 12 and junior standing. Laboratory and experimental techniques used in the study of complex psychological processes. Emphasis on methods of designing controlled experiments. Mr. Hamilton.

115. Abnormal Psychology. 1 Q. Autumn, Spring, Summer. 5 cr. Prerequisite, Psychology 11 and junior standing. A study of abnormal phenomena and mental disorders: sleep and dreams; the subconscious; hypnotism; psychoanalysis. Mr. Buck.

116. Psychology of Adjustment and Mental Hygiene. 1 Q. Winter. 4 cr. Prerequisite, Psychology 11 and junior standing. A general study of all aspects of mental hygiene and the adjustment of the personality to modern life. Some emphasis on the mental hygiene of the school room. Mr. Sappenfield.

129. Individual Differences. 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11 and junior standing. Principles of individual differences and their measurement. Emphasis on test construction and the principles of interpretation of psychological tests. Mr. Sappenfield.

130. Psychological Testing. 1 Q. Winter. 5 cr. Prerequisite, psychology 129 and junior standing. Description, application, and interpretation of specific psychological tests to measure intelligence, aptitudes interests, personality characteristics, etc. Mr. Sappenfield.

131. Clinical Psychology. 1 Q. Autumn. 5 cr. Prerequisite, Psychology 115 and 130, and junior standing. Techniques applicable to clinical problems. Emphasis on history taking, diagnostic interviewing and testing, and the therapeutic interview. Mr. Sappenfield. (Not given in 1948-49.)

132. Individual Testing. 1 Q. Winter. 3 cr. Prerequisite, Psychology 130. A study of, and laboratory practice in, the current, individual psychological tests, such as the Binet Scale, the Wechsler-Bellevue, Thematic Aperception, and the Rorschach. Mr. Sappenfield.

156. Contemporary Philosophy. 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Psychology 52b. (52b may be waived by consent of instructor.) A study of selected philosophies of the present and recent past. The content of the course will vary from year to year. Mr. Marvin.

174. Counseling Laboratory. 1 Q. Any quarter. 4 cr. Prerequisite, Psych. 130, and junior standing and permission of the instructor. This course is designed to afford practical experience in psychological testing, clinical work and counseling. Mr. Brody.

190. Problems in Psychology and Philosophy. 3 Q. Autumn, Winter, Spring. Prerequisite, Psychology 11, Junior standing, and permission of the instructor. Credit variable. Not more than nine credits may be applied towards graduation. Staff.

For Graduates

201. Research. Any quarter. Credit variable. Permission of instructor required. Work on selected problems under direction. Staff.
Public Service Division

ANDREW C. COGSWELL, Director.

The Public Service Division is the administrative agency through which the University carries on its off-campus services. It has charge of all work in Adult Education, Home Study, and Alumni Relations, and supervises University publications, the News Service, and all radio programs.

Off-Campus Courses and Home Study

MISS MARY MARGARET COURTNEY, Secretary.

The University is a member of the National University Extension Association, the standardizing agency for home study and off-campus class work. One of the principal aims of the association is the protection of the quality of credits earned through extension classes and home study. Students who take University work out of residence can be sure that credits thus earned will be accepted at face value by the leading educational institutions of the nation. For a bulletin of courses address Home Study Department, Montana State University, Missoula, Montana.

During the past year, the University served more than 800 students with the following correspondence courses:

- **Bacteriology and Hygiene**—General Hygiene.
- **Business Administration**—Elementary Accounting, Intermediate Accounting, Advanced Accounting, Cost Accounting, Corporation Finance, Marketing, Methods of Teaching Typewriting, Methods of Teaching Shorthand.
- **Classical Languages**—Elementary Latin, Intermediate Latin, College Freshman Latin, the Annals of Tacitus, Life and Works of Virgil, Latin Seminar, Second Year College Latin.
- **Economics**—Principles of Economics, Money and Banking, Public Finance, Labor Economics, Agricultural Economics.
- **English**—British Literature, Backgrounds of Irish Literature, Language in Action (Composition 11ab), American Literature (59abc), The Novel (75a and b), Contemporary Literature (55b and c), Technique of Poetry.
- **General Courses**—General 11abc, Introduction to Social Science.
- **Geology**—General Geology, World Geography.
- **Home Economics**—Elementary Nutrition, House Planning and Furnishing, Textiles.
- **Journalism**—The High School Newspaper.


Home Study Fees

The fees for home study courses, payable in advance, are $4 for each quarter credit.

The charge of $2 will be made for extension of time for completion of a home study course, except in the case of students required to suspend the work while in attendance at some institution. If no work has been done on a course, and all other rules have been complied with, upon payment of $2, the fee will be transferred to another course upon request.

Off-Campus Course

Regular University courses are made available to the public through the Home Study and Adult Education Department. These courses usually are given in the evening and are offered in accessible communities where there is sufficient demand to justify the organization of classes.

Students in off-campus courses pay the same fee, $4 per quarter credit, as home study students. Persons who wish to attend off-campus classes as “auditors” pay a flat fee of $5 per course.

Institutes and Lectures

The University is broadening its off-campus offerings by sponsoring institutes and making its faculty members available to the public for addresses and lectures. Organizations or persons desiring services of staff members should communicate with the Public Service Division.

Montana State University Alumni Association

Officers for 1947: President, Fred Moulton ’36, Billings. Vice president, C. W. Burns, ex ’29, Great Falls. Executive Council Members, William Shallenberger ’37, Thompson Falls; John Hauck ’34, Butte; Mrs. L. A. Colby ’27, Missoula; Mrs. Wallace Brennan ’25, Missoula; Mrs. Thomas Campbell ’39, Missoula; Joseph A. Sweeney ’24,
Seattle. Secretary-treasurer, Andy Cogswell '27, Montana State University. Alumni Office Secretary, Mrs. Helen L. Warden '28.

The Montana State University Alumni Association is made up of graduates and former students of this institution organized to promote its welfare and closer fellowship among those who attended school on its campus. It maintains active local clubs in most of the larger communities of Montana. Active out-of-state clubs include those at Seattle, Denver, Spokane, Portland, Los Angeles and Washington, D. C. Groups which sponsor occasional get-togethers are located in New York, Chicago and San Francisco.

Montana School of Religion

All former students and graduates who keep their current addresses on file in the Alumni office receive the bi-monthly Montana State University News Bulletin, a publication for alumni.

Dues in the Association are $1 per year, or $20 for life. Address Alumni Association, Montana State University, Missoula, Montana.

Publications and News Service

EARL W. MARTELL, Editor

The University maintains a small staff which is responsible for the editing of University publications and the release of news and pictures of activities on the campus. The Publications and News Service is a part of the Public Service Division.

Radio Programs

VIRGINIA REILLY GLORE (Mrs.), Radio Assistant.

Radio programs originating on the University campus are a direct responsibility of the Public Service Division. The Division cooperates with interested departments in the production of radio programs for Montana stations. It sponsors a Student Radio Guild from which much of the talent for these programs are drawn.

Placement Bureau

Montana State University endeavors to assist all its graduates in finding positions on graduation which are suitable to their interests and academic training. To an increased degree these activities are centered in the Placement Bureau, which at present is so organized that its functions are divided under two main headings—General Placement and Teacher Placement.

Activities in the area of non-teaching employment, which formerly had been handled by the Office of Teacher Placement, were a year ago reorganized and expanded into a separate Office of General Placement. Students who desire assistance in finding positions are encouraged to register well before graduation date, and the confidential information as to training, character, and ability which is collected through the registration process is assembled in specially designed covers for the use of potential employers. Continuous efforts are made concurrently to bring the services of the Office of General Placement to the attention of business firms and organizations, both in the State of Montana and in other sections of the United States, which from
time to time have desirable openings. In addition, a “follow-up” service has recently been instituted, by means of which it is hoped that the Office of General Placement will be able to retain contact with its registrants after their initial placement so as to give them any further assistance which may be appropriate, and, if they desire, bring to their attention new opportunities for which training and experience acquired since graduation may have qualified them. Miss Grace Johnson serves as Secretary for General Placement.

The Office of Teacher Placement, organized to provide similar services for people interested primarily in teaching positions in primary and secondary schools, has been functioning for a number of years and consequently has reached a higher level of development than the Office of General Placement. It assists school authorities in need of teachers, principals, and superintendents; in like manner, it assists teachers, principals, and superintendents in finding positions for which they are qualified by training, ability, and experience to fill. A registration fee of $4.00 is charged teachers not registered as students in the University for this service to cover the cost of gathering material, making up sets of papers, and sending them out to employing school officials. Mrs. Jean Robinson is Secretary for Teacher Placement.

The Montana School of Religion
Assistant Professor and Director Carl L. Sullenberger.

The Montana School of Religion was organized in 1924 by a committee representing the University and several religious denominations for the purpose of making courses in religion available to the students of Montana State University. The School of Religion is not a part of the University, but is under a director who is responsible to a Board of Trustees representing the cooperating denominations and the University.

The University allows a maximum of fifteen credits toward graduation for courses taken in Religion. Additional information concerning courses may be obtained from the Director of the School of Religion at Montana State University.

The courses have grown out of the requests and suggestions of students. They are designed to meet student interests and problems. The School of Religion endeavors to relate subject matter to actual living situations and to provide maximum opportunity for student participation in planning the courses as well as in discussion.

For Undergraduates

20R. Basic Values in Religion. 1 Q. Autumn, Winter, Spring. 5 cr.
Open to all students. This is a general foundation course. Course covers a wide range of subject matter including: (1) An overview of the world's religions to find universal principles common to all. (2) A study of present day religious conditions around the world. (3) Modern religious leaders and areas of religious growth. (4) Possibility and content of a “world faith.” (5) Clarification and expression of our own religious ideas.

33R. The Church in the World Today. 1 Q. Autumn. 4 cr. Prerequisite, Religion 20R. A course designed to include a study of the present position and influence of the churches. Consideration of the basis of denominationalism is followed by a study of the ecumenical movement, efforts at closer cooperation as reflected in the world missionary movement as it is today, the church and world order. Contemporary student religious thought in America.
34R. Workshop in Human Relations. 1 Q. Spring. 2 cr. Prerequisite, Religion 20R. A course designed to facilitate the expression of students' religious ideas or philosophy of life through a creative group discussion. Subjects for study are chosen by the students from their own field of interest. A record of the interaction of ideas is kept as a basis for more extensive study.

35R. Religious Ideas and Social Change. 1 Q. Winter. 4 cr. Prerequisite, Religion 20R. A course designed to make a rapid survey of the field of Church History, with special emphasis upon the interaction between religious ideas and their environment. The role of religion as a social dynamic in the contemporary world will be stressed.

Sociology and Social Administration

Professor Gordon Browder (Chairman); Associate Professor Harold Tascher; Instructor James W. Carroll.

Major Requirements: All major students in the Department of Sociology and Social Administration should complete the following courses in their sophomore year, in addition to the Social Science Divisional requirements set forth on page 60: Elementary Sociology (16), and Principles of Economics (Econ 14). Students concentrating in Sociology should complete Elementary Anthropology (15); those concentrating in Social Administration should complete either Social Problems (17), or American Government and Politics (Hist 17). Students preparing to teach social sciences in high school may select either of the preceding concentrations for the sophomore year. Social Science Methods (118) may be taken in the junior year.

Students majoring in this department may present five quarters (23 to 25 credits) of a classical or foreign language, or a reading knowledge of it, based on the level of attainment expected of a student who has passed at least four quarters in a language as demonstrated by a suitable achievement test.

In lieu of this requirement, students may present a minimum of at least fifteen credits in the following courses, in addition to the restricted elective in English, Philosophy, and Psychology, as described on page 34: Logic (Psych 50) and/or Introduction to Philosophy (Psych 55), with the remaining credits selected from Contemporary Literature (Eng 55abc), The Novel (Eng 75abc), or The Drama (Eng 77abc).

Upon recommendation of the student's adviser, and with departmental consent, this requirement may be modified to permit substitution of courses considered desirable to fit the student's particular needs.

A minimum of 50 credits in Sociology and/or Social Administration is required for a major, to be made up of the above requirements and additional credit to be obtained from one of the major fields of concentration, as listed below.

A. Sociology Concentration: The following course listed under the Department of Economics will be completed: Labor Economics (113ab). In the Department of Sociology and Social Administration, Community Organization (133), will be completed. The remaining credits for a major will be earned in Sociology courses. As many non-departmental electives as possible should be chosen from among the following: Department of History and Political Science: United States History (21abc), Theories of the State (115); Mathematics: Statistics (25); Department of Psychology and Philosophy: Social Psychology (14), Child Psychology (13),
Department of Sociology

Systematic Psychology (114), Psychology of Personality (15), Ethics (51).

B. Social Administration Concentration: A minimum of 30 credits in Social Administration is required. Courses required include: Introduction to Social Administration (131), Principles of Group Work (132), Principles of Social Case Work (130), Community Organization (133), Public Welfare Administration (136), Field Work (134).

In addition, students must select one of the following curricula according to their major professional interests: Social Case Work, Social Group Work, Community Organization and Welfare Administration, Industrial Social Work, and Social Welfare Research. Courses in addition to those prescribed above are selected from Sociology, Psychology, Economics, History and Political Science, Home Economics, Education, Bacteriology, Physical Education, and Business Administration.

C. Anthropology concentration: In addition to General Departmental requirements, the student will complete five courses in Anthropology in addition to Elementary Anthropology (15). The remaining credits for a major will be earned in Sociology and Social Administration courses. Field courses should be taken when offered. Non-departmental electives should include as many of the following courses as possible: Department of Geology: General Geology (11ab), World Geography (10), Historical Geology (22); Department of Mathematics: Statistics (25); Department of Physical Education: Human Anatomy (20ab); Department of Psychology and Philosophy: General Psychology (11); Department of Zoology: Elementary Zoology (14ab).

D. Combined Economics and Sociology Concentration: For those who plan to teach social sciences, to go on to seminary, or to go into work that required a background in both economics and sociology the following courses in addition to general departmental requirements, should be completed: Economics: Money and Banking (101b), Labor Economics (113ab), Public Finance (104a), Advanced Economics (111) or Development of Economic Theory (112); Sociology: Population (120), The Family (129), Regional Sociology (123). The remaining credits for a major will be selected in counsel with the student’s adviser.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

For Undergraduates


For Undergraduates and Graduates

Courses numbered 150, 151, 152, and 153 are in-residence training courses offered at Montana State Hospital, Warm Springs, for selected students in Sociology and Social Administration.
150. Medical Information. 1 Q. Any quarter. 3 cr. Prerequisite, senior standing and departmental consent. Lectures, observation, readings, and discussions about the nature of the common diseases.

151. Psychiatric Information. 1 Q. Any quarter. 4 cr. Prerequisite, senior standing and departmental consent. Lectures, observation, clinical procedures, readings, and discussions about the nature of mental illness.

152. Occupational and Recreational Therapy. 1 Q. Any quarter. 4 cr. Prerequisite, senior standing and departmental consent. Lectures, observation, readings, discussions, and laboratory practice in the field of therapy.

153. Institutional Management. 1 Q. Any quarter. 2 cr. Prerequisite, senior standing and departmental consent. Lectures, readings, field trips, and discussions about problems of institutional management commonly confronted by social workers in institutional work.

Sociology

109. Courtship and Marriage. 1 Q. Any quarter. 3 cr. Prerequisite, senior standing (20 men and 20 women). A general discussion course of situations that may be faced as one plans and prepares for courtship and marriage. Mr. Carroll.

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

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

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

122. Criminology. 1 Q. Spring. Summer. 4 cr. Prerequisite, junior standing and either course 16 or 17. A study of the causes, prevention, detection, and correction of crime. Mr. Browder.

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

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

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

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

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

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

170. Recreational Leadership. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, junior standing. May be repeated for credit not to exceed 9 credits. Philosophy of recreation, theory and practice of group leadership, development of recreational skills. Given jointly by the departments of health and physical education, sociology and the school of music. Miss Stoodley. Mr. Tascher. Mr. Teel.

190. Advanced Problems. Any quarter. 1-2 cr. Prerequisite, senior standing and consent of instructor. Staff.

Social Administration

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

131. Introduction to Social Administration. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and course 16. The fields of social administration

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with special emphasis on social resources, philosophy, principles and methods. Mr. Tascher.

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

133. Community Organization. 1 Q. Winter. 4 cr. Prerequisite, senior standing and course 16. Social forces in the community; methods of community analysis; community programs. Mr. Tascher.

134. Field Work: Social Administration. 1 Q. Any quarter. 2-4 cr. Prerequisite, senior standing and consent of instructor. This course may be repeated to a maximum of 10 credits. Provides field experience in (a) case work, (b) group work, (c) community organization, and (d) social welfare research.


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

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

138. Advanced Problems. Any quarter. 1-2 credits. Prerequisite, senior standing and consent of instructor. Staff.

### Anthropology

#### For Undergraduates

15ab. Introduction to Anthropology. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, sophomore standing. 15a is prerequisite to 15b. An introduction to the study of man and culture. Staff.

18. Social Organization of Primitive Peoples. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. A study of the social structure of non-literate peoples: family, kinship structure, kin and local groups, associations, social classes, and political aggregates. Staff.

#### For Undergraduates and Graduates

142. Culture and Personality. 1 Q. Spring. 3 cr. Prerequisite, junior standing. A study of the role of culture in the formation of personality. Staff.

143. Ethnology of the Pacific Northwest. 1 Q. Autumn. 2 cr. Prerequisite, junior standing. A study of the historic Indian cultures of the Northwest American coast. Staff.

144. Ethnology of South America. 1 Q. Winter. 3 cr. Prerequisite, junior standing. A survey of the cultures of the Indians of South America. Staff. (Not offered in 1948-49.)

145. Ethnology of North America. 1 Q. Autumn. 3 cr. Prerequisite, junior standing. A survey of the native cultures of North America, including Mexico and Central America. Staff. (Not offered in 1948-49.)

146. Ethnology of Africa. 1 Q. Winter. 3 cr. Prerequisite, junior standing. A study of the aboriginal cultures of Africa. Staff.

149. Ethnology of the Plains. 1 Q. Autumn. 2 cr. Prerequisite, junior standing. A study of the historic Indian cultures of the Plains area. Staff.

150. Advanced Problems. Any quarter. 1-2 cr. Prerequisite, senior standing and consent of instructor. Staff.

#### For Graduates

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

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

The Division of Biological Sciences and School of Forestry cooperate in Wildlife training. For a Major in Forestry with minor in Wildlife Management, see page 113.

Staff members presenting essential courses in Wildlife Training include:

R. B. Brunson, (Zoology) Instructor.
G. B. Castle, (Zoology) Professor
L. H. Harvey, (Botany) Instructor
E. E. Jeffers, (Parasitology) Assistant Professor
M. S. Morris, (Range Management) Associate Professor
P. L. Wright, (Ornithology, Mammalogy) Associate Professor

Although the curriculum for majors in Wildlife Technology is tentatively outlined for four years, students desiring to elect this major are strongly urged to take advantage of the more thorough training made possible in a five-year curriculum. This major should be elected only by those who feel that they are intensely interested, since the requirements in the sciences are rather demanding and the field is highly specialized. Satisfactory completion of this course leads to the degree of Bachelor of Science in Wildlife Technology.

Foreign Language is not a requirement for majors in Wildlife Technology.

The curriculum for this major is as follows:

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<th>Freshman Year</th>
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*Courses entered dependent on high school preparation.
Senior Year

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<td>Bot. 161ab, Systematic Botany</td>
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<tr>
<td>Electives</td>
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<td>15-17</td>
<td>17</td>
</tr>
</tbody>
</table>

For five-year majors, additional courses should be elected from the following: The Carbon Compounds (Chem 101), General Bacteriology (Bact 117), Principles of Economics (Econ 14), General Geology (Geol 11ab), Soils (For 25), Human Physiology (Zool 24), General Histology (Zool 105), Composition (Eng 30ab), Range Management (For 140abc), Mapping (For 12b), General Psychology (Psych 11).

Zoology

PROFESSORS LUDVIG G. BROWMAN, GORDON B. CASTLE (Chairman); ASSOCIATE PROFESSOR PHILIP L. WRIGHT; INSTRUCTORS ROYAL B. BRUNSON, GEORGE F. WEISEL.

Major Requirements: At least 40 credits including Elementary Zoology (Zool 14ab), Field Zoology (Zool 15), Comparative Vertebrate Zoology (Zool 23), Vertebrate Embryology (Zool 102), Genetics (Zool 125), Animal Ecology (Zool 128), 3 credits of Biological Literature (Zool 129), 4 credits of Advanced Invertebrate Zoology I (Zool 132) and Human Physiology (Zool 24) or 3 credits of Advanced Vertebrate Zoology IV (Zool 131). The following courses must be completed: General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Evolution (Bot 126), and General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13). Students who contemplate graduate work in Zoology should elect during the junior and senior years General Physics (Physics 20abc) and General Histology (Zool 105), and should secure a reading knowledge of French or German.

Foreign Language Requirement: 23-25 credits in a modern foreign language (French, German, or Russian recommended); or a reading knowledge of a modern foreign language with a proficiency acceptable to the modern language department.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 86.

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

For Undergraduates

10. General Zoology. 1 Q. Autumn, Winter, Summer. 5 cr. Open to all students. Primarily for students of Forestry, Pharmacy, and Physical Education. Survey of a typical vertebrate and the application of certain biological principles. Mr. Weisel.
14ab. Elementary Zoology. 2 Q. Autumn, winter. 5 cr. each quarter. Open to all students. 14a is a prerequisite to 14b. A survey of the invertebrates and the prochordates. Anatomy, physiology, phylogeny and basic zoological principles. Mr. Castle. Mr. Brunson.

15. Field Zoology. 1 Q. Spring. 3 cr. Prerequisite, Zoology 14b. A field and laboratory course in the collection, preservation, and identification of animals. Mr. Brunson.

23. Comparative Vertebrate Zoology. 1 Q. Spring. 5 cr. Prerequisite, sophomore standing and course 14ab or equivalent. Comparative anatomy, development, and phylogeny of the vertebrates. Mr. Weisel.

24. Human Physiology. 1 Q. Spring. Summer. 5 cr. Prerequisite, sophomore standing. The problems of digestion, absorption, circulation, excretion, irritability, and locomotion, together with the physiological phenomena associated with tissue repair, growth, and reproduction. Mr. Brownan.

For Undergraduates and Graduates

101. General Comparative Embryology. 1 Q. Autumn. 5 cr. Pre-requisite, Zoology 14ab and junior standing. The early stages of development of the invertebrates and vertebrates, including maturation of the germ cells, fertilization, cleavage, formation of germ layers, and origin of the embryo. Given in 1948-49, and alternate years. Mr. Brownman.

102. Vertebrate Embryology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 14ab and junior standing. Later development especially of the vertebrates, with emphasis on birds (chick) and mammals (pig). A study of organ formation, based on prepared histological material, with a consideration of experimental evidence. Mr. Brownman.

105. General Histology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 14ab, junior standing and consent of instructor; knowledge of chemistry is recommended. Methods of fixation, sectioning, and staining animal tissues. Use of the microscope and a study of basic tissues. Mr. Wright.

107. Aquatic Biology. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 15, junior standing, and Botany 12. 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. Brunson.

108. Ornithology. 1 Q. Spring. 5 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of birds. Mr. Wright.

109. Mammalogy. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of birds, with some experience in field identification and preparation of skeletons and skins. Mr. Wright.

118. Forest Entomology. 1 Q. Spring. 3 cr. Prerequisite, Zoology 15 or 14ab, and junior standing. The more common forest insects of Western Montana from the standpoint of distribution, economic importance, and methods of control. Mr. Castle.

125. Genetics. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 23 or Botany 22, and junior standing. The facts and theories of heredity, mechanisms of heredity, involving considerations of segregation, random assortment, linkage systems, and mutations, and their relations to visible cell processes. Mr. Brownman.

128. Animal Ecology. 1 Q. Spring. 5 cr. Prerequisite, Zoology 15, Bot. 12, and junior standing. The relationship between animals and their environment, illustrated by field studies of animal communities in Western Montana, with special emphasis on the invertebrates. Mr. Castle.

129. Biological Literature. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, senior standing and 20 credits in Zoology or Botany and consent of the chairman of the department of Botany or Zoology. Reviews of recent literature as a survey of the trend of study and experimentation in biological fields. Reports of special studies. Zoology and Botany Staffs.

131. Advanced Vertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 25, junior standing, and consent of instructor. (I) Morphology, (II) Endocrinology, (III) Ecology, (IV) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.

132. Advanced Invertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 14ab, junior standing, and consent of instructor. (I) Morphology and Taxonomy, (II) Ecology, (III) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.
Courses Offered at Biological Station

S108. Ornithology. 1 Q. Summer. 3 cr. Given at the Biological Station. Prerequisite, one laboratory course in vertebrate zoology.

S109. Mammalogy. 1 Q. Summer. 6 cr. Given at the Biological Station. Prerequisite, comparative vertebrate zoology.

S161. Limnology. 1 Q. Summer. 6 cr. Given at the Biological Station. Prerequisite, Elementary Zoology and one collegiate course in Chemistry.

S164. Natural History of Invertebrates. 1 Q. Summer. 3 cr. Given at the Biological Station. Prerequisite, Invertebrate Zoology.

S165. Entomology. 1 Q. Summer. 6 cr. Given at the Biological Station. Prerequisite, two laboratory courses in Zoology, including Invertebrate Zoology.

S167. Ichthyology. 1 Q. Summer. 3 cr. Given at the Biological Station. Prerequisite, comparative vertebrate anatomy.

S199. Special Problems in Zoology. 1 Q. Summer. 2 to 5 cr. Given at the Biological Station. Prerequisite, adequate background courses in the subject and consent of instructor.

S200. Advanced Zoological Problems. 1 Q. Summer. Credit variable. Given at the Biological Station. Prerequisite, graduate standing and consent of the instructor.

S261. Limnological Methods. 1 Q. Summer. 3 cr. Given at the Biological Station. Prerequisite, graduate standing, limnology and at least one year of collegiate chemistry. (Omitted in 1948.)

For Graduates

200. Advanced Zoological Problems. 1-3 Q. Autumn, winter, spring. Credit variable. Opportunity is given graduate students with sufficient preparation and ability to pursue original investigations. Staff.

Summer Session

Note: For information pertaining to the summer session, consult the current summer session bulletin, which may be obtained upon request.

The summer session of Montana State University is a ten-weeks' session. In 1948 the session will begin June 14 and will close August 20. Students may attend the first six weeks, or the entire 10 weeks, or may take shorter programs.

Courses

All of the departments of the College of Arts and Sciences offer courses during the summer sessions, as do the Schools of Business Administration, Education, Forestry, Journalism, Law, Music, and Pharmacy. For information regarding courses, see the summer session bulletin.

Admission

Requirements for admission to the summer session are the same as the requirements for entrance during the regular college year (pages 27 to 31).

FEES

Fees for the Summer Session

For ten-week term ......................................................... $39.50
For six-week term ........................................................... 26.50
For four-week term ...................................................... 18.75

Limited registrants (students who register for less than seven credits for ten weeks, or less than four credits for six weeks):
Registration, $5.00; Incidental, $1.25 per week; Student Building and Student Union, one-half of above schedule; Health Service, optional. Students who register to attend classes regularly but without credit pay the same fees as “Limited Registrants.”

The “Special Attendance” fee, payable by adults who are admitted to classes as auditors, do not participate in class work, and do not register for credit, $2.00 for each course. This fee is not applicable to Weaving, Typing, Swimming, Office Machines, and other laboratory courses.

Most scholarships, including high school honor scholarships, do not exempt holders from payment of the summer session fee. Certain music and military scholarships do carry such exemption.

For further information regarding summer session fees, see summer session bulletin.

Credit Toward Degrees

University credit toward degrees is given to those who satisfy the regular entrance requirements. The normal schedule which may be carried during the ten weeks of the session is 15 credits, plus 1 credit in Physical Education S11 and 1 credit in applied or ensemble music or in applied acting or stagecraft or in current events; the maximum registration for six weeks is 8 credits plus 1 credit in either Physical Education S11, or in applied or ensemble music, or in applied acting or stagecraft or in current events. Permission to carry more than this number is granted only for special reasons.

Residence requirements for the Bachelor’s degree may be fulfilled by three summer sessions of ten weeks each, during which time the students must complete at least forty-five quarter credits. Of the last forty-five credits required for graduation, thirty-five credits must be earned in residence at Montana State University.

Credit Toward Teachers’ Certificates

Courses required for Montana teachers’ certificates will be given.

Graduate Work

During the summer session, properly qualified students may do work toward a Master of Arts, Master of Education or Master of Music in Music Education degree. Residence requirements and other regulations governing graduate study and the granting of a Master’s degree may be found on pages 117 to 121.

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.
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