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UNIVERSITY of MONTANA BULLETIN

MONTANA STATE UNIVERSITY

Missoula, Montana

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

1947-48 Catalog

and

Official Directory for 1946-47

(The preceding issue of this catalog, Bulletin Number 407, April, 1946, was designated as "Catalog Number for 1945-46, Including Announcements for 1946-1947.")

NUMBER 414 MONTANA STATE UNIVERSITY SERIES JULY, 1947

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1947/48-1949/51

MONTANA STATE UNIVERSITY CALENDAR 1947-48

1947 Spring Quarter

March 24, Monday.....Registration
 March 25, Tuesday.....Orientation and Testing of New Students
 Instruction Begins for Former Students.
 March 26, Wednesday.....Instruction Begins for New Students
 May 15-17, Thursday through Saturday.....Interscholastic Track Meet
 May 30, Friday.....Memorial Day, a Holiday
 June 9, Monday.....Commencement
 June 10-13, Tuesday through Friday.....Examinations
 June 13, Friday, 5:20 p.m.....Spring Quarter Ends

Summer Session

June 16, Monday.....Registration
 June 17, Tuesday.....Instruction Begins
 July 4, Friday.....Independence Day, a Holiday
 August 22, Friday.....Session Ends

Autumn Quarter

September 22-27, Monday through Saturday.....Freshman Week
 and Registration.
 September 25-27, Thursday through Saturday.....Registration
 of Former Students.
 September 29, Monday.....Instruction Begins
 November 27, Thursday.....Thanksgiving Day, a Holiday
 December 15-18, Monday through Thursday.....Examinations
 December 18, Thursday, 5:20 p.m.....Autumn Quarter Ends,
 Christmas Recess Begins.

1948 Winter Quarter

January 5, Monday..... } Registration and Orientation
 January 6, Tuesday..... } of New Students.
 January 6, Tuesday.....Instruction Begins for Former Students
 January 7, Wednesday.....Instruction Begins for New Students
 February 17, Tuesday.....Charter Day
 March 15-18, Monday through Thursday.....Examinations
 March 18, Thursday, 5:20 p.m.....Winter Quarter Ends

Spring Quarter

March 22, Monday..... } Registration and Orientation
 March 23, Tuesday..... } of New Students.
 March 23, Tuesday.....Instruction Begins for Former Students
 March 24, Wednesday.....Instruction Begins for New Students
 May 13-15, 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.....Freshman 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

Official Directory, 1946-47

Executive Board

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

Administrative Officers

JAMES A. MCCAIN, M.A.	President
RICHARD H. JESSE, Ph.D.	Vice President
JAMES B. SPEER, B.A., LL.B.	Controller
JAMES W. MAUCKER, Ph.D.	Director of Summer Session
J. EARLL MILLER, Ph.D.	Dean of Men
¹ WILLARD W. BLAESSER, M.A.	Director of Student Personnel Services
² 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
GARVIN D. SHALLENBERGER, Ph.D.	Director of Placement Bureau
KATHLEEN CAMPBELL, M.S.	Librarian

The Faculty

- ³ADAMS, HARRY F. Associate Professor of Physical Education;
Track Coach; Assistant Football Coach
B.A., Montana State University, 1921.
- ⁴ALBRIGHT, JOY S. (Mrs.) Assistant in Psychology and Philosophy
B.A., University of Washington, 1940.
- ²ALBRIGHT, 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.
- ⁴ALLENDER, MARY E. (Mrs.) Assistant in Health and
Physical Education
B.S., Indiana University, 1946.
- AMES, WALTER R. Professor of Education
Ph.B., University of Wisconsin, 1917; Ph.M., 1918; Ph.D., 1926.
(Out-of-Residence Leave, Autumn Quarter, 1946.)
- ²ANDRIE, EUGENE Instructor in Music
B.S., Western Michigan College of Education, 1940.
- ARMSBY, LUCILLE JAMESON (Mrs.) Secretary to the President
B.A., Montana State University, 1922.

¹Effective August 15, 1946.

²Effective September, 1946.

³On Leave of Absence.

⁴Effective October, 1946.

- ¹ARMSTRONG, ROBERT P.Instructor in English
B.A., University of Arizona, 1944; M.A., State University of Iowa,
1947.
- ARNOLD, ADENAssistant Professor of Fine Arts
B.A., State University of Iowa, 1925; M.A., 1928.
- ARNOLDSON, LOUISE G. (Mrs.)Professor of French
Diplôme d'Etudes Françaises de Touraine (Alliance Française-
Université de Poitiers), 1914; B.A., University of Utah, 1919; Doc-
teur de l'Université de Paris (Lettres), 1934. (Out-of-Residence
Leave, Spring Quarter, 1947.)
- ATKINSON, E. A.Professor of Psychology
B.A., University of Denver, 1920; M.A., Montana State University,
1922. (Out-of-Residence Leave, Summer Quarter, 1946.)
- BADGLEY, E. KIRKUniversity Auditor; Graduate Manager,
Intercollegiate Athletics; Assistant Controller.
B.A., Montana State University, 1924.
- BATEMAN, WILLIAM G.Professor of Chemistry
B.A., Stanford University, 1907; M.A., 1909; Ph.D., Yale University,
1916. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ²BEAVER, HELEN I. (Mrs.)Instructor in Home Economics
B.S., University of Tennessee, 1930; M.S., 1937.
- ³BELL, CLARENCE W.Assistant Professor of Music; Band Director
B.S. Ed., University of Illinois, 1936; M.A., Eastman School of
Music, 1945. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ¹BENNETT, 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.
- ⁴BERG, IRENEInstructor in English
B.A., Willamette University, 1925; M.A., Montana State University,
1930.
- BERG, PHYLLIS M.Residence Hall Director
B.A., Montana State University, 1942.
- BISCHOFF, PAUL A.Associate Professor of Spanish
B.S., Montana State University, 1927; B.A., 1928; M.A., Oberlin
College, 1932. (Out-of-Residence Leave, Winter Quarter, 1947.)
- BLAKE, GRACE (Mrs.)Social Director of South Hall
- ⁵BLAESSER, WILLARD W.Director of Student Personnel
Services; Associate Professor of Education
B.S., University of Wisconsin, 1934; M.A., 1940.
- ⁴BOETTICHER, WILLIAM D.Assistant in Social Sciences
B.E., Montana State Normal College, 1946.
- ⁶BOONE, WILLIAM T.Instructor in Law
LL.B., Montana State University, 1933.
- ⁷BOWLAND, ORREN T.Instructor in Military Science and Tactics
Lieutenant, U.S. Army Air Corps
B.S., University of Chicago, 1942.

¹Effective September, 1946.²Autumn Quarter, 1946-47.³On Leave of Absence.⁴Effective January, 1947.⁵Effective August 15, 1946.⁶Winter and Spring Quarters, 1947.⁷Effective December, 1946.

- BRIGGS, EDWIN W.Professor of Law
B.S., Oklahoma A. & M. College, 1927; LL.B., University of Oklahoma, 1932; LL.M., Harvard University Law School, 1935.
- ¹BRODY, DAVID S.Director of University Counseling Center;
Assistant Professor of Psychology.
B.S., University of Minnesota, 1932; M.A., 1936.
- ²BRODY, ELIZABETH G.Assistant in Psychology
B.A., University of Minnesota, 1934; M.A., 1934; Ph.D., 1938.
- BROWMAN, LUDVIG G.Professor of Zoology and Physiology
B.S., University of Chicago, 1928; Ph.D., 1935. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ¹BROWN, MARIE (Mrs.)Assistant in English
- ¹BRUNSON, ROYAL B.Instructor in Zoology
B.S., Western Michigan College of Education, 1938; M.S., University of Michigan, 1945; Ph.D., 1947.
- BUE, OLAF J.Associate Professor of Journalism
B.A., Montana State University, 1923; M.S.J., Northwestern University, 1941. (Out-of-Residence Leave, Summer Quarter 1946.)
- ²BUKER, SAMUEL L.Assistant in Mathematics
- ⁴BURGESS, CHARLESAssistant in Health and Physical Education
- CAMPBELL, KATHLEENLibrarian and Associate Professor
B.S., University of Denver, 1934; M.S., 1939.
- CAREY, EUGENE F. A.Associate Professor Emeritus
of Mathematics
B.S., University of California, 1905; M.S., 1914.
- ¹CARLETON, LINUS J.Assistant Professor of Education
B.A., Intermountain Union College, 1925; M.Ed., Montana State University, 1940.
- CASTLE, GORDON B.Professor of Zoology; Director,
Biological Station
B.A., Wabash College, 1928; M.A., University of California, 1930;
Ph.D., 1934.
- ⁵CHATLAND, HAROLDAssociate Professor of Mathematics
B.A., McMaster University, 1934; M.A., University of Chicago, 1935;
Ph.D., 1937.
- CHINSKE, EDWARD S.Assistant Professor of Physical
Education and Athletics
B.A., Montana State University, 1930.
- CLAPP, MARY B. (Mrs.)Instructor in English
B.A., University of North Dakota, 1903; M.A., 1906.
- CLARK, FAY G.Professor of Forest Management
B.A., University of Michigan, 1912; M.S.F., 1914.
- CLARK, WESLEY P.Professor of Classical Languages;
Dean of the Graduate School.
B.A., University of Richmond, 1903; M.A., 1904; Ph.D., University of Chicago, 1928. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ¹CLEMOW, HARRIS N., JR.Assistant in Military Science and Tactics
Technical Sergeant Infantry, U.S. Army.

¹Effective September, 1946.²Effective January, 1947.³Spring Quarter, 1947.⁴Winter and Spring Quarters, 1946-47.⁵Resigned, December, 1946.

- ¹CLOW, MAURINEAssociate Director of 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.
- ¹COE, DONALD R.Instructor in Journalism
B.A., Southwestern College, 1938.
- COGSWELL, ANDREW C.Director, Division of Public Service; Associate Professor of Journalism
B.A., Montana State University, 1927; M.A., University of Minnesota, 1943.
- ¹COLE, LOIS D. (Mrs.)Instructor in Music
B.M., Music Ed.; B.M., Piano, Montana State University, 1943.
- COLEMAN, RUFUS A.Professor of English
B.A., Whitman College, 1909; M.A., Columbia University, 1914; Ph.D., Boston University, 1938.
- CROW, CLEOAssistant Professor of Business Administration
B.S., Kent State University (Ohio), 1931; M.A., New York University, 1933.
- CROWDER, JOHN B.Professor of Music, Dean of the School of Music
B.A., University of Richmond, 1925; studied in Vienna, 1925-28; M.A., Eastman School of Music, 1938.
- DAHLBERG, GEORGE P.Associate Professor of Physical Education; Basketball Coach; Assistant Football Coach; Assistant Athletic Manager
B.A., Montana State University, 1925.
- DAUGHTERS, FREEMANProfessor Emeritus of Education; Dean Emeritus of the School of Education
B.A., Kansas Normal College, 1896; S.T.B., Philadelphia Divinity School, 1903; M.A., Columbia University, 1915; Ed.D., (Honorary) Intermountain Union College, 1933.
- DAVIS, KENNETH P.Professor of Forestry; Dean of the School of Forestry; Director of Forest and Conservation Experiment Station
B.S.F., Montana State University, 1928; M.F., University of Michigan, 1932; Ph.D., 1940.
- ¹DAVISON, STANLEY R.Instructor in Business Administration and Social Sciences
B.A., Montana State University, 1932; M.A., 1935.
- ²DEEGAN, ELLENAssistant in Social Sciences
B.A., Montana State University, 1942.
- ³DEMARIS, E. JOEInstructor in Business Administration
B.A., Whitman College, 1942.
- ²DEVEREAUX, GLEN K.Assistant in Military Science and Tactics
Technical Sergeant, Infantry, U.S. Army.
- DIETERT, REUBEN A.Associate Professor of Botany
B.A., DePauw University, 1925; M.S., Michigan State College, 1927; Ph.D., State University of Iowa, 1937.

¹Effective September, 1946.²Effective October, 1946.³Effective January, 1947.

- ¹DOOL, CHARLOTTE (Mrs.)Social Director of North Hall
- ²DUFFALO, JOHN A., JR.Assistant University Physician
B.S., University of Minnesota, 1937; M.B., 1939; M.D., 1940.
- DUGAN, EDWARD B.Assistant Professor of Journalism
B.J., University of Missouri, 1932; M.A., 1940.
- ELROD, MORTON J.Professor Emeritus of Biology
B.A., Simpson College, 1887; M.A., 1890; M.S., 1902; Ph.D., Illinois
Wesleyan University, 1905; LL.D. (Honorary), Montana State Uni-
versity, 1938.
- ELY, ROY J. W.Professor of Economics
B.Sc. in B.A., University of Nebraska, 1924; M.A., 1925; Ph.D., 1937.
(Out-of-Residence Leave, Summer Quarter, 1946.)
- EMBLEM, DONALD J.Professor of Business Administration
B.A., Ohio University, 1932; M.A., University of Pennsylvania, 1935;
Ph.D., Columbia University, 1941.
- EPHRON, MARGUERITE H. (Mrs.)Instructor in Latin and Humanities
B.A., Montana State University, 1931; M.A., 1932.
- EUBANKS, BURNIE L.Assistant in Military Science and Tactics
Technical Sergeant, U.S. Army.
- ¹FENTON, RAY W.Instructor in Journalism
B.A., Montana State University, 1943.
- FERGUSON, MARY ELROD (Mrs.)Assistant Director, Museum and
Northwest Historical Collection
B.S., Montana State University, 1911; M.A., Columbia University,
1934.
- FESSENDEN, DOUGLAS A.Head Football Coach, Professor
of Physical Education; Director of Intercollegiate Athletics.
B.S., University of Illinois, 1927; M.A., Montana State University,
1946.
- ²FETTER, KLARAInstructor in Modern Languages
M.A., Royal Hungarian University of Budapest, 1924; Ph.D., 1925.
- ⁴FIEDLER, LESLIE M.Instructor in English
B.A., New York University, 1938; M.A., University of Wisconsin,
1939; Ph.D., 1941.
- ³FISH, LENOIRE MARIE (Mrs.)Instructor in Business Administration
B.S., B.E., Whitewater State Teachers College, 1938.
- ¹FISHER, RUSSELL F.Associate Professor of Air Science and Tactics
Lieutenant Colonel, U.S. Army Air Corps.
B.S., University of Idaho, 1940.
- ⁵FLINT, ELAINE M. (Mrs.)Circulation Librarian
B.A., College of St. Scholastica (Minnesota), 1939; A.B., L.S., Uni-
versity of Michigan, 1940. (Out-of-Residence Leave, Winter Quar-
ter, 1947.)
- ⁶FORD, ELSA (Mrs.)Assistant in Mathematics
B.A., Lawrence College, 1928.
- FORD, JAMES L. C.Professor of Journalism;
Dean of the School of Journalism
B.A., Lawrence College, 1928; M.A., University of Wisconsin, 1939.

¹Effective September, 1946.²On Leave of Absence; Resigned January, 1947.³Effective January, 1947.⁴On Leave of Absence.⁵Resigned, effective April 20, 1947.⁶Autumn Quarter, 1946-47.

- ¹FOX, GUYInstructor in Political Science
B.A., Texas Christian University, 1929; M.A., Southern Methodist
University, 1930.
- ²FRANKENSTEIN, MARCELLAInstructor in English
B.S., M.A., Teachers College, Columbia University, 1946.
- FREEMAN, EDMUND L.Professor of English
B.A., Missouri Wesleyan College, 1915; M.A., Northwestern Uni-
versity, 1924. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ³FREEMAN, MARY B. (Mrs.)Assistant in English
B.S. Northwestern University, 1921.
- ⁴FREER, MARIAN (Mrs.)Assistant Documents and Serials
Librarian
B.A., Drury College, 1937; B.S., University of Illinois, 1940.
- FRITZ, EDMUND T.Instructor in Law
B.A., LL.B., Montana State University, 1930.
- ⁵FROST, BENJAMIN R.Counselor, Student Personnel Services;
Assistant Professor of Education
B.S., University of North Dakota, 1933; M.A., University of Min-
nesota, 1940.
- GARLINGTON, J. C.Assistant Professor of Law
B.A., LL.B., Montana State University, 1930.
- ⁶GEDICKIAN, HASMIG G.Instructor in Music
B.M., Shenandoah Conservatory of Music, 1943; M.M., Northwestern
University, 1946.
- ⁷GILLESPIE, HELEN D. (Mrs.)Instructor in Mathematics
B.A., University of Minnesota, 1919.
- ⁸GILLINGHAM, J. BENTONDirector, Special Student Personnel
Services; Associate Professor of Economics and Sociology.
B.A., State College of Washington, 1939; M.A., University of Wis-
consin, 1942.
- ²GILLILAND, GUSSIEInstructor in English
B.A., Montana State University, 1916.
- GLEASON, HELENProfessor of Home Economics
B.S., Columbia University, 1922; M.A., 1927.
- ³GOELITZ, SYLVIAKindergarten Teacher
B.S., Teachers College, Columbia University, 1945.
- GOLDEN, JOE E.Associate Professor of Military Science and
Tactics
Lieutenant Colonel, Infantry, U.S. Army
B.S., United States Military Academy, 1932.
- ⁷GORDON, INA C. (Mrs.)Social Director of Corbin Hall
- ³GRAY, J. JUSTINInstructor in Music
B.M., University of Michigan, 1942; M.M., Eastman School of Music,
1944.
- GREGORY, JOHNAssistant in Mathematics
- ²GROCHOW, NATALIEResidence Hall Director
B.A., Montana State University, 1945.

¹On Leave of Absence.²Effective January, 1947.³Effective September, 1946.⁴Effective November, 1946.⁵On Leave of Absence, effective March 21, 1947.⁶Resigned, effective August, 1946.⁷On Leave of Absence.

- GULBRANDSEN, NORMAN R.Instructor in Music
B.S., University of Utah, 1942; M.M., Northwestern University, 1945.
- HALL, JOSEPH S.Assistant Professor of English
B.A., Stanford University, 1928; M.A., Columbia University, 1936;
Ph.D., 1941.
- ¹HAMMERNES, SHIRLEY (Mrs.)Assistant in English
B.A., Northfield College, 1942.
- ¹HARDY, MABELLE G. (Mrs.)Assistant in Economics and
Sociology
B.A., Montana State University, 1938.
- HARVEY, LEROY H.Instructor in Botany
B.S., Western Michigan College of Education, 1936; M.S., Uni-
versity of Michigan, 1946.
- ²HARVEY, MARIA (Mrs.)Instructor in Botany
B.S., University of Puerto Rico, 1926; M.A., University of Michi-
gan, 1935.
- ¹HEISS, ARLISS M.Assistant Circulation Librarian
B.S., College of St. Catherine, 1946.
- ¹HENNINGSEN, FREDERICKAssistant in Business Administration
B.A., Montana State University, 1946.
- HERTLER, CHARLES F.Associate Professor of Health and
Physical Education
B.P.E., Normal College of American Gymnastic Union, 1932; M.A.,
Columbia University, 1936.
- HETTLER, DONALD M.Professor of Bacteriology and Hygiene
B.A., Kansas University, 1918; M.A., 1923; Ph.D., Yale University,
1926.
- ¹HETTLER, ROSSLEENE (Mrs.).....Assistant Professor of Chemistry
B.A., Oberlin College, 1916; M.A., University of Illinois, 1918; Ph.D.,
Yale University, 1926.
- HOFFMAN, RUDOLPH O.Professor of French
Ph.C., State University, Ghent, Belgium, 1910; M.A., University of
Wisconsin, 1921; Diplome Superieur d'Etudes de Civilisation Fran-
caise (Universite de Paris), 1929.
- HOOK, WALTERInstructor in Mathematics
B.A., Montana State University, 1942.
- ¹HOSKINS, MARY SARAResidence Hall Director
B.A., Montana State University, 1942.
- HOVEE, AGNESAssistant Director, Residence Halls
B.A., Montana State University, 1935. (Out-of-Residence Leave,
Spring Quarter, 1947.)
- HOWARD, JOSEPH W.Professor of Chemistry
B.A., Shurtleff College, 1912; M.A., University of Illinois, 1913;
Ph.D., 1915.
- ⁴JACOBS, MARJORIEResidence Hall Director
B.A., Montana State University, 1941.
- JEPPESEN, C. RULONProfessor of Physics
B.A., Brigham Young University, 1928; M.A., University of Cali-
fornia, 1930; Ph.D., 1932.

¹Effective September, 1946.²Effective January, 1947.³Effective October, 1946.⁴Resigned, effective January, 1947.

- ¹JESSE, LUCILLE L. (Mrs.)Assistant in English
B.A., University of Nebraska, 1916.
- JESSE, RICHARD H.Professor of Chemistry; Vice President
B.A., University of Missouri, 1902; M.A., Harvard University, 1907;
Ph.D., 1909.
- ¹JOYCE, THOMASAssistant in Mathematics
- 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.
- ¹KELTON, RAYMOND H.Instructor in Music
B.M., M.M., University of Arizona, 1942.
- KRAMER, JOSEPHAssociate Professor of Botany
B.S., University of Nebraska, 1921; M.A., 1923; Ph.D., 1936. (Out-
of-Residence Leave, Summer Quarter, 1946.)
- ²KRAUS, LOUISEInstructor in French
M.A., University of Munich, 1918; Ph.D., University of Nancy
(France), 1921.
- ¹KUEHLKE, CHRIS G., JR.Associate Professor of Forestry
B.S., Colorado A. & M., 1937; M.F., Yale School of Forestry, 1938.
- LEAPHART, CHARLES W.Professor of Law; Dean of
the School of Law
B.A., University of Missouri, 1905; M.A., 1906; LL.B., Harvard
University, 1913; S.J.D., 1929. (Out-of-Residence Leave, Summer
Quarter, 1946.)
- LENNES, N. J.Professor Emeritus of Mathematics
B.S., University of Chicago, 1898; M.S., 1903; Ph.D., 1907.
- LESTER, JOHNProfessor of Music
B.A., B.M., Southwestern University (Texas), 1922; studied in
Nice, France, 1923-26; Milan, Italy, 1927-30. (Out-of-Residence
Leave, Summer Quarter, 1946.)
- LINE, ROBERT C.Professor of Business Administration
B.A., Montana State University, 1910; M.A., Harvard University,
1912.
- LOMMASSON, EMMA (Mrs.)Assistant Registrar
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 Univer-
sity, 1932.
- LOVLESS, JAY B.Professor of Military Science and Tactics
Colonel, Infantry, U.S. Army
B.A., Montana State University, 1925.
- LOWELL, WAYNE R.Associate Professor of Geology
B.S., Washington State College, 1936; M.S., University of Chicago,
1939; Ph.D., 1942.
- ³MCBRIDE, MARYANNEAssistant in Mathematics
B.A., Arizona State Teachers College, 1935.
- ⁴MCEWEN, C. R.Assistant in Mathematics
B.S., California Institute of Technology, 1946.

¹Effective September, 1946.²Spring Quarter, 1946-47.³Effective January, 1947.⁴Effective October, 1946.

- MCCAIN, JAMES A.**President
B.A., Wofford College, 1926; M.A., Duke University, 1929.
- MCGINNIS, RALPH Y.**Assistant Professor of Speech;
Debate Coach
B.A., Kent State University, (Ohio), 1932; M.A., Northwestern Uni-
versity, 1938.
- MACARTHUR, ELEANOR**Assistant Director of Residence
Halls; Assistant Professor of Home Economics
B.A., Montana State University, 1930.
- ¹**MACCALMAN, LORRAINE G.**Assistant in Fine Arts
B.S., Montana State College, 1940.
- MANN, IRENE**Assistant Professor of English
B.A., University of Virginia, 1936; M.A., 1938; Ph.D., 1942.
- ²**MACKAY, DONNA BURDITT**Assistant in English
B.A., University of Idaho, 1943.
- ²**MACKAY, JOHN W.**Instructor in English
B.A., College of Wooster, 1940.
- MADDOCK, WILLIAM E.**Professor Emeritus of Education
B.L., Earlham College, 1894; B.A., Harvard University, 1904; M.A.,
Stanford University, 1922.
- MANLEY, ROBERT D.**Social Director of Jumbo Hall
B.A., Montana State University, 1947.
- ³**MANSFIELD, MICHAEL J.**Assistant Professor of History
and Political Science
B.A., Montana State University, 1933; M.A., 1934.
- MARBLE, EVERETT G.**Accountant; Instructor in
Business Administration
B.A., Montana State University, 1926.
- MARTELL, EARL W.**Editor, Publications and News Service
B.A., Montana State University, 1939.
- MARVIN, EDWIN L.**Associate Professor of Philosophy
and Psychology
B.A., Central College (Missouri), 1921; M.A., Harvard University,
1923.
- ⁴**MARVIN, LEONA S. (Mrs.)**Assistant in Music
B.A., Central College (Fayette, Missouri), 1925.
- MASON, DAVID R.**Professor of Law
LL.B., University of South Dakota, 1924; B.A., 1926; S.J.D., Har-
vard University, 1927.
- MAUCKER, JAMES W.**Professor of Education;
Dean of the School of Education
B.A., Augustana College, 1933; M.A., State University of Iowa, 1936;
Ph.D., 1940.
- MEADOWS, PAUL**Associate Professor of Sociology
B.A., McKendree College (Illinois), 1935; M.A., Washington Uni-
versity, 1936; Ph.D., Northwestern University, 1940. (Out-of-
Residence Leave, Summer Quarter, 1946.)
- ⁴**MERRIAM, DORIS F. (Mrs.)**Assistant in English
B.L., Mills College, 1911.

¹Effective October, 1946.²Autumn Quarter, 1946-47.³On Leave of Absence.⁴Effective September, 1946.

- MERRIAM, HAROLD G.Professor of English; Chairman of the Division of Humanities
B.A., University of Wyoming, 1905; B.A., Oxford University, England, 1907; M.A., 1912; Ph.D., Columbia University, 1939.
- MERRILL, A. S.Professor of Mathematics; Director of Institutional Research; Director, Veterans Education
B.A., Colgate University, 1911; M.A., 1914; Ph.D., University of Chicago, 1916. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ¹MERRILL, LOU ALTA (Mrs.)Assistant in Mathematics
B.S.C.E., University of Colorado, 1920.
- ¹MEYER, ARTHUR T.Instructor in Music
B.A., University of Iowa, 1932; M.A., 1934.
- MILLER, J. EARLProfessor of History and Political Science; Chairman of the Division of Social Sciences; Dean of Men
B.A., University of Kansas, 1910; LL.B., 1912; M.A., University of Illinois, 1914; Ph.D., 1917.
- ¹MILTZ, DOROTHEA E.Instructor in Home Economics
B.S., University of Washington, 1942.
- MIRRIELES, LUCIA B.Professor of English
B.A., Stanford University, 1909; Ph.D., 1924. (Out-of-Residence Leave, Spring Quarter, 1947.)
- ²MOE, MOLFRID J.Assistant Professor of Home Economics
B.S. North Dakota State 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.
- MOORE, JOHN E.Assistant Professor of English
B.A., University of Michigan, 1936; M.A., 1937.
- ³MOREY, PATRICIA D.Instructor in English
B.A., Reed College, 1940; M.A., University of Wisconsin, 1941.
- MORRIS, MELVIN S.Associate Professor of Forestry
B.S., Colorado State College, 1930; M.S., 1932.
- MULLER, JEAN A.Assistant in Military Science and Tactics
Master Sergeant, Infantry, U.S. Army
- NELSON, RITA M. (Mrs.)Acting Acquisitions Librarian
B.A., Montana State University, 1934.
- NOBLE, ANDREWA R.Assistant Professor of Mathematics
B.A., Pacific University, 1929; M.A., University of California, 1934; Ph.D., 1935.
- O'BRIEN, DOROTHY (Mrs.)Instructor in Health and Physical Education
B.S., University of Washington, 1927; M.Ed., Montana State University, 1941.
- O'HARE, CATHERINE MCKEELSocial Director of Corbin Hall
B.A., Montana State University, 1938.
- O'HARE, PAUL T.Social Director of Corbin Hall
B.A., Montana State University, 1941.

¹Effective September, 1946.²Effective January, 1947.³Effective September, 1946; resigned January, 1947.

- ¹OSWALD, ROBERT M. Assistant in Health and Physical Education
- ²PANNETT, MURRELL Instructor in English
B.A., University of Washington, 1946.
- ³PATON, BERNICE H. Cataloger and Assistant Professor
B.A., University of Oklahoma, 1925; B.S.L.S., Columbia University, 1932; M.A.L.S., University of Michigan, 1944.
- PATTEN, O. M. Instructor in Forestry and Staff Forester
B.S., Colorado State Agricultural College, 1935.
- PERKINS, JESSIE (Mrs.) Head Teacher, Nursery School
B.A., Montana State University, 1943; M.E., Montana State University, 1946.
- PETERSON, ALEX F. Instructor in Pharmacy
Ph.C., Montana State University, 1923; B.S., University of Minnesota, 1924.
- PHILLIPS, PAUL C. Professor of History and Political Science; Director of Museum and Northwest Historical Collection
B.A., Indiana University, 1906; M.A., 1909; Ph.D., University of Illinois, 1911.
- PLATT, ANNE C. Professor of Home Economics
B.S., University of Washington, 1917; M.S., 1928. (Out-of-Residence Leave, Summer Quarter, 1946)
- ⁴POPE, WALTER L. Professor of Law
B.A., University of Nebraska, 1909; J.D., University of Chicago, 1912.
- RAMSKILL, BERNICE BERRY (Mrs.) Associate Professor of Music
(Out-of-Residence Leave, Summer Quarter, 1946)
- ⁵RAY, MARIE Assistant in Zoology
B.A., Montana State University, 1941.
- ⁶RICH, CARL H. Assistant Professor of Education
B.A., Western Washington College of Education, 1939; M.A., College of Puget Sound, 1941; Ed.D., Stanford University, 1943.
- RIMEL, VERA S. (Mrs.) Social Director of New Hall
- RINEHART, KEITH Instructor in English
B.A., University of Oregon, 1940; M.A., 1941.
- ⁷RONHOVDE, ANDREAS G. Associate Professor of History and Political Science
B.A., St. Olaf College, 1927; M.A., University of North Dakota, 1929.
- ROWE, JESSE P. Professor Emeritus of Geology
B.S., University of Nebraska, 1897; M.A., 1903; Ph.D., 1906; D.Sc. (Honorary), 1935.
- RUSSEL, CHARLOTTE Librarian, Law Library
- ⁸RYAN, MARGARET Instructor in Psychology and Assistant, Counseling Center
B.A., Whitman College, 1944; M.A., Montana State University, 1946.
- ²RYDELL, O. F. Instructor in Business Administration
B.S., Notre Dame University, 1938.

¹Winter and Spring Quarters, 1946-47.²Effective September, 1946.³Resigned, effective April 22, 1947.⁴Winter Quarter, 1946-47; on leave of absence, effective March 24, 1947.⁵Autumn Quarter, 1946-47.⁶Resigned, effective September, 1947.⁷On leave of absence; resigned, effective February, 1947.⁸Effective October, 1946.

- SANFORD, EMMETT R. Professor Emeritus of Business Administration
B.A., Montana State University, 1918; M.A., University of California; C.P.A., California, 1925.
- ¹SANTISTEBAN, GEORGE Assistant in Zoology
B.A., Montana State University, 1945
- SAPPENFIELD, BERT R. Assistant Professor of Psychology
B.A., DePauw University, 1935; M.A., New York University, 1938; Ph.D., 1941.
- ¹SARSFIELD, MARGARET (Mrs.) Assistant in Health and Physical Education
B.A., Montana State University, 1937.
- ²SCHENDEL, CHESTER Assistant Track Coach
B.A., Montana State University, 1943.
- SCHEUCH, FREDERICK C. President Emeritus; Professor Emeritus of Modern Languages
M.E., Purdue University, 1893; A.C., 1894; LL.D., (Honorary) Montana State University, 1938.
- ⁵SCHLUETER, RUDOLPH J. Assistant Professor of German
B.A., Northwestern College (Wisconsin), 1921; M.A., University of Wisconsin, 1926; Ph.D., 1934.
- SCHREIBER, WILLIAM E. Professor Emeritus of Physical Education
B.A., University of Wisconsin, 1904.
- SEVERY, J. W. Professor of Botany; Chairman of the Division of Biological Sciences
B.A., Oberlin College, 1915; M.S., Washington University, 1926; Ph.D., University of Wisconsin, 1931.
- SHALLENBERGER, GARVIN D. Professor of Physics; Director of Placement Bureau; Chairman of the Division of Physical Sciences
B.S., Oklahoma A. & M. College, 1912; B.S., Tulane University, 1917; M.S., 1919; Ph.D., University of Chicago, 1923.
- ¹SHATTUCK, A. B. Assistant Professor of Air Science and Tactics
Captain, U.S. Army Air Corps; B.A., Duane College (Nebraska), 1941.
- ²SHELLEY, JAY F. Assistant in Business Administration
B.A., Montana State University, 1947.
- SHERMAN, GEORGE W. Instructor in English
B.A., University of Washington, 1928; M.A., Syracuse University, 1946.
- ⁴SHOEMAKER, THEODORE Assistant Professor of Modern Languages
B.A., Montana State University, 1936; M.A., University of California, 1938; Ph.D., University of Wisconsin, 1941.
- ⁴SMITH, ELIZABETH (Mrs.) Assistant in Mathematics
B.A., Ohio Wesleyan University, 1929; M.A., Ohio State University, 1937.
- SMITH, FLORENCE R. (Mrs.) Professor of Organ and Accompanist
- ⁴SMITH, GEORGE H. Instructor in English
B.A., University of California, 1933; M.A., Montana State University, 1946.

¹Effective October, 1946.²Spring Quarter, 1946-47.³Resigned, effective September, 1946.⁴Effective September, 1946.

- SMITH, LEORegistrar; Assistant Professor of Education
B.S., Whitman College, 1927; M.A., University of Washington, 1934.
- ¹SMITH, NORMA (Mrs.)Assistant in English
B.A., University of California, 1932.
- SMITH, RUSSELL E.Assistant Professor of Law
LL.B., Montana State University, 1931.
- SMITH, THEODORE H.Professor of Business
Administration; Dean of the School of Business Administration
B.A., Heidelberg College, 1921; M.B.A., Northwestern University,
1926; Ph.D., Ohio State University, 1940.
- SORENSEN, THORAInstructor in Spanish
B.A., Montana State University, 1927; M.A., Montana State Uni-
versity, 1945. (Out-of-Residence Leave, Summer Quarter, 1946).
- SPAULDING, THOMAS C.Professor of Forestry
B.S., Montana State University, 1906; M.S.F., University of Michi-
gan, 1909.
- SPEER, JAMES B.Controller; Professor of
Business Administration
B.A., Montana State University, 1908; LL.B., University of Michi-
gan, 1916.
- SPEER, LUCILEDocuments and Serials Librarian
and Assistant Professor
B.A., Montana State University, 1924; M.A., University of Chicago,
1925.
- ²STEWART, JOHN M.Assistant Professor of Chemistry
B.A., Montana State University, 1941; Ph.D., University of Illinois,
1944.
- STIFFLER, RONALD-BELInstructor in English;
Director of Dramatics
- ²STRUCKMAN, ROBERTAssistant Professor of Journalism
B.A., Montana State University, 1933.
- SUCHY, JOHN F.Professor of Pharmacy
Ph.C., B.S., Montana State University, 1917; M.S., University of
Colorado, 1927; Ph.D., 1934. (Out-of-Residence Leave, Summer
Quarter, 1946).
- ³SULLENBERGER, CARL L.Director, Affiliated
School of Religion
B.A., Baylor University, 1930; B.D., Andover Newton Theological
School, 1933.
- ⁴SVORE, C. R.Director of Health Service
B.A., St. Olaf College, 1932; M.D., University of Denver, 1939.
- ²SWANN, EVERETT H.Assistant in Military Science and Tactics
Master Sergeant, Infantry, U.S. Army.
- SWEARINGEN, MONICA BURKE (Mrs.)Director of Residence
Halls; Professor of Home Economics
B.A., Montana State University, 1918; M.A., Columbia University,
1924.
- SWEARINGEN, THOMAS G.Maintenance Engineer;
Assistant Professor of Forest Engineering
B.A., Montana State University, 1920.

¹Autumn and Winter Quarters, 1946-47.²Effective September, 1946.³Effective November, 1946.⁴Resigned, effective September, 1946.

- ¹SWENTY, JOHN D.Assistant in Military Science and Tactics
Master Sergeant, Infantry, U.S. Army
- SZAKASH, PAUL M.Assistant Football Coach,
Intramural Athletic Supervisor
- TASCHER, HAROLDAssociate Professor of Sociology
B.A., University of Illinois, 1925; M.A., 1926; Ph.D., 1932.
- TEEL, STANLEY M.Associate Professor of Music
B.Mus., DePauw University, 1925; M.Ed., Montana State University,
1943.
- THOMAS, BART E.Professor of Spanish
B.S., Wisconsin State Teachers' College, 1901; B.A., Montana State
University, 1924; Ph.D., University of Wisconsin, 1937. (Out-of-
Residence Leave, Autumn Quarter, 1946).
- ²TOELLE, CHARLOTTEAssistant in Geology
B.A., Montana State University, 1944.
- TOELLE, HOWARDDixon Professor of Law
B.A., Indiana University, 1913; LL.B., Columbia University, 1914;
M.A., 1916; LL.M., Harvard University, 1925.
- TURNER, ROBERT T.Instructor in History and
Political Science
B.A., University of California at Los Angeles, 1939; M.A., 1940;
Ph.D., 1945. (Out-of-Residence Leave, Summer Quarter, 1946.)
- ³TURNER-HIGH, HARRYProfessor of Anthropology
and Sociology
B.A., St. Stephen's College (New York), 1922; M.A., University of
Wisconsin, 1924; Ph.D., 1928.
- ⁴VANCE, JAMES J.Assistant in Economics and Sociology
B.S., Winona State Teachers College, 1942.
- VAN DUSER, CYRILE C.Manager, Montana Student Union
B.A., Montana State University, 1927.
- VANVOROUS, GLADYS (Mrs.)Instructor in Home Economics;
Supervisor, Student Teachers
B.S., Purdue University, 1919.
- ⁵VARNECK, ELENA (Mrs.)Instructor in German
B.A., Smolny College (St. Petersburg), 1913.
- WALBRIDGE, THOMAS A.Instructor in Forestry
B.S.F., University of Washington, 1942.
- WALDON, CURTIS H.Professor of Pharmacy; Dean
of the School of Pharmacy
B.S., University of Minnesota, 1935; M.S., 1937; Ph.D., 1941.
- ⁶WALSH, JAMES F.Assistant in Economics
B.A., Montana State University, 1943.
- WATERS, CHARLES W.Professor of Forestry and Botany
B.S., B.L., Berea College (Kentucky), 1919; M.A., Ohio State Uni-
versity, 1921; Ph.D., University of Michigan, 1927. (Out-of-Resi-
dence Leave, Summer Quarter, 1946).

¹Effective November, 1946.²Effective September 1, 1946.³Resigned, effective October, 1946.⁴Autumn Quarter, 1946-47.⁵Effective October, 1946.⁶Winter Quarter, 1946-47.

- ¹WEBB, EVELYN E.Instructor in Mathematics
B.A., Jamestown College, 1935; M.Ed., University of Cincinnati,
1940.
- WEISBERG, A. HERMANProfessor Emeritus of Violin
Studied Leipzig Royal Conservatory, Germany, 1901-1903; Paris,
1903-1904.
- WEISBERG, FLORA B. (Mrs.)Assistant Professor Emeritus
of German
B.A., Montana State University, 1928.
- WENDT, RUDOLPHInstructor in Music
B.M., (Piano Pedagogy), Eastman School of Music, 1936; B.M.
(Piano Performer), 1937.
- ²WHALEN, JOHN T.University Physician and
Associate Director, Health Service.
B.S., Carroll College, 1939; M.D., St. Louis Medical School, 1942.
- ³WHITE, ELAINEInstructor in Modern Languages
B.A., Montana State University, 1940; M.A., 1941.
- WHITE, MARGARET N. (Mrs.)Assistant Reference Librarian
B.A., College of St. Teresa, 1935; B.S.L.S., George Peabody Library
School, 1940.
- WHITE, M. CATHERINEAssistant Librarian, Reference
Librarian and Assistant Professor
B.A., Montana State University, 1927; M.A., 1940.
- ⁴WICKHAM, VERNA L.Instructor in Business Administration
B.A., Minot State Teachers College, 1935.
- WILLIAMS, CALDER T.Instructor in English
B.A., University of California, Los Angeles, 1939.
- WILSON, BRENDA FARRELL (Mrs.)Associate Professor of
Business Administration
B.A., Montana State University, 1932; M.A., University of Southern
California, 1939. (Out-of-Residence Leave, Winter and Spring
Quarters, 1947).
- WILSON, VINCENTInstructor in Health and
Physical Education
B.A., Montana State University, 1943; M.A., New York University,
1947.
- WOLFARD, JOHN A.Assistant Professor of Economics
and Sociology
B.A., University of Washington, 1936; M.A., 1937; Ph.D., University
of Wisconsin, 1942.
- WREN, MELVIN C.Assistant Professor of History
and Political Science
B.A., University of Iowa, 1936; M.A., 1938; Ph.D., 1939.
- WRIGHT, PHILIP L.Assistant Professor of Zoology
B.S., University of New Hampshire, 1935; M.S., 1937; Ph.D., Uni-
versity of Wisconsin, 1940.

¹Effective October, 1946.²Effective April, 1947.³Autumn Quarter, 1946-47.⁴Effective September, 1946.

Graduate Assistants

- ¹AHLGREN, IVANGraduate Assistant in English
B.A., Montana State University, 1942.
- ¹BELLEFLEUR, FLORA MAEGraduate Assistant in History and
Political Science
B.A., Montana State University, 1946.
- ²BOSTWICK, DAVIDGraduate Assistant in Mathematics
B.A., Montana State University, 1942.
- ¹CARR, DELLA VEGraduate Assistant in Humanities
B.A., Montana State University, 1938.
- ¹CEBULL, EDWARDGraduate Assistant in English
B.E., Montana State Normal College, 1939.
- ²CRAIG, GEORGE D.Graduate Assistant in English
B.A., Montana State University, 1941.
- ⁴FELKER, PEARLGraduate Assistant in English
B.A., Montana State University, 1936.
- ¹FORMOS, HELENGraduate Assistant in English
B.A., Montana State University, 1940.
- ¹HAMOR, GLENN H.Graduate Assistant in Pharmacy
B.S., Montana State University, 1941.
- ²HANSON, CLIFFORDGraduate Assistant in Education
B.S., Billings Polytechnic Institute, 1946.
- ¹HANSON, WILLIAM R.Graduate Assistant in Botany
B.A., Montana State University, 1943.
- ¹HAYNES, FRANCES CAROLGraduate Assistant in Psychology
B.A., Montana State University, 1946.
- ³JOHNSON, EVELYNGraduate Assistant in English
B.A., Montana State University, 1947.
- ¹KELLER, JOSEPH L.Graduate Assistant in English
B.A., St. John's University (Minnesota), 1937.
- ¹KENNETT, BETTE.....Graduate Assistant in History and Political Science
B.A., Montana State University, 1945.
- ¹MEWALDT, L. RICHARDGraduate Assistant in Zoology
B.A., University of Iowa, 1939.
- ¹NOYES, CHERYLGraduate Assistant in English
B.A., Montana State University, 1942.
- ³O'NEIL, CHARLES.....Graduate Assistant in History and Political Science
B.A., Carleton College, 1943.
- ¹PADILLA, ZAIRAH Q.Graduate Assistant in Modern Languages
B.Sc., University of Wyoming, 1946.
- ¹RASMUSSEN, EVELYNGraduate Assistant in Pharmacy
B.S., Montana State University, 1945.
- ¹SANDERSON, ARTHUR M.Graduate Assistant in English
B.A., Montana State University, 1943.
- ¹SLAGER, WILLIAMGraduate Assistant in English
B.S., University of Minnesota, 1946.

¹Effective September, 1946.²Effective October, 1946.³Effective January, 1947.⁴Autumn Quarter, 1946-47.

- ¹SMITH, PHIL S.Graduate Assistant in Zoology
B.A., Montana State University, 1938.
- ¹WOOD, MORTONGraduate Assistant in Botany
B.A., University of Idaho, 1938.
- ²YLINEN, WALTERGraduate Assistant in Education
B.A., Intermountain Polytechnic Institute, 1941.
- ¹ZOOK, FREDERIC H.Graduate Assistant in English
B.A., Hastings College, 1941.

Special Appointments for Summer Session, 1946

BALDWIN, BOYD.....	Visiting Instructor in Education
BENNETT, H. K.	Visiting Professor of Education
BERGAN, K. W.	Visiting Instructor in Education
BROWN, VIRGINIA	Visiting Assistant in English
BURKE, HARRY A.	Visiting Lecturer in Education
BURLINGAME, MERRILL G.	Visiting Professor of Education
COLLINS, THOMAS C.	Visiting Professor of Music
CORBETT, EVELYN DORIS	Visiting Professor of Spanish
DEAN, CHARLES D.	Visiting Professor of Education
DOUGLAS, HARRIET (Mrs.).....	Visiting Instructor in Education
FERGUSON, CARL H.	Visiting Professor of Education
FORSTER, THELMA A. (Mrs.).....	Visiting Instructor in Music
GRADY, MONTANA J.	Visiting Instructor in Business Administration
GULLIDGE, A. O.	Visiting Professor of Education
HAINES, MILLICENT	Visiting Professor of Education
HEWITT, BARNARD W.	Visiting Professor of English
KITCHIN, JOSEPH	Visiting Professor of Music
LAKE, RICHARD	Visiting Assistant in English
LEBAR, FRANKLIN	Visiting Instructor in Music
LEFORT, EMILIO C.	Visiting Professor of Spanish
MAESCH, LEVAHN	Visiting Professor of Music
MARTIN, RUBY (Mrs.)	Visiting Instructor in Spanish
MING, JAMES WESLEY	Visiting Professor of Music
MOONEY, OLIVE S.	Visiting Instructor in English
PAUL, EARL A.	Visiting Professor of Education
RODRIGUEZ, MALVA	Visiting Instructor in Spanish
SLAVENS, OPAL	Visiting Instructor in Education
SWITZER, A. IRWIN	Visiting Instructor in Education
WEEKS, GEORGE D.	Visiting Instructor in Music

Montana State Board of Examiners in Accountancy

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

¹Effective September, 1946.

²Effective October, 1946.

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 Thirteenth 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, executive secretary.

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 225.

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 more than twenty-three thousand. It has a mild, healthful climate. Many miles of paved streets and bus lines make the campus of the University accessible from any part of the city. The surrounding country is a beautiful region of mountain ranges, easily reached by rail or auto, and furnishing excellent opportunity for recreation.

The campus 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

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.

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

Requirements for Admission

Students applying for admission should send in the following credentials:

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

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

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

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

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

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

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

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

General Admission

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

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

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

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

Students who have not completed these required courses must: (1) pass an entrance examination in the subject in which they are deficient; or (2) earn eight college credits in the subject in which they are deficient in addition to any college work in that subject required for a degree. Such credits may be counted toward the degree. Students must remove all entrance deficiencies during their first year of attendance, 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 32 and 38). 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 39.

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 25. 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.,

*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.

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

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

Ineligibility for Admission to Junior Class

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

Admission to Graduate Standing

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

Requirements for Graduation

Degrees and Certificates

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

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

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

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

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

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

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

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

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

The Secondary State certificate of qualification to teach may be obtained by graduates of Montana State University who meet the requirements set forth in the School of Education. (See Certification page 80.)

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

The degrees of Master of Arts, Master of Science in Forestry, Master of Science in Pharmacy, and Master of Science with a combined major in Botany and Forestry are granted to those who complete a satisfactory course of at least one year in graduate work beyond that required for a Bachelor's degree provided they comply with the regulations governing graduate work set forth on pages 108 to 112.

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 111.)

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 111.)

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, Bachelor of Science in Nursing Education and Bachelor of Science in Wildlife Technology conferred by the College of Arts and Sciences, and for the degrees of Bachelor of Arts in Business Administration, Bachelor of Arts in Education, Bachelor of Arts in Journalism, Bachelor of Music, or Bachelor of Science in Pharmacy are required to complete 180 credits in addition to the required credits in Physical Education. Candidates for the degree of Bachelor of Science in Forestry

must complete 186 credits in addition to the regular requirements in Physical Education and Military Science. Candidates for the degree of Bachelor of Laws must complete three years of Law, totaling 126 credits, in addition to the entrance requirements of the School of Law.

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

Course Requirements for Graduation

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

- (1) Physical Education, 6 quarters (6 credits) required of all freshmen and sophomore students (except discharged veterans) less than 27 years of age, unless excused for cause.
- (2) Military Drill, 6 quarters (6 credits) required of all freshmen and sophomore men, (except discharged veterans) unless excused for cause.
- (3) English Composition, 3 quarters (9 credits) or 2 quarters (10 credits). During 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 143 for requirements for Bachelor of Music degree in field of applied music.)

- (1) Two of the following general courses must be completed: Social Science 11abc, Biological Science 13abc, Humanities 15abc, Physical Science 17abc. This requirement may be waived for transfer students entering Montana State University with junior standing. Five of the credits earned in survey courses given in the division (whether the course was tak-

en for one, two, or three quarters) are included in the maximum of 65 credits allowed in any one department. Completion of courses 13abc or 17abc, 11abc, 15abc also satisfies the specific requirements under (3), (4), and (5), respectively, as listed below. **NOTE:** By action of the faculty this was suspended during the period of the war until peace is declared.

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

Entrance credit in modern or classical language may be offered in satisfaction of this requirement, one unit being regarded as equivalent to two quarters of university work. Thus students who enter with one unit of language are normally required to complete only three quarters of the same language in the University; those who enter with two units, one quarter; and those who enter with three or more units in one foreign language shall be regarded as having fulfilled all foreign language requirements for graduation upon passing a reading test at the University. However, all students desiring to offer entrance credit in fulfillment of or toward this requirement or who wish to take further work in a language offered for entrance must take a placement examination preferably at the time of entrance, during 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.

Foreign languages will not be required in the Schools of Business Administration, Education, or Journalism or of candidates for the degrees of Bachelor of Science in Medical Technology, Bachelor of Science in Nursing Education or Bachelor of Science in Wild Life Technology. (The Schools of Forestry and Pharmacy and the degrees of Bachelor of Laws and Bachelor of Music are also exempt from this requirement—see statement regarding **Restricted Elective Courses** on page 30.)

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

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

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

Divisional, Departmental, and School Requirements for Graduation

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

Grade Point Requirements for Graduation

First Period. A candidate for a degree or certificate granted by Montana State University must 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-

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:

Classification of Student	Number of Courses Allowed*	Restricted Elective Requirement (See page 30)		Maximum Credit**
		In addition to Required Phys. Ed. and Mil. Sci.		
Freshmen	3	2 courses from 2 different groups		15+2 Cr.†
Sophomores	4	1 course		16+1 Cr.†
Juniors	no limit	1 course until requirements are completed		16
Seniors	no limit	1 course until requirements are completed		16

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 38 and regarding Fees on page 39.)

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 register for credit in a course nor for any portion of a course while he is registered for or after he has received a passing grade (complete or incomplete) in: (1) a subsequent quarter's work in this same course (except that in a continuous course a student may repeat the entire course); (2) a course for which this course is a prerequisite.

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

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

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

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

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

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

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

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 course. 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 freshman 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.

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.*"

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 registra-

tion, student union, veterans' advisement, student health service, student loans, and related student personnel functions. The Director of Student Personnel Services and his colleagues are developing this program 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.

Dean of Men and Associate Director, Student Personnel Services

The Dean of Men and the Associate Director of Student Personnel Services (in charge of women's affairs) have general supervision and, subject to the rules of the faculty, final authority over scholastic honors and deficiencies, student affairs, the conduct, manner of living, and various other matters pertaining to the welfare of students. They are always ready to give any help in their power to any student, either in educational or personal matters. They work through instructors and advisers in scholarship matters, but in personal affairs they are always accessible to the student who desires conference or counsel.

Veterans in the University

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.

University Counseling Center

A counseling and guidance service has been established as a regular part of the University's program. The Counseling Center is staffed by three full-time professional counselors and a psychometrician. 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 adviser. The assignment is made on the basis of the student's probable field of major endeavor. The adviser assists

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

Social Functions of the University

The approval of the Associate Director of Student Personnel is obtained for all social functions of student organizations at which women are present. The Associate Director assists in securing approved chaparrons and schedules these functions for Friday and Saturday evenings only.

Women in the University

The social welfare of all women students is under the guidance of the Associate Director of Student Personnel Services. 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 Director of Student Personnel Services and the social directors to give that personal attention to the individual girl which has always characterized the dormitory 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 housemothers whose appointment is made with the approval of the Associate Director of Student Personnel Services. 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 May Fête, the Co-ed Prom, parties to enable students to become better acquainted, awards for scholarship, and a loan fund.

Student Marriages

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

At each registration period students must indicate on the registration forms whether they are married or single. Falsification or willful

suppression of any information called for on the blanks will be grounds for cancellation of registration.

Attendance

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

All students compelled to be absent from Missoula should report their intended absence in advance to the Dean of Men, to the Associate Director of Student Personnel Services, or to the Registrar.

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

Eligibility Rules

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

Scholarship Grades

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

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

If all the work in a course has not been done and there is sufficient reason for this, the grade I, which carries with it one of the four passing grades, is given. This incomplete work must be completed not later than one calendar year after the incomplete grade was assigned. See also page 32.

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

A student may withdraw from a course in which he has registered: (1) during the first four weeks of a quarter, with the consent of his adviser and the instructors concerned; (2) during the period from the fourth through the 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.

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

Grade Points

Each student receives the following number of grade points for each quarter credit for which he has been registered and for which he has received a grade: 3 grade points for each credit of grade A; 2 grade points for each credit of grade B; 1 grade point for each credit of grade C; 1 grade point for each credit of grade "plus"; 0 grade points for each credit of D or E; 1 grade point is deducted from his total for each credit of grade F. Grade points are not computed on grades received by veterans for refresher work (courses designated "R" after the number of credits). See grade point requirements for graduation, page 32.

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:	Per Quarter	
Registration	\$ 5.00	Waived to holders of Montana high school and University honor scholarships.
Incidental (for laboratory supplies in all courses, locker fees, gymnasium towel service, diploma, etc.)	15.00	Waived to holders of Montana high school and University honor scholarships.
Building	5.00	
Student Union Building	1.67	
Student Activity For support of activities sponsored by the Associated Students of Montana State University.	7.50	Optional to students enrolled in courses leading to a graduate degree and to students registered for less than seven credits.
Health Service (see page 45)	4.00	Required of all students enrolled for class work.
	<hr/> \$38.17	
General Deposit (charges for loss, breakage, and fines deducted)	10.00	Paid once each year and unused portion refunded.
Total, first quarter in attendance (other quarters, \$38.17)	<hr/> \$48.17	

Majors in School of Music pay		
tuition additional	\$25.00	
Non-residents (out-of-state) pay		
additional	100.00	If registered for less than 12 credits, \$8.00 per credit with minimum of \$16.00 per quarter. See special statement furnished on request.

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

Limited Registrants (students registered for less than seven credits): Registration Fee \$5.00; Incidental Fee \$7.50; General Deposit \$5.00; Building Fee \$2.50; Student Union Building \$1.00; Health Service \$4.00; Student Activity, \$7.50 (optional). Non-residents pay \$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 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.

For fees charged for courses in School of Music, see page 150; in **Correspondence Study**, page 164; in **Summer Session**, page 169.

Refunds:

	First Week*	Second Week*	Third Week*	Fourth Week*
Registration (\$5.00)	None	None	None	None
Incidental (\$15.00)	75%	50%	50%	None
Building (\$5.00)	100%	50%	50%	None
Student Union Building (\$1.67)..	None	None	None	None
Student Activity (\$7.50)	100%	50%	50%	None
Health Service (\$4.00)**	100%	50%	50%	None
Non-Resident Tuition (\$100.00)..	80%	60%	40%	20%

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.

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.

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

Expenses and Living Accommodations

The Residence Halls

Montana State University has four modern residence halls located on the campus—Corbin Hall, North Hall, South Hall and New Hall—and Jumbo Hall, an F. P. H. A. dormitory adjacent to South Hall. These residence halls will be used as needed for housing college students.

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

The social, moral, and educational welfare of the residents of the halls is under the general supervision of the Dean of Men and Associate Director of Student Personnel Services. Social Directors, who give personal attention to the needs of each student, reside in each

*Week of instruction.

**Health Service—No refunds if medical service furnished or physical examinations taken.

hall. The students who live in the halls are organized into clubs and assist in the management of social and general interests.

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

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

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

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

Rates

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

Double rooms, \$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 per quarter may be assessed the residents of each hall. This fund is expended under the direction of the club officers for social activities.

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

Additional Living Accommodations

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

Upperclass students may obtain satisfactory rooms in private homes or in rooming houses near the campus at rates varying from \$12.50 to \$15.00 a month for double rooms; for single rooms, from \$15.00 to \$25.00. Board may be obtained at boarding houses at rates varying from \$30.00 to \$35.00.

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

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

Expenses

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

See **Note** below regarding clothing and incidentals.

Books and Equipment	\$ 25.00 to \$ 45.00
Fees (see note)	54.50 to 114.50
Room rent for one (two in a room)	112.00 to 160.00
Board	345.00 to 375.00
Cleaning and laundry	25.00 to 50.00
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 150. 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 44; student loans, see below; scholarships and prizes, pages 46-50; for railway fare refund, see below.

Railway Fare Refund

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

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

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

General University Student Loan Funds

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

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

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

Application blanks and a statement of detailed regulations governing these loans may be obtained from the Director of Student Personnel Services.

Opportunities for Earning One's Way Through College

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

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

Some business houses in Missoula employ students as clerks, janitors, stenographers, bookkeepers, waiters, dishwashers, porters, bell boys, automobile mechanics, musicians, clothes pressers, solicitors and collectors. There are calls for students to do "odd jobs" in private homes such as garden work, window washing, furnace tending, 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 physicians and nurses in case of **emergencies or serious illness.**
- (3) Medicines dispensed at the Health Service and all prescriptions filled by the University Pharmacy.
- (4) All office, dispensary, and physiotherapy treatments.
- (5) Physical examinations on all matriculating students. These examinations are required.
- (6) Mantoux TB test for all students. A chest X-ray will be taken on all positive reactors.
- (7) Immunizations for: smallpox, typhoid fever, diphtheria, tetanus, and Rocky Mountain spotted fever.
- (8) Fees of Missoula physicians and surgeons only when previously authorized by the Health Service, and not exceeding \$50.
- (9) Seven day's hospitalization per quarter in ward or semi-private room up to \$4.00 per day when hospitalization is previously authorized by the Health Service.
- (10) Hospital medicants and laboratory work up to \$10.00 per hospitalization.
- (11) All medical and surgical diagnosis.
- (12) All laboratory work deemed necessary by the University physician.
- (13) All X-ray plates authorized by the Health Service.
- (14) Health certifications.

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

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

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

Scholarships and Prizes

The Dean of Men and the Associate Director of Student Personnel Services 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 39, 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 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, 1947.

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 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 Dean J. E. Miller, Montana State University.

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

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

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

The Heft 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 meets 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.

KVGO 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 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, 1947, 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.

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

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

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

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

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

The 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 student in the School of Music who, in addition to establishing an excellent scholastic record, also shows a strong interest in the field of radio.

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

The 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 39. 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. This scholarship, of \$50, was established by Theta Sigma Phi, national journalism fraternity 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.

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 Capella 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.

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

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

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

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

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

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

NOTICE

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

Organization of Instruction

COLLEGE OF ARTS AND SCIENCES (page 54).

Division of Biological Sciences

Medical Technology (page 135).

Wild Life Technology
(page 166).

Bacteriology and Hygiene
(page 58).

Biology (page 56).

Botany (page 58).

Health and Physical Educa-
tion (page 113).

Pre-Medical Course (page 158).

Pre-Nursing Education
(page 159).

Psychology and Philosophy
(page 161).

Zoology (page 167).

Division of Humanities

Classical Languages (page 72).

English and Speech and

Drama (page 92).

Fine Arts (page 99).

Modern Languages: French,
German, Spanish (page 139).

Division of Physical Sciences

Chemistry (page 70).

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Home Economics (page 119).

Mathematics (page 133).

Physics (page 156).

Division of Social Sciences

Economics and Sociology
(page 73).

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(page 115).

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(page 157).

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SCHOOL OF BUSINESS ADMINISTRATION (page 61).

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SCHOOL OF JOURNALISM (page 122).

SCHOOL OF LAW (page 128).

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MILITARY SCIENCE AND TACTICS (page 136).

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AFFILIATED SCHOOL OF RELIGION (page 165).

Course Numbering System

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

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

College of Arts and Sciences

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

Requirements for Admission

The regular University requirements for admission apply to the College of Arts and Sciences. See pages 24-28.

Requirements for Graduation

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

The general University requirements for graduation, pages 28-33, 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 135.

See requirements for **Wildlife Technology** major on page 166.

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

Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Botany 11ab, 12 or Zoology 14ab, and 12.....	5	6	3
Chemistry 11abc or 13abc	5	5	5
English 11ab and Psychology 11 or elective.....	5	5	5
Physical Education 11abc	1	1	1
Military Science 11abc (Men)	1	1	1
	16-17	16-17	14-15

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

Sophomore Year

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

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

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 72 and 139.

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

Freshman Year

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

Sophomore Year

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

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

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

Freshman Year

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

Sophomore Year

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

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

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

*Course entered dependent upon high school preparation. See Department of Classical and Modern Languages, pages 72 and 139, and Department of Mathematics, page 133.

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

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Humanities 15abc or Biological Science 13abc or *Foreign Language	5	5	5
Social Science 11abc or History 12 and 14.....	5	5	5
English 11ab and Psychology	5	5	5
Physical Education 11abc	1	1	1
Military Science 11abc (Men)	1	1	1
	16-17	16-17	16-17

Sophomore Year

Biological Science 13abc, Humanities 15abc or English Literature	4-5	4-5	4-5
Economics 14ab or History 21abc	4	4	4
*Foreign Language or Elective	5-7	5-7	5-7
Physical Education 12abc	1	1	1
Military Science 12abc (Men)	1	1	1
	15-18	15-18	15-18

Note: Economics majors should complete Economics 14; History majors, History 21abc. Electives in sophomore year; Economics majors, Economics 16, 17, 19; History majors, History 13abc or 29, 33, 34, 35; Political Science majors, History 17, 18, 20.

DIVISION OF BIOLOGICAL SCIENCES

PROFESSOR J. W. SEVERY, CHAIRMAN.

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

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

See also requirements for certification to teach listed on page 80.

The Biological Station

PROFESSOR GORDON B. CASTLE, DIRECTOR.

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

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

*Course entered dependent upon high school preparation. See Departments of Classical and Modern Languages, pages 72 and 139.

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

For "Pre-Medical course" see page 158.

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. Mr. Severy and staff.

DIVISION OF THE HUMANITIES

PROFESSOR HAROLD G. MEERIAM, 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. Clark. Mrs. Ephron. Mr. Freeman. Mr. Rinehart. Mr. Sherman.

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

DIVISION OF PHYSICAL SCIENCES

PROFESSOR GARVIN D. SHALLENBERGER, CHAIRMAN.

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

17abc. Introduction to Physical Sciences. 3 Q. Autumn, winter, spring. Continuous. 15 cr. Students who have 3 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 1947-48.

DIVISION OF SOCIAL SCIENCES

PROFESSOR J. EARLL MILLER, CHAIRMAN.

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

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

Bacteriology and Hygiene

PROFESSOR DONALD M. HETLER, CHAIRMAN.

Major Requirements: 40 or more credits including the following courses: General Bacteriology (Bact 117), Immunology (Bact 118), Pathogenic Bacteriology (Bact 119), Diagnostic Bacteriology (Bact 121), Hematology (Bact 125), Advanced Bacteriology (Bact 131), and 3 credits of Bacteriological Journals (Bact 129). 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 subject as related to the individual, the community, and the state. Bacterial and protozoan diseases, food, exercise, sleep, ventilation, drainage, disinfectants, quarantine, and public health. Not a laboratory course.

For Undergraduates and Graduates

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

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

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

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

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

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

126. Sanitation and Public Health. 1 Q. Spring. 5 cr. Prerequisite, junior standing, and course 19 or 117. Sanitation and disease prevention with relation to the community. Surveys, reports. Not given in 1947-48.

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

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

For Graduates

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

Botany

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

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

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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

For Undergraduates

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

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

11a. General Botany. 1 Q. Autumn. Summer. 5 cr. No prerequisite. A presentation of the general principles of the anatomy and physiology of the flowering plants. Mr. 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 10ab or 11ab. A laboratory and field introduction to the classification of the higher plants as exemplified in the spring flora. Students who have completed former courses Botany 11c or 12b may not receive credit in this course. Mr. Diettert.

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

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

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

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

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

For Undergraduates and Graduates

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

126. Evolution. 1 Q. Winter. 3 cr. Prerequisite, Botany 10ab or 11ab 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. Mr. Harvey.

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

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

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

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

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

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

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

For Graduates

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

School of Business Administration

PROFESSORS ROY J. W. ELY, DONALD J. EMBLEN, CARL J. FOLKERTS, ROBERT C. LINE, THEODORE H. SMITH (Dean); ASSOCIATE PROFESSOR BRENDA FARRELL WILSON; ASSISTANT PROFESSORS CLEO CROW, JOHN A. WOLFARD; INSTRUCTORS E. JOE DEMARIS, EDWIN O. DWYER, LENOIRE FISH, F. RYDELL.

The course in business requires a solid foundation in non-technical subjects. In addition to the University requirements for general admission, (see pages 24 to 28), a student must have completed two years of approved college preparation. It is recommended that the student follow closely the curriculum for the first two years as recommended on page 63 or 66. Regulations regarding the admission of special students may be found on page 27.

Juniors in Business Administration are advised to select one of the following major fields of study:

Accounting

Banking, Finance, and Insurance

Business Organization, Management, and Personnel Management

Marketing—Advertising, Credit, Retailing, Salesmanship, Sales Administration, Wholesaling and Market Research

Secretarial Science—Shorthand, Typing, Office Machines, and Office Management

Commercial Education

Combination of Business Administration and Law.

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 63-66 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 28 to 33, except in foreign languages.

(2) Introduction to Business (Bus. Ad. 10), Principles of Economics (Econ. 14ab), General Psychology (Psych 11), Elementary Accounting (Bus. Ad. 11ab), Business Law (Bus. Ad. 41ab), Financial Organization (Bus. Ad. 134), and Marketing (Bus. Ad. 151).

(3) A minimum of 75 credits in courses in Business Administration and Economics.

It is strongly recommended that candidates for the degree take the following in their freshman or sophomore years:

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

In addition to the above requirements, it is desirable for Business Administration Majors to be able to typewrite at a minimum rate of 35 words a minute; another desirable accomplishment is to be able to write shorthand.

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

Preparation for C. P. A. Examinations

The laws of the State of Montana provide for the certification of public accountants. The certificate for public accountancy is awarded by the University to those who satisfactorily pass an examination prepared and administered by the American Institute of Accountants. Students passing with high grades the courses outlined in the Accounting Curriculum, page 63, 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.

Business Research

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

Cooperating Schools

School of Law. The School of Business Administration cooperates with the School of Law so that it is possible to obtain in six years both the degrees of Bachelor of Arts in Business Administration and the Bachelor of Laws. This may be accomplished by completing the courses required of all graduates from the University (pages 30-32) and the courses required for a major in Business Administration by the end of the third year and then utilizing the first year in the Law School to complete the work for the Bachelor of Arts degree in Business Administration. Satisfactory completion of the remaining two years in the School of Law entitles the student to the Bachelor of Laws degree.

School of Journalism. Students who wish to specialize in 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 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 80. Courses that may be taken during the junior and senior years are suggested on pages 66 and 67.

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 account-

ing 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.

Pre-Business

Freshman Year

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

Sophomore Year

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

Accounting

Junior Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Bus. Ad. 111, Intermediate Accounting.....	4	--	--
Bus. Ad. 113ab, Advanced Accounting.....	--	4	4
Bus. Ad. 114, Cost Accounting.....	--	--	4
Bus. Ad. 134, Financial Organization.....	5	--	--
Bus. Ad. 133, Corporation Finance.....	--	5	--
Bus. Ad. 151, Marketing.....	5	--	--
Bus. Ad. 132, Credits and Collections.....	--	3	--
Electives	1	3	7
	15	15	15

Senior Year

Bus. Ad. 115ab, Auditing; Bus. Ad. 145, Income Tax	4	4	4
Bus. Ad. 146ab, Accounting Systems; Bus. Ad. 149, C.P.A. Problems	4	4	4
Bus. Ad. 41abc, Business Law.....	3	3	3
Electives	4	4	4
	15	15	15

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

*Course entered dependent upon high school preparation.

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

Finance**(Banking, Insurance)****Junior Year**

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Bus. Ad. 134, Financial Organization.....	5	..	..
Bus. Ad. 101ab, Money and Banking.....	4	4	..
Bus. Ad. 151, Marketing.....	..	5	..
Bus. Ad. 41ab, Business Law	3	3	..
Bus. Ad. 111, Intermediate Accounting; Bus. Ad. 14, Analysis of Financial Statements.....	4	..	4
Bus. Ad. 133, Corporation Finance or Bus. Ad. 113ab, Advanced Accounting .....	..	4 or 5	4
Bus. Ad. 124, Insurance .....	..	..	5
Bus. Ad. 131, Real Estate .....	..	..	2
	<hr/> 16	<hr/> 16-17	<hr/> 15

Senior Year

Bus. Ad. 135, Bank Management; Bus. Ad. 154, Investments	4	..	3
Bus. Ad. 103, Public Utilities	4	..	..
Bus. Ad. 104ab, Public Finance.....	..	4	4
Bus. Ad. 180, American Industries; Bus. Ad. 145, Income Tax .....	..	5	4
Bus. Ad. 132, Credits and Collections.....	..	3	..
Bus. Ad. 156, Business Cycles .....	..	..	4
Electives	7	3	..
	<hr/> 15	<hr/> 15	<hr/> 15

Students concentrating in Finance must include the following in their curriculum besides the required courses: Bus. Ad. 14, Analysis of Financial Statements (4); Bus. Ad. 133, Corporation Finance (5); Bus. Ad. 124, Insurance (5); Bus. Ad. 132, Credits and Collections (3); Bus. Ad. 156, Business Cycles (4).

Business Organization and Management**Junior Year**

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Bus. Ad. 134, Financial Organization.....	5	..	..
Bus. Ad. 151, Marketing; Bus. Ad. 180, American Industries	5	5	..
Bus. Ad. 41ab, Business Law.....	3	3	..
Bus. Ad. 129, Business Organization and Man- agement; Bus. Ad. 102, Transportation.....	..	5	4
Bus. Ad. 124, Insurance .....	..	..	5
Electives	2	2	6
	<hr/> 15	<hr/> 15	<hr/> 15

Senior Year

Bus. Ad. 181, Personnel Management.....	5	..	..
Bus. Ad. 103, Public Utilities or Bus. Ad. 135, Bank Management or Bus. Ad. 111, Inter- mediate Accounting	4	..	..
Bus. Ad. 154, Investments .....	..	..	3
Bus. Ad. 133, Corporation Finance; Bus. Ad. 156, Business Cycles .....	..	5	4
Econ. 113ab, Labor Economics; Econ 114, In- dustrial Relations	4	4	4
Bus. Ad. 132, Credits and Collections .....	..	3	..
Bus. Ad. 131, Real Estate.....	..	..	2
Electives	2	3	2
	<hr/> 15	<hr/> 15	<hr/> 15

Marketing**Junior Year**

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Bus. Ad. 151, Marketing; Bus. Ad. 157, Sales- manship	5	--	3
Bus. Ad. 134, Financial Organization; Bus. Ad. 180, American Industries	5	5	--
Bus. Ad. 41abc, Business Law	3	3	(3) optional
Bus. Ad. 155, Advertising Procedure.....	--	4	--
Bus. Ad. 102, Transportation	--	--	4
Bus. Ad. 124, Insurance	--	--	5
Electives	2	3	--
	<hr/>	<hr/>	<hr/>
	15	15	15

Senior Year

Bus. Ad. 159, Retail Stores	5	--	--
Bus. Ad. 158, Sales Management; Bus. Ad. 152, Foreign Trade	4	--	4
Bus. Ad. 109, Economics of Consumption; Bus. Ad. 153, Market Analysis.....	--	3	4
Bus. Ad. 160, Retail Store Management or Bus. Ad. 155, Advertising Procedure	--	4	--
Bus. Ad. 132, Credits and Collections.....	6	3	7
Electives	--	5	--
	<hr/>	<hr/>	<hr/>
	15	15	15

Students desiring to concentrate in Marketing may include the following courses toward their Business Administration requirements: Journalism 39, Graphic Arts; J 43, Advertising Layout and Copy; J 44, Retail Store Advertising. A student concentrating in Marketing must complete 25 hours in Marketing courses.

General Business**Junior Year**

Bus. Ad. 151, Marketing; Bus. Ad. 157, Sales- manship	5	--	3
Bus. Ad. 41ab, Business Law	3	3	--
Bus. Ad. 134, Financial Organization	5	--	--
Bus. Ad. 133, Corporation Finance; Bus. Ad. 124, Insurance	--	5	5
Bus. Ad. 102, Transportation.....	2	7	4
Electives	--	--	3
	<hr/>	<hr/>	<hr/>
	15	15	15

Senior Year

Bus. Ad. 159, Retail Stores; Bus. Ad. 180, American Industries	5	5	--
Bus. Ad. 103, Public Utilities; Bus. Ad. 131, Personnel Management	4	--	5
Hist. 17, American Government and Politics.....	4	--	--
Hist. 116, Government Regulation of Business.....	--	--	4
Bus. Ad. 132, Credits and Collections; Bus. Ad. 131, Real Estate	--	3	2
Bus. Ad. 155, Advertising Procedure.....	--	4	--
Electives	2	3	4
	<hr/>	<hr/>	<hr/>
	15	15	15

Combination Business-Law Curriculum**Junior Year**

Bus. Ad. 151, Marketing.....	5	--	--
Bus. Ad. 134, Financial Organization; Bus. Ad. 129, Business Organization and Manage- ment	5	5	--
Bus. Ad. 103, Public Utilities; Bus. Ad. 102, Transportation	4	--	4
Bus. Ad. 104ab, Public Finance.....	--	4	4
Bus. Ad. 154, Investments	--	--	3
Econ. 113b, Labor Problems	--	3	--
Electives	2	4	4
	<hr/>	<hr/>	<hr/>
	16	16	15

Senior Year (First Year Law)†

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Civil Procedure	3	3	3
Contracts	3	3	3
Property	3	3	3
Criminal Law and Procedure	2	2	2
Torts	3	3	3
	14	14	14

Secretarial Training and Commercial Teaching

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

Freshman Year

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

Sophomore Year

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

†Refer to page 132 for description of law courses.

*Course entered dependent upon high school preparation. Students who present 1½ entrance units in Algebra may not register for Math. 18 for credit.

Junior Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Bus. Ad. 151, Marketing	5	--	--
Bus. Ad. 23, Civil Service Training	4	--	--
Bus. Ad. 23a, Advanced Stenography and Educ. 142, Methods of Teaching Shorthand or Bus. Ad. 157, Salesmanship	3	4	3
Bus. Ad. 41ab, Business Law	--	3	3
Educ. 26a, Educational Psychology or Elective....	4	--	--
Bus. Ad. 159, Retail Stores or Educ. 25b, Prin- ciples of Education	--	3-4	--
Bus. Ad. 124, Insurance or Educ. 25c, Secondary School Teaching Procedures	--	5-6	3-4
Electives or minor subjects	--	5-6	5-6
	16	15-17	14-16
Senior Year			
Bus. Ad. 134, Financial Organization.....	5	--	--
Bus. Ad. 23b, Advanced Stenography or Educ. 143, Methods of Teaching Typewriting.....	3	--	--
Educ. 26ab, Observation and Teaching or Electives	--	5	4
Bus. Ad. 100, Secretarial Practice	--	--	4
Bus. Ad. 21abc, Advanced Typewriting and Transcription	1	1	1
Electives or minor subjects	7-8	10-11	8
	16-17	16-17	17

Students concentrating in Secretarial Training must complete 23a, 21abc, 25ab, and 100 in order to be recommended as competent secretaries.

Accounting For Undergraduates

11ab. Elementary Accounting. 2 Q. Autumn, winter. Spring, summer. Summer 1947, 11a. 5 cr. each quarter. Prerequisite, sophomore standing. A student may be exempted from 11a upon passing a placement examination admitting him to 11b. Fundamental principles as applied to proprietorship, partnership, and 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.

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

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.

For Undergraduates and Graduates

113ab. Advanced Accounting. 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Bus. Ad. 111. 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, budgets, public accounts.

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 final reports, with full analysis in approved form for submission to clients. Mr. Emblen.

145. Income Tax. 1 Q. Spring. 4 cr. Prerequisite, Bus. Ad. 113ab and 41. The accounting requirements of the law, the regulations, a digest of the law, with practical problems in the preparation of returns for individuals, partnerships, and corporations. Mr. DeMaris.

146ab. Accounting Systems. 2 Q. Autumn, winter. 4 cr. each quarter. Prerequisite, Bus. Ad. 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. DeMaris.

149. 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.

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 73). Mr. Ely.

103. Public Utilities. 1 Q. Autumn. 4 cr. Prerequisite, junior standing and Econ. 14. An economic analysis of problems of public utility industries. (See Department of Economics, page 73).

104ab. Public Finance. 2 Q. Winter, spring. 4 cr. each quarter. Students may enter either quarter. Prerequisite, junior standing and Econ. 14. (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 73). Mr. Ely.

124. Insurance. 1 Q. Spring. 5 cr. Prerequisite, junior standing and Econ. 14. Methods of meeting risk, fundamental principles of life, fire, marine, and other insurance.

131. Real Estate. 1 Q. Autumn. 2 cr. Prerequisite, junior standing and Econ. 14. Factors that affect value of real estate; markets, title and real estate transfers.

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.

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 institutions, 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.

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.

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

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 examination for the C.P.A.

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.

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.

For Undergraduates and Graduates

129. Principles of Organization and Management. 1 Q. Winter. Summer. 5 cr. Prerequisite, junior standing and Econ. 14. A course intended 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. 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. Autumn. 5 cr. Prerequisite, junior 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.

Econ. 114. Industrial Relations. 1 Q. Spring. 3 cr. Prerequisite, junior standing and Econ. 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. (See Department of Economics, page 73). Mr. Wolfard.

Marketing

For Undergraduates and Graduates

102. Transportation. 1 Q. Spring. 4 cr. Prerequisite, junior standing and Economics 14. The principles of railway, ocean and waterway, motor truck and bus, and air transportation. (See Department of Economics, page 73).

109. Economics of Consumption. 1 Q. Winter. 3 cr. Prerequisite, junior standing and Economics 14. An analysis of the final stages of the economic process. (See Department of Economics, page 73). Mr. Wolfard.

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

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

152. Foreign Trade. 1 Q. Winter. 4 cr. Prerequisite, Economics 14 and Business Administration 151. Theories, principles and methods of international trade. Economic resources and products of the principal countries, their chief exports and imports. Mr. Line.

153. Market Research and Market Analysis. 1 Q. Spring. 4 cr. Prerequisite, Business Administration 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. Smith and Mr. Line.

155. Advertising Procedure. 1 Q. Winter. 4 cr. Prerequisite, Business Administration 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. Spring. Summer. 3 cr. Prerequisite, Business Administration 151. Principles of personal selling and sales management. Mr. Line.

158. Sales Management. 1 Q. Autumn. 4 cr. Prerequisite, Business Administration 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. Line and Mr. Smith.

159. Retail Stores. 1 Q. Autumn. Winter. 5 cr. Prerequisite, Business Administration 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. Winter. 4 cr. Prerequisite, Business Administration 151 or junior standing and consent of instructor. A special training course in the principles and practices of managing retail stores. Mr. Line.

Courses Not Listed in Any Specific Field

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

200. Research in Business and Economics. Any Q. 1 to 5 cr. each quarter. Prerequisite, senior or 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. Summer 1946, 20a or b. 1 cr. each quarter. Keyboard drills, copy work, speed and accuracy drills, letters. Miss Crow. Mrs. Wilson.

***21abc. Advanced Typewriting and Transcription.** 3 Q. Autumn, winter, spring. Summer 1947, 21a or b. 1 cr. each quarter. Prerequisite, minimum typing speed 35 net words a minute. Letter forms, speed and accuracy drills, corrective work, legal forms, rough draft, tabulation, transcription. Miss Crow. Mrs. Wilson.

***22abc. Stenography.** 3 Q. Autumn, winter, spring. Summer 1947, 22a or c. 4 cr. each quarter. Combined shorthand and transcription practice; principles and dictation, reading, speed work. Miss Crow. Mrs. Wilson.

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

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

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

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

142. Methods of Teaching Shorthand. See Special Methods Courses in School of Education, page 84. 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 84. This course and/or course 142 is required of students who wish to teach commercial subjects. Mrs. Wilson.

Chemistry

PROFESSORS WILLIAM G. BATEMAN, JOSEPH W. HOWARD, RICHARD H. JESSE (chairman); ASSOCIATE PROFESSOR EARL LORY; ASSISTANT PROFESSORS ROSSLEENE HETLER, JOHN W. STEWART.

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);

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

Physical Chemistry (Chem 106); Advanced Chemistry, at least 5 credits from Chemistry 103, 109, 110, 150, 160, 170; Chemical Literature, 3 cr. (Chem 113). At the time of his graduation a major student in Chemistry must have acquired a reading knowledge of German and a working knowledge of English composition, college physics and mathematics through the calculus. Elementary mineralogy is also desirable.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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. Hebler. Mr. Stewart.

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

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

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

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

For Undergraduates and Graduates

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

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

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

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

109. Inorganic Industrial Chemistry. 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. The chemistry of industrial and engineering materials and the discussion of technical chemical processes. Given in 1947-48. Mr. Howard.

110. Organic Industrial Chemistry. 1 Q. Spring. 5 cr. Prerequisite, Chemistry 13c and 101. Not given in 1947-48. Mr. Howard.

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

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

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

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

170. Advanced Physical Chemistry. 1 Q. 5 cr. Prerequisite, Chemistry 106. Lectures and laboratory.

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 80.

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

Latin

For Undergraduates

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

13abc. Intermediate Latin. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, Latin 11c or equivalent. (a) Continuation of 11c and transition to Virgil and Ovid. (bc) Virgil's Aeneid I-VI. Introduction to poetry; reading of hexameter; appreciation of permanent values of the Aeneid.

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

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

For Undergraduates and Graduates

149. Writing Latin (Advanced). 1 Q. Spring. 4 cr. Prerequisite, Latin 15b and junior standing. Prepared exercises in translating into Latin from text-book or selected passages of English. Given in 1947-48, and in alternate years.

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

For Graduates

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

Greek

For Undergraduates

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

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

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

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

Economics and Sociology

PROFESSORS ROY J. W. ELY (acting chairman), ROBERT C. LINE, T. H. SMITH; ASSOCIATE PROFESSORS PAUL MEADOWS, HAROLD TASCHER; ASSISTANT PROFESSOR JOHN A. WOLFARD; INSTRUCTORS STANLEY DAVISON, CHARLES S. HATTON, ROBERT G. HUCK. (Additional staff to be appointed).

Major Requirements: All major students in the Department of Economics and Sociology should complete the following courses in their sophomore year, in addition to the Social Science Divisional requirements set forth on page 56. Principles of Economics (14) and Elementary Sociology (16). Students concentrating in Economics will take in addition either Comparative Economic Systems (18) or World Resources and Industries (19); those concentrating in Sociology, Elementary Anthropology (15), those concentrating in Social Administration, either Social Problems (17) or American Government and Politics (Hist. 17); students preparing to teach social sciences in high school may select any one of the three preceding combinations for the sophomore year. Social Science Methods (118) will be taken in the junior year. A minimum of 50 credits in Economics, Sociology, and/or Social Administration 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. 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 (either 101a or 101b), Labor Economics (either 113a or 113b), Public Finance (104a); 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.
- B. Economics Concentration.** Students concentrating in Economics will complete the following in addition to the general departmental requirements: Money and Banking (101ab), Public Finance (104a), Advanced Economics (111), or Development of Economic Theory (112), Labor Economics (113ab). The remainder of the credits necessary for a major may be chosen according to the student's interest. Certain non-departmental courses are recommend-

ed: Mathematics (25), American Government and Politics (Hist. 17), Government Regulation of Business (Hist. 116), Economic History of the United States (Hist. 125). Both Hist. 116 and Hist. 125 may be counted toward an Economics major.

- C. Sociology Concentration:** The following courses listed under the Department of Economics and Sociology will be completed: Labor Economics (113ab); Community Organization (133). 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 (21abe). Theories of the State (115); Mathematics: Statistics (25); Department of Psychology and Philosophy: Social Psychology (14), Child Psychology (13), Systematic Psychology (114), Psychology of Personality (15), Ethics (51).
- D. 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.

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 80.

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

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

For Undergraduates

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

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

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

17. Social Problems. 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, sophomore standing. A general study of social and personal disorganization. Mr. Meadows.

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

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

For Undergraduates and Graduates

Economics

101ba. Money and Banking. 2 Q. Autumn, winter. 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.

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

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

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

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

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

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

112. Development of Economic Theory. 1 Q. Spring. 4 cr. Prerequisite, junior standing and course 14. A history and analysis of economic theories, emphasizing the trends of economic thought since the days of the mercantilists. 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 problems; (b) management-labor relations, government and labor, labor legislation, 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. Prerequisite, 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 courses 14 and 16. An introduction to the methods used in the studies included in the Division of Social Sciences. Mr. Meadows and Staff.

129. (Business Administration). Principles of Organization and Management. 1 Q. Winter, summer. Prerequisite, junior standing and Economics 14. (See School of Business, page 61). Mr. Smith.

133. (Business Administration). 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 61).

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 61). Mr. Line and Mr. Smith.

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 61). Mr. Line.

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 61).

156. Business Cycles. 1 Q. Spring. 4 cr. Prerequisite, Economics 101 or junior standing and Mathematics 25. Business cycles with special reference to their history, causes, duration, and effects; business forecasting is considered. (See School of Business, page 61).

190. Advanced Problems. Any quarter, 1-2 cr. Prerequisite, senior standing and consent of instructor. Staff.

Sociology

100. 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.

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

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

122. Criminology. 1 Q. 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. Meadows.

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

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

125. Development of Social Theory. 1 Q. 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. Meadows.

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

127. Social Control. 1 Q. 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. Meadows.

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

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 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.

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

136. Public Welfare Administration. 1 Q. Spring. 4 cr. Prerequisite, senior standing and 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.

190. Advanced Problems. Any quarter. 1-2 credits. Prerequisite, senior standing and consent of instructor. Staff.

Anthropology

The Anthropology courses numbered 140, 141, 145, 146, 147, 148, 180, 181, and 191 have been temporarily abandoned because of lack of 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.

School of Education

PROFESSORS WALTER R. AMES, JAMES W. MAUCKER (dean); ASSOCIATE PROFESSOR WILLARD W. BLAESSER; ASSISTANT PROFESSORS LINUS J. CARLETON, BENJAMIN R. FROST, W. LEO SMITH.

Staff Members of Cooperating Departments and Schools Who Offer Special Methods Courses: PROFESSORS HELEN GLEASON, A. S. MERRILL, LUCIA B. MIRRIELES; ASSOCIATE PROFESSORS CHARLES F. HEETLER, STANLEY M. TEEL, BRENDA FARRELL WILSON; ASSISTANT PROFESSORS DAVID S. BRODY, MOLFRID MOE, ANDREWA R. NOBLE, ROBERT P. STRUCKMAN.

Visiting Faculty (Summer Session): VISITING PROFESSORS A. O. GULLIDGE, MILLICENT HAINES, CHARLES HOWELL, EMILIO LEFORT, MADELINE LONG, EARL PAUL, GEORGE WEEKS, FRANCES WHITNEY; VISITING INSTRUCTORS BOYD BALDWIN, ROSCOE BANCROFT, K. W. BERGAN, TRUMAN CHENEY, MARTHA COLBURN, HARRIET DOUGLAS, VIRGINIA REILLY GLORE, HOWARD GOARD, INEZ HASKINS, CHARLES D. HAYNES, MARY FRANCIS KIPP, CARL KLAFS, WILLIAM E. MARTIN, DOROTHY TUPPER; VISITING LECTURERS GLENN BARNETT, PAYNE TEMPLETON, E. G. WILLIAMSON.

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 24 to 28), a student must complete two years of college work. Pre-education students should follow the curriculum of the Division of Social Sciences on page 56; the completion of a foreign

language is elective for students majoring in Education (see pages 31 and 56). **General psychology is prerequisite to all courses in Education and should be taken in the freshman or sophomore year.**

Students who expect to be certified to teach are required to file with the Dean of the School of Education at the beginning of their junior year a statement of their intended major and minor fields of specialization, which should include one teaching field of at least 45 quarter credits and one of at least 30 quarter credits. See requirements for the Secondary State Certificate below. Each candidate for the Certificate who has not already received credit in Observation and Teaching (Educ 26a) will, at the beginning of the junior year, be assigned a definite quarter of the senior year in which he must register for that course.

Requirements for Graduation

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

- (1) The general University requirements for graduation (see pages 28 to 33) 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 or their equivalents: Observation and Teaching (Educ. 26b), Teaching of English (Educ. 105), School Music (Educ. 123abc), The High School Newspaper (Educ. 126), Fundamentals of School Health (Educ. 130), Secondary School Administration (Educ. S132), School Supervision (Educ. 134), Supervision and Teaching of Physical Education (Educ. 135), Educational and Vocational Guidance (Educ. 140), Methods of Teaching Short-hand (Educ. 142), Methods of Teaching Typewriting (Educ. 143), Use of Audio-Visual Instructional Aids (Educ. S145), Educational Administration (Educ. 150), Educational Measurements (Educ. 152), Seminar in Education (Educ. 154), Educational Sociology (Educ. 158), Problems in Elementary Education (Educ. 162), Problems in Teaching Home Economics (Educ. 163), Workshop in Education (Educ. 165), History of Education (Educ. 166).

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

Masters' Degrees. Applicants for admission to the Graduate School must meet the requirements indicated on page 109; candidates for the degree of Master of Arts or Master of Education must comply with the regulations governing graduate work on pages 108 to 112. 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 108 to 112.

SECONDARY STATE CERTIFICATE

Montana State University recommends its graduates who meet state certification requirements to the State Department of Public Instruction. All such recommendations are approved by the Dean of the School of Education. The Secondary State Certificate meets the North Central and Northwest Associations requirements. However, students who expect to teach in states other than Montana should investigate specific requirements, since they differ in the various states. Academic 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 85 to 91).
- (4) A teaching minor of 30 or more quarter credits in a field taught in high school. (See pages 85 to 91).
- (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, physical education, history and political science, economics and sociology, home economics, fine arts, music. (See pages 85 to 91).

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).
 Junior year: Educational Psychology (Educ 25a), 4 credits; Principles of Secondary Education (Educ 25b), 4 credits; Secondary School Teaching Procedures (Educ 25c), 4 credits, and electives. (Methods course highly recommended).
 Senior year: Observation and Teaching (Educ 26a), 5 credits and 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. 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; psychology of teaching secondary school subjects. Directed observation and study of pupils in school and in out-of-school situations. Staff.

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

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

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

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

S26c. Observation and Teaching. 1 Q. Summer only. 3 credits. 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. Carleton.

For Undergraduates and Graduates

S110. Driver Education and Training. 1 Q. Summer only. 2 cr. Prerequisite, senior standing and consent of instructor. Intensive 3-weeks course, 1 hour lecture daily plus supervised field work. Designed to prepare teachers for Driver Training courses in the high schools. Includes supervised experience in teaching driving, as well as theoretical aspects of driver education. Mr. Goard.

S111. Aviation Education. 1 Q. Summer. 2½ cr. Prerequisite, high school teaching certificate and consent of instructor. (Not given in 1947-48.)

130. Fundamentals of School Health. 1 Q. Spring. 4 cr. Prerequisite, senior standing. The physical and mental health of school children, the hygiene of the school program, health instruction, and the health problems of the staff. Staff.

S132. Secondary School Administration. 1 Q. Summer. 3 cr. Prerequisite, junior standing and teaching experience. Study of problems involved in the daily administration of the American high school: definition of tasks, organization of staff, scheduling of classes, enrollment process, handling of supplies, management of extra-curricular activities, records and reports, teacher participation in administration, etc. Analysis of research and experience. Mr. Bergan.

*Courses required for the Secondary State Certificate.

134. School Supervision. 1 Q. Winter, 4 cr. Summer, 2-4 cr. Prerequisite, Education 19 or 25a and teaching experience. Instruction—its quality, technique, rating, and improvement; discipline, supervised study, and other problems bearing upon the instructional side of school work. Mr. Maucker. (Not offered, Summer 1947.)

140. Educational and Vocational Guidance. 1 Q. Autumn. Spring, 4 cr. Summer, 2-4 cr. Prerequisite, junior standing and Education 19 or 25a or extensive teaching experience. Orientation to organization and administration of school guidance programs; the individual and his aptitudes; educational guidance; vocational guidance, its technique, means, and problems. Mr. Ames, Mr. Frost.

141. Organization and Administration of the School Library. 1 Q. Winter. 4 cr. Summer, 2-4 cr. Prerequisite, senior standing and teaching experience. Designed for teachers without library training who supervise the school book collection. Objectives of school library service, simple library routines and procedures, integration of library and instruction, library equipment and costs. Miss Haskins, Staff.

S145. Use of Audio-Visual Instructional Aids. 1 Q. Summer, 3 cr. Prerequisite, junior standing and teaching experience. A practical course in effective instructional use of a wide variety of aids—pictures, strip films, slides, moving pictures, exhibits, etc. Will familiarize teachers with the actual operation of film projectors and other similar equipment. Primary emphasis will be placed on classroom use rather than the technical aspects of the subject. Mr. Baldwin.

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

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

152. Educational Measurements. 1 Q. Autumn, 4 cr. Summer, 2-4 cr. Prerequisite, Education 19 or 25a. Statistical methods. Measurement and evaluation of educational products. Construction of teacher-made tests. Mr. Ames, Mr. Maucker.

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

156. School Finance. 1 Q. Spring, 4 cr. Summer, 3 cr. Prerequisite, senior standing or 12 credits in Education and experience as a principal or superintendent. History and sources of school revenue. Funds, relative costs, inequalities, legal limitations, and proper expenditures. Comparative study of finances. Mr. Bergan, Staff.

158. Educational Sociology. 1 Q. Winter, 4 cr. Summer, 3 or 4 cr. Prerequisite, junior standing and 6 credits in Education. The role of education in modern social, economic, and political life; the school as a social institution; problems of American life which affect and are affected by the work of the public schools. Mr. Carleton, Mr. Howell.

S160. Organization and Administration of the Elementary School. 1 Q. Summer, 2-4 cr. Prerequisite, senior standing and teaching experience. Administrative problems of the elementary school principal, organization of staff, grouping of pupils, office routine, pupil guidance and adjustment, utilization of building, supplies, custodial service, marking, promotion, reports to parents, community relationships, etc. Mr. Paul, Mr. Carleton.

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

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.

S164. Supervision of Instruction in the Elementary School. 1 Q. Summer. 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.

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

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. Carleton. (Not offered in Summer, 1947.)

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. 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. Blaesser. Mr. Brody.

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. Blaesser. Mr. Brody.

183. Home and Family Life Education. 1 Q. Spring. Summer. 3 cr. Prerequisite, 8 credits in education. Consideration of problems and procedures dealing with satisfactory homemaking education in the upper grades and in high school. (Not offered in Summer, 1947.) Miss Moe.

185. Advanced Educational Psychology. 1 Q. Winter, 4 cr. Summer, 2-4 cr. Prerequisite, Education 25a, junior standing and teaching experience. Growth and development of children and youth, intelligence and special 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. Mr. Martin.

For Graduates

201. Research. Any quarter. Credit variable to maximum of 15. Prerequisite, graduate standing in Education and consent of instructor. Staff.

270. Problems in Educational Psychology. 1 Q. Summer. 2-4 cr. Prerequisite, graduate standing in Education and consent of instructor. Individual work on problems in human growth and development, individual differences, intelligence and special aptitudes, learning and mental hygiene. Mr. Maucker. (Not given summer, 1947.)

S271. Montana Educational Problems. 1 Q. Summer. 4 cr. Prerequisite, graduate standing in education. Montana's district system, feasible reorganizations, teaching conditions, curricular defects. (Not given summer, 1947.)

S272. Philosophy of Education. 1 Q. Summer. 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. Credit variable. This course may be elected for two or more quarters for a total of not more than 6 credits. Prerequisite, Education 174 and consent of instructor. Work with counseling cases at more advanced level; participation in research projects; experience in other phases of guidance program. Mr. Blaesser.

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

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

SPECIAL METHODS COURSES

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

123a. School Music. 1 Q. Autumn. 3 cr. Summer. 1½-3 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. 1½-3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for junior high school grades. Mr. Teel.

123c. School Music. 1 Q. Spring. 3 cr. Summer. 1½-3 cr. Prerequisite, 10 credits in music other than applied or ensemble music selected to include 11ab. Music methods and materials for senior high schools including bands, orchestras, glee clubs, chorus, problems of community music, operettas, festivals. Mr. Teel.

126. 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 advisers to school publications. Mr. Struckman.

131. Teaching of Secondary Mathematics. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing and consent of instructor. Aims, purposes, and possible curricula for high school mathematics. Mr. Merrill.

135. 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. Mr. Klafs.

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. Wilson.

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

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

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

S173. Supervision and Teaching of Social Studies in Secondary Schools. 1 Q. Summer. 2-4 cr. Prerequisite, junior standing and teaching experi-

ence. 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. Miss Haines.

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 80 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

	Teaching Major (45 credits)	Teaching Minor (30 credits)
Botany 11ab, General Botany.....	10	10
Botany 12 or S61, Classification of Spring Flora, or Introduction to Systematic Botany	3-4	3-4
Botany 126, Evolution	3	
Zoology 14ab, Elementary Zoology	10	10
Zoology 12, Field Zoology	3	2-3
Zoology 24, Human Physiology	5	5
Zoology 129, Biological Literature..... (2-4 quarters)	2-4	
Bacteriology 19, Elementary Bacteriology....	5	
Biological Science 100, Conservation	3	

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

	Teaching Major (45 credits)	Teaching Minors (30 credits)	
		Stenography Alternate	Acc't-Typing Alternate
Required Courses:	30 credits as follows:	30 credits as follows:	18 credits as follows:
Bus. Ad. 22abc, 23ab, Stenography and/or 28	15	15	....
Bus. Ad. 11ab, Elementary Accounting	10	10	10
Bus. Ad. 142 or 143, Methods of Teaching Shorthand or Typing..	3	3	3
Bus. Ad. 20abc or 21abc, Typewriting	2	2	3
Bus. Ad. 25a, Office Machines.....	....	....	2

	15 credits from the following:	12 credits from the following:
Electives:		
Bus. Ad. 41abc, Business Law.....	9	6
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. 10, Intro to Business.....	5	5
Bus. Ad. 15, Office Management.....	..	3
Bus. Ad. 21ab, Advanced Typewriting ..	..	1
Bus. Ad. 25b, Office Machines.....	..	2
Bus. Ad. 113ab, Advanced Accounting ..	..	4

Classical Language (Latin)

	Teaching Major (45 credits or equivalent)* 30 credits as follows:	Teaching Minor (30 credits or equivalent)* 30 credits as follows:
Required Courses:		
Latin 11abc, Elementary Latin.....	15	15
Latin 13abc, Intermediate Latin.....	15	15
15 credits from the following:		
Electives:		
Latin 15ab, College Freshman Latin.....	10	5 (strongly advised)
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	..

*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.

Economics and Sociology

	Teaching Major (45 credits) 20 credits from the following:	Teaching Minor (30 credits) 16 credits from the following:
Required Courses:		
Soc. Sci. 11abc*, Introduction to Social Science	5	5
Econ. 14ab, Principles of Economics.....	8	8
Soc. 16, Elementary Sociology	4	4
Soc. 17, Social Problems	4	4
Econ. 19, World Resources and Industries.....	4	..
25 credits from the following: (with 8 from Econ. and 8 from Soc.)		
14 credits from the following: (with 4 from Econ. and 4 from Soc.)		
Electives:		
Econ. 101ab, Money and Banking.....	4	4
Econ. 102, Transportation	4	..
Econ. 103, Public Utilities	4	..
Econ. 104ab, Public Finance	4	4
Econ. 109, Economics of Consumption.....	3	3
Econ. 113ab, Labor Economics	3	3
Soc. 123, Regional Sociology	4	..
Soc. 129, The Family	4	4
Soc. 133, Community Organization	4	4
Soc. 135, Child Welfare	4	4
Soc. 136, Public Welfare Administration.....	4	..

*Five credits in 11abc (Introduction to Social Science) may be counted toward teaching major and minor requirements provided all three quarters are completed.

English, Speech and Dramatics

	Teaching Major (45 credits) 38 credits as follows:	Teaching Minor (30 credits) 26 credits as follows:
Required Courses:		
English 11ab (12abc), Language in Action..... (Freshman English)	5 ¹	5 ¹
English 20, Principles of Speech.....	5	---
English 30a, Composition	---	3
English 57b or c, Shakespeare	4	4
English 59abc, American Literature (2 qtrs.)..	3	8
English 173abc or 174abc, British Literature (2 qtrs.)	6	6
English 191, History of British Literature.....	3	---
English 192, Chaucer (Major Writers).....	3	---
English 199, Seminar (2 quarters).....	4	---
	7 credits from the following:	4 credits from the following:
Electives:		
English 21, Argumentation	5	5
English 22abc, Dramatics	3	3
English 30ab, Composition	6	---
English 69, Oral Interpretation	4	4
English 173abc or 174 abc, British Literature..	6	6

(In addition to 2 required quarters)

- 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) 30 credits as follows:	Teaching Minor (30 credits) 30 credits as follows:
Required Courses:		
Fine Arts 23, Drawing (2 quarters).....	6	6
Fine Arts 25, Color and Design.....	6	6
Fine Arts 31abc, History of Art	9	9
Fine Arts 35, Sculpture (1 quarter).....	3	3
Fine Arts 37, Mediums	3	3
Fine Arts 39, Water Color	3	3
	15 credits from the following:	
Electives:		
Fine Arts 35, Sculpture (2nd quarter).....	3	
Fine Arts 40, Painting (2-3 quarters).....	6-9	
Fine Arts 51, Life Drawing	3	
Fine Arts 125, Advanced Design	3-9	
Fine Arts 140, Advanced Painting.....	3-6	

Health and Physical Education for Men

	Teaching Major (45 credits)	Teaching Minor (30 credits)
P.E. 15abc, Adv. Gymnastics (Activity Skills)	3	3
P.E. 20ab, Anatomy	10	---
P.E. 32, First Aid	2	2
P.E. 36, Teaching Swimming	2	2
P.E. 60, 61, 62, Coaching of Basketball, Foot- ball and Track	8	8
P.E. 136, Kinesiology	5	---
P.E. 137, School Gymnastics	4	4
P.E. 150, Organization and Administration.....	4	4
P.E. 153, Health Education	4	4
P.E. 154, Principles of Physical Education.....	3	3

Health and Physical Education for Women

	Teaching Major (45 credits)	Teaching Minor (30 credits)
P.E. 15abc, Adv. Gymnastics (Activity Skills).....	3	3
P.E. 20ab, Anatomy	10	---
P.E. 32, First Aid	2	2
P.E. 36, Teaching Swimming	2	2
P.E. 45abc, Dance Methods	3	3
P.E. 63, Teaching of Sports.....	6	6
P.E. 136, Kinesiology	5	---
P.E. 137, School Gymnastics	4	4
P.E. 150, Organization and Administration.....	4	4
P.E. 153, Health Education	4	4
P.E. 154, Principles of Physical Education.....	3	3

History and Political Science

	Teaching Major (45 credits) 33-35 credits as follows:	Teaching Minor (30 credits) 18-22 credits as follows:
Required Courses:		
Pol. Sci. 14 or 17, Introduction to Government (5 credits) or American Government (4 cr.)	4-5	---
Pol. Sci. 20, Comparative Governments.....	4	---
History 21abc, United States History	12	12
History 12ab or 30ab and 103, Political and Economic Development of Modern Europe (10 cr.) or European History (6 cr.) and Early Twentieth Century (3 cr.—required of majors only)	9-10	6-10
History 132, Contemporary European History..	4	---
	10-12 credits from the following:	8-12 credits from the following:
Electives:		
Soc. Sci. 11abc, Introduction to Social Science	5*	5*
History 13abc, English History	9	9
History 15, History of Greece	4	4
History 16, History of Rome	4	4
Pol. Sci. 14 or 17, American Government or Introduction to Government	---	4-5
Pol. Sci. 18, State and Local Government.....	4	---
Pol. Sci. 20, Comparative Governments.....	---	4
History 29, French Revolution and Napoleonic Era	4	---
History 33, Medieval Europe	3	3
History 34, Renaissance and Reformation.....	3	3
History 35, The Ancient Regime.....	3	3
Pol. Sci. 108, Present World Problems.....	4	4
Pol. Sci. 109, American Political Problems.....	4	4
Pol. Sci. 120, American Foreign Relations.....	4	4

*Five credits in 11abc, (Introduction to Social Science), may be counted in major or minor teaching requirements provided all three quarters are completed.

Home Economics

Teaching Major (45 credits)

A minimum of 45 credits in the teaching curriculum outlined on page 119 of the catalog on advisement by the Department of Home Economics.

Teaching Minors (30 credits)

	Clothing and Textiles Minor 23-24 credits as follows:	Foods and Nutrition Minor 15 credits as follows:
Required Courses:		
Home Econ. 17abc, Introduction to Home Econ.	15	15
Home Econ. 18, Clothing Design.....	4	---
Home Econ. 82, Textiles	4-5	---

	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	5
Home Econ. 122, Nutrition.....		5
Home Econ. 124, Child Development.....	3-5	3-5
Home Econ. 125, Child Nutrition.....		3
Home Econ. 127, Home Living Center.....	5	3
Home Econ. 128, Home Management.....	2	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	2-5

**Foods and
Clothing Minor**
15 credits
as follows:

**Child Develop-
ment Minor**
21 credits
as follows:

Required Courses:

Home Econ. 17abc, Introduction to Home Econ.	15	15
Home Econ. 124, Child Development.....		6

15 credits from
the following:

9 credits from
the following:

Electives: (To be selected with advice of Home Economics Department)

Home Econ. 18, Clothing Design.....	4	
Home Econ. 24, Elementary Nutrition.....	5	5
Home Econ. 82, Textiles.....	4-5	
Home Econ. 119, House Planning & Furnishing.....	5	
Home Econ. 122, Nutrition.....	5	3
Home Econ. 124, Child Development.....	3	3
Home Econ. 125, Child Nutrition.....		3
Home Econ. 127, Home Living Center.....	5	5
Home Econ. 128, Home Management.....	2	2
Home Econ. 129, Problems in Family Living.....		3
Home Econ. 138, Experimental Foods.....	4	4
Home Econ. 198, Problems in Home Econ.....	2-5	2-5

NOTE: Education 163 (Teaching of Home Economics) is required of students completing a teaching minor in Home Economics.

Journalism 10

Teaching Minor
(30 credits)
25 credits
as follows:

Required Courses:

Journalism 21ab, Reporting.....	4
Journalism 22a, Reporting Practice.....	2
Journalism 30, Copyreading.....	2
Journalism 31a, Copyreading Practice.....	2
Journalism 40ab, Prin. Advertising.....	6
Journalism 49, 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 42, 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

	Teaching Major (45 credits)	Teaching Minor (30 credits or equivalent*)
	30 credits as follows:	25 credits as follows:
Required Courses:		
Math. 10, Intermediate Algebra	5	5
Math. 13, Plane Trigonometry	5	5
Math. 16, College Algebra	5	5
Math. 21, Plane Analytic Geometry	5	5
Math. 22, Calculus I	5	5
Math. 23, Calculus II	5	5
	5 credits from the following:	5 credits from the following:
Electives:		
Math. 11, Solid Geometry	5	5
Math. 14, Spherical Trigonometry	5	5
Math. 17, College Geometry for Teachers.....	5	5
Math. 19, Elementary Mathematics of Invest- ments	5	5
Math. 20, Advanced Mathematics of Invest- ments	5	5
Math. 25, Statistics	5	5
Math. 26, Advanced Statistics	5	5
Math. 107b, Calculus IV	5	5
Math. 150, Seminar	5 (variable)	5
	10 credits from the following:	
Math. 101, Ordinary Differential Equations.....	5	
Math. 104, Theory of Equations.....	5	
Math. 107a, Calculus III	5	
Math. 107b, Calculus IV	5	

*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**French**

	Teaching Major (45 credits or equivalent*)	Teaching Minor (30 credits or equivalent*)
	31 credits as follows:	
Required Courses:		
French 11ab, Elementary French	10	10
French 13ab, Intermediate French	9	9
French 15, Advanced French	4	4
French 17, French Grammar Review & Comp.	4	4
French 119, General Survey of French Lit.....	4	4
	14 credits from the following:	
Electives:		
French 121, 17th Century French Lit.	3	
French 123, 18th Century French Lit.	3	
French 125, French Culture and Life	3	
French 126, French Poetry	3	
French 127, 19th Century French Lit.	3	
French 131, Advanced French Composition.....	3	

Spanish

	Teaching Major (45 credits or equivalent*)	Teaching Minor (30 credits or equivalent*)
	33 credits as follows:	
Required Courses:		
Spanish 11ab, Elementary Spanish	10	10
Spanish 13ab, Intermediate Spanish.....	9	9
Spanish 15, Advanced Spanish	4	4
Spanish 17, Spanish Grammar, Comp., Conversation	4	4
Spanish 18, Adv. Spanish Comp., Conver.	3	3
Spanish 119, General Survey of Spanish Lit.	3	3

12 credits from
the following:

Electives:

Spanish 121, Spanish Drama of the Golden Age	3
Spanish 122, Picaresque 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 aforesaid courses plus 14 advanced credits in French or 12 in Spanish.

Music

	Teaching Major (45 credits)	Teaching Minors (30 credits)		
		Instru- mental	Vocal	Instru- mental and Vocal
Required Courses:				
Music 11abc, Theory	12	12	12	8
Music 25, String Instruments in Class	2	1	---	1
Music 29, Wind Instruments in Class	2	1	---	1
Music 31a, Conducting	3	3	3	3
Music 35a, Listening to Music....	3	3	3	3
Music 123a, School Music (elem.)	3	---	---	3
Music 123b, School Music (jr. H.S.)	3	---	3	3
Music 123c, School Music (sr. H.S.)	3	3	3	3
Music 134c, History of Music	2	---	---	---
Music 1-8, Applied Music	12	5 (Instrtl)	3 (Vocal)	3
Music 52, Band and Orch. Management	---	2	---	2
Music 51, Choral Techniques ...	---	---	3	---

Physical Science

	Teaching Major (45 credits)	Teaching Minor (30 credits)
	30 credits	30 credits
	as follows:	as follows:
Required Courses:		
Chem. 11 or 13, General Chem. or Inorganic Chem and Qualitative Analysis.....	15	15
Phys. 511abc or 20abc, General Physics.....	15	15

15 credits from
the following:

Electives:

Chem. 15, Adv. Qualitative	5
Chem. 17, Quantitative Analysis	5
Chem. 19, Organic Chem.	5
Chem. 101, Carbon Compounds	10
Chem. 103, Physiological Chem.	5
Phys. 60, Weather	3
Phys. 114, Electricity	5
Phys. 122, Light	5
Phys. 131, Selected Topics	3
Phys. 146, Heat	5
Phys. 152, Atomic Physics	5
Phys. 154, Analytical Mechanics	5

English

PROFESSORS RUFUS A. COLEMAN, EDMUND L. FREEMAN, HAROLD G. MERRIAM (Chairman), LUCIA B. MIRRELEES; ASSISTANT PROFESSORS JOSEPH S. HALL, RALPH Y. MCGINNIS, IRENE R. MANN, JOHN E. MOORE; INSTRUCTORS ROBERT W. ALBRIGHT, ROBERT P. ARMSTRONG, IRENE BERG, MARY B. CLAPP, LESLIE FIEDLER, MARCELLA FRANKENSTEIN, GUSSIE GILLILAND, JOHN W. MACKEY, PATRICIA MOREY, MURRELL PANNETT, KEITH RINEHART, GEORGE W. SHERMAN, GEORGE SMITH, CALDER T. WILLIAMS.

Major Requirements: 50 or more credits in English. The required courses in English are listed in the schedules given below, which are designed for students of different types of needs and interests. By the beginning of his junior year the student should have decided definitely which of the schedules he is to follow. History of Art (F. A. 31abc); Listening to Music (Music 35abc); Social Psychology (Psych 14), History of Philosophy (Psych 52ab), Introduction to Philosophy (Psych 55); and at least two quarters of study in sociology and in history are strongly recommended. A reading knowledge in the literature of some foreign language, classical or modern, is recommended. See also **Speech and Drama**, page 96.

Senior comprehensive examinations must be taken by all students who do major work in English or in Speech 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 80.

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

Required in all Schedules:

Freshman Year: Literature and Composition (Eng 25abc, or English 11ab or 12abc and General 15abc).

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

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

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

Junior and Senior Years: Teaching of Composition or Literature (Educ 105a or b); Literary Values (Eng 169abc) (two quarters); British Literature, 1500-1745 (Eng 173ac), British Literature, 1745-1890 (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 thorough contact with the meaningful thought and emotion of the past and of the present, particularly in the humanities, and constitute an excellent approach to cultural maturity. The student may add training in many fields, especially in librarianship, secretarial work, social service, personnel work, the arts, history, and the languages.

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

Junior and Senior Years: The Novel (Eng 75abc) (two quarters); The Drama (Eng 77abc) (two quarters); Literary Values (169abc) (two quarters, or Technique of Poetry, Eng 19, in the sophomore year); British Literature, 1745-1890 (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 96) (two quarters); Creative Writing (160abc) (at least 3 cr.); Literary Values (Eng 169abc) (two quarters or Technique of Poetry, Eng 19, in the freshman or sophomore year); British Literature, 1500-1745 (Eng 173abc,) British Literature, 1745-1890 (Eng 174abc) (two quarters); The English Language

(Eng 187); History of English Literature (Eng 191); Magazine Article Writing (Journ 33). Trade and Technical Journalism (Journ 34) is strongly recommended.

For Schedules E and F see pages 96 and 97.

Composition, Language and Literature

For Undergraduates

A. Preparatory Composition. 1 Q. Autumn. Winter. Summer. No credit. Sub-freshman course designed to meet the needs of freshmen who fail to establish an acceptable college 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 examination given at the time of entrance may be exempted from 11a or 12a. Majors in the department complete English 25abc instead of the 11ab, 12abc sequence. A student must complete the sequence he begins; i. e., he may not begin with English 11a and then change to English 12b, etc. (See divisional or school curriculum.)

11ab. Language in Action (Composition). 2 Q. Autumn, winter. Winter, spring. Summer. 5 cr. each quarter. See Note above. Students who receive a grade of "A" in 11a are exempted from further work in composition. The gathering and organization of materials, the writing of papers, and the development of personal ideas. Study of words and syntax. Mr. 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. Given in 1948-49, and in alternate years. Mr. Sherman.

25abc. Literature and Composition. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Open only to freshmen who expect to do their major work in English or in Speech and Drama. Not open to freshmen who place in English A. Students who have completed course 11a or b or 12a or b or c or 18a or b or c; Humanities 15abc, the former course 25ab or 57c may not register for this course for credit. Three-fifths of the work each week is a study of world literature with extended reading of Shakespeare's plays and poems; two-fifths is practice in writing. Mr. Merriam. Mr. Freeman.

528a. Western American Literature. 1 Q. Summer. 2-4 cr. Open to all students. A quick view of the Trans-Mississippi writing for the last hundred years. Mr. Merriam.

29abc. Lectures and Readings. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to all students. American civilization. Staff.

30ab. Composition. 2 Q. Autumn. Winter, 30a. Spring. Summer, 30b. 3 cr. each quarter. Students may enter any quarter. Prerequisite, English 11ab or 12abc, and sophomore standing. (a) Autumn and winter. Work in exposition. (b) Spring. A beginners course in the writing of narrative. Mr. Freeman. Mr. Merriam. 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 Mirrielees. Mr. Smith.

57abc. Shakespeare and Contemporaries. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 57b. Prerequisite, sophomore standing. Students may enter any quarter. Students who have completed English 25abc 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. 4 cr. each quarter. Summer, 59a. Students may enter any quarter. Prerequisite, sophomore standing. (a) Edwards through Emerson. (b) Longfellow through Dickinson. (c) Clemens through Hemingway. Mr. Coleman.

70. The Writing of Drama. 1 Q. Autumn. Winter. Spring. Summer. 1-2 cr. each quarter. A maximum of 6 credits may be taken. Prerequisite, junior standing and English 15 and 16 or 22abc. Technique and practice in writing the one-act play and full-length play. Worthy plays will be given experimental performance. Mr. Stiffler.

72abc. Literary Composition. 3 Q. Autumn, winter, spring, 2 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing and English 30a or 30b or consent of instructor on the basis of submitted writings. The writing of fiction and other literary forms. Mr. Hathaway. Mr. Moore.

75abc. The Novel. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) English fiction. (b) Continental fiction. (c) American fiction. Given in 1948-49, and in alternate years. Mr. Moore. Mr. Williams. Mr. Coleman.

77abc. The Drama. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Students may enter any quarter. Prerequisite, junior standing. (a) Periods of world drama. (b) Drama since Ibsen, in England and in Europe. (c) Contemporary American drama. Given in 1947-48, and in alternate years. Mr. Merriam.

96. English Club. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Open to English major or minor senior students. Discussion of current trends in literature; papers. Staff.

For Undergraduates and Graduates

For the Teaching of English (Course 105), see Special Methods courses, page 84.

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.

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

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

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

173abc. British Literature (1500-1745). 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer 173a. Students may enter any quarter. Prerequisite, junior standing and for 173a one quarter of 57abc and 6 credits in literature; for 173bc, 3 credits in literature courses. (a) Renaissance verse and prose. (b) Literature up to the Restoration. (c) Restoration and early eighteenth century literature. Given in 1948-49, and in alternate years. Miss Mann. Mr. Moore.

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 1947-48 and in alternate years. Mr. Freeman.

S175b. 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, Turgenyev, Tolstoy, Dostoevski, Hamsun, Mann, Proust, Joyce, Kafka. Reading of interpretative studies. Written critical appraisals of the works studied and those of other significant figures. Lectures and discussions. Mr. Williams.

S177b. 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. Miss Clinton.

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

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

191. History of English Literature. 1 Q. Winter. 4 cr. Prerequisite, senior standing and 18 credits in English. 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.

192. Major Writers. 1 Q. Autumn. Winter. Spring. 3 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.

197. The Philosophy of Grammar. 1 Q. Autumn. 3 cr. Prerequisite, senior standing and English 187 or equivalent. The nature and function of grammar in literature and writing. The basis for intelligent use of grammar in writing. 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. 1-3 cr. each quarter. Continuous for seniors. Prerequisite, senior standing and consent of instructor. First instruction and practice in research. Mr. Williams.

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 and Drama

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

For the curriculum in the freshman and sophomore years, see the Division of Humanities on page 55.

Required in both schedules E and F.

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

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

Courses to be taken in Speech and Drama: Argumentation (21), Discussion (42), Elementary Phonetics (43), Radio Speech (45a), Business and Professional Speaking (61), Debate (67), (2 cr.), Correction of Speech Disorders (134), Speech Clinic Practice (135) (1 cr.), Advanced Public Speaking (143), and 8 credits selected from the following courses: Applied Acting (15), Applied Stagecraft (16), Introduction to Theater Production (22abc), Advanced Theater Production (66abc), or Debate (67).

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

Courses to be taken in the Department of English: Applied Acting (15) (2 cr.), Applied Stagecraft (16) (2 cr.), Introduction to Theater Production (22abc), Advanced Theater Production (66abc), English (77abc) (6 cr.), Theater Projects (190) (2 cr.), and 6 credits selected from the following courses: Radio Speech (45b), Shakespeare and Contemporaries (57bc), The Writing of Drama (70).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

For Undergraduates

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

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

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

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

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

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

43. Elementary Phonetics. 1 Q. Spring. 3 cr. Prerequisite, sophomore standing. The nature of the speech mechanism, and its functioning in the production of speech sounds. Course includes a working knowledge of the International Phonetic Alphabet.

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

61. Business and Professional Speaking. 1 Q. Spring. 3 cr. Prerequisite, junior standing and English 20 or 21. Organization and adaptation

of speech and materials to special types of audiences. Preparation of speeches on subjects of business and professional interest to the student. Given in 1948-49 and in alternate years. Mr. McGinnis.

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

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

68. Voice and Diction. 1 Q. Autumn. 3 cr. Prerequisite, junior standing. Study of the social, physiological, neurological, and psychological basis of speech, leading to understanding of speech as a mode of behavior. Given in 1948-49 and in alternate years. Mr. Albright.

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

70. Writing of Drama. See page 95.

For Undergraduates and Graduates

134. Speech Correction. 1 Q. Winter, summer. Prerequisite, junior standing. Recommended for students interested in teaching, clinical psychology, and speech correction. Practice in the University speech clinic is included. Mr. Albright.

135. Speech Clinic Practice. 1 Q. Autumn. Winter. Spring. Summer. 1 cr. May be repeated for a total of 3 cr. Prerequisite, English 134 or its equivalent and consent of the instructor. Supervised training in the University speech clinic. Mr. Albright.

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

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

Fine Arts

ASSISTANT PROFESSOR ADEN F. ARNOLD.

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

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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.

S27. Elementary Crafts. 1 Q. Summer. 6 wks. 2 cr. Open to all students.

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

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

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

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

39. Water Color. 1 Q. Spring. Summer. 3 cr. Prerequisite, 6 credits of Fine Arts 23. Water color techniques and expressive use of subject matter. Still life and landscape. 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, CHRIS G. KUEHLKE, JR.; INSTRUCTOR AND STAFF FORESTER O. M. PATTEN; INSTRUCTOR THOMAS A. WALBRIDGE, JR.; SECRETARY EDNA HELDING CAMPBELL; LIBRARIAN MAIDA GUENTHER.

General Information

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

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

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

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

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

Decided 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 about \$6,000 available to juniors and seniors who have been active members of the Club for one year.

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

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 advanced algebra are especially important. Junior college and other transfer students planning to complete their work in forestry should study the forestry curriculum carefully and so far as possible plan their work to include the prescribed courses for the freshman and sophomore years. To do so will avoid irregular course schedules and save much time and difficulty.

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

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

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

Summer Work

A feature of the Montana School of Forestry is the opportunity for and emphasis placed upon summer work. The School believes the best

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

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

Summer School and Camp

A summer quarter or camp is not at present required. As indicated above, emphasis is placed on summer field work on the job and frequent field trips during instruction. However, to meet the needs of large numbers of returning veterans, courses in surveying and mapping will be offered on the campus as a part of the regular Summer School in 1947, and as long as the need continues.

Graduate Work

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

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

Curriculum

The School of Forestry emphasizes undergraduate instruction in the management of forested lands for the production and utilization of timber, forage, wildlife and water. Graduates are prepared for entering Civil Service positions in the Federal Government, state forestry, private forest industry and for subsequent graduate work. Although all students receive basic training in the general field of forestry, optional specialization during the third and fourth years is provided in either (a) Timber Management or (b) Range Management.

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

The minimum course requirements for the Bachelor's degree in forestry are so arranged that they can be completed in four academic years, and the following curriculum is set up on this basis. However, it should be clearly recognized that the schedule is rather heavy.

Students with inadequate high school preparation at the time of entrance or those who are not able to complete all courses on schedule will require more time to complete the work. It should also be recognized that although the schedule includes broad preparatory work for a professional degree, it allows little space for elective courses desirable in rounding out a more general education. Many students will find it advantageous to allow more time to complete their undergraduate work.

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

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

First Year

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

Second Year

Autumn	Winter	Spring
Physics 20a 5	Physics 25 5	English 11b 5
Economics 14a 4	Bot. 22, Physiology.. 5	Bot. 51, Ecology 5
For. 12, Mapping 2	For. 25, Soils 4	For. 20b, Surveying 5
For. 20a, Surveying 4	P. E. 12b, Physical Ed. 1	P. E. 12c, Physical Ed. 1
P. E. 12a, Physical Ed. 1	Mil. Sc. 12b 1	Mil. Sci., 12c..... 1
Mil. Sc. 12a 1	16	17
17		

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

Third Year

(Required in all schedules)

Autumn	Winter	Spring
For. 105a, Silviculture 4	For. 105b, Silviculture 4	For. 105c, Silviculture 4
For. 110a, Measurements 3	For. 110b, Measurements 3	For. 110c, Measurements 3
Geol. 11a, Geology 5	For. 120, Gen. Range Mgt. 5	Bot. 125, Pathology 5
For. 100, Dendrology 5		
17		

Timber Management Option

For. 115, Wood Tech.	4	Zool. 118, Entomology	3
	<u>16</u>		<u>15</u>

Range Management Option

Bot. 161a, Syst. Bot. 5	5	For 121, Range Forage Plants	4
	<u>17</u>		<u>16</u>

Fourth Year

(Required in all schedules)

Autumn		Winter		Spring	
For. 130, Valuation	4	For. 145a, Forest Management	4	For 145b, Forest Mgt.	4
For. 138, Wildlife Mgt. 4		For. 114, Fire Control	4	For 146, Applied Silviculture	2
		For. 148, Forest Economics	4		
Timber Management Option					
For. 133, Logging	4	For. 136a, Forest Eng.	4	For. 136b, Forest Eng.	4
For. 125a, Utilization....	4		<u>16</u>	For. 125b, Utiliza- tion	4
	<u>16</u>				<u>14</u>
Range Management Option					
Elective	4	For. 140b, Range Management	4	For. 140c, Range Mgmt.	2
For. 140a, Range Mgt. 4			<u>16</u>	Zool. 118, Entomology	3
	<u>16</u>				<u>11</u>

Wildlife Management

Course work in Wildlife is provided along two general plans:

(a) Students whose major field is in forestry and general wildland management, but who are also especially interested in wildlife and wish to take additional work in this subject, should take the courses required in all forestry schedules with additional courses in zoology, botany, and range management. The student should elect from the followings courses: Elementary Zoology (Zool 14ab), Comparative Vertebrate Zoology (Zool 23), Parasitology (Zool 103), Aquatic Biology (Zool 107), Ornithology (Zool 108), Mammalogy (Zool 109), Genetics (Zool 125), Animal Ecology (Zool 128), Advanced Vertebrate Zoology (Zool 131), Systematic Botany (Bot 16lab), General Range Management (For 120), For. 121, Range Forage plants, and Range Management (For 140abc). Students should plan on 5 years to complete this curriculum.

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

For Undergraduates

11abc. Survey of Forestry. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Students may enter any quarter. General survey of the 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.

12. Mapping. 1 Q. Autumn, Spring. 2 cr. Elementary and advanced lettering and map construction. Mr. Walbridge. Mr. Kuehlke.

- 20ab. Surveying.** 2 Q. Autumn. 4 cr. Spring. 5 cr. Summer 1947. 9 cr. Prerequisite, trigonometry (Math. 13). (a) Use of tape, compass, Abney level. Plane table mapping; differential leveling. Introduction to transit and stadia. (b) Care and adjustment of instruments. Establishment of horizontal and vertical control by transit and level. Topographic maps and surveys with plane table, telescopic alidade and stadia. Triangulation, astronomical observations, U. S. land survey methods. Mr. Walbridge.
- 25. Soils.** 1 Q. Winter. 4 cr. Prerequisite, Chemistry 11 or equivalent. A general course in soils of forest and range land; soil classification and surveys; soil erosion control. Mr. Morris.

For Undergraduates and Graduates

- 100. Dendrology.** 1 Q. Autumn. 5 cr. Prerequisite, Botany 22 or consent of instructor. The microstructural and taxonomic relations and distribution of the principal forest trees of the United States and Canada, with some consideration of important foreign species. Mr. Waters.
- 105abc. Silviculture.** 3 Q. Autumn, winter, spring. 4 cr. each quarter. Students may enter any quarter. Prerequisite, Botany 51. (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, thinnings, 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. Kuehlke.
- 110abc. Forest Measurements.** 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, Math. 13 and Forestry 20a or consent of instructor for 110a; Forestry 105ab or consent of instructor for 110c. Math. 25 (Statistics) highly advised. Application of mathematical methods to forest and range measurement problems. Measurement of the volume and content of timber products; determination of the volume, growth, and yield of trees and timber stands. Mr. Clark.
- 114. Forest Fire Control.** 1 Q. Winter. 4 cr. Prerequisite, Surveying 20ab. Forest fire control, prevention, detection and suppression; improvements, equipment and organization and education. Field trips. Mr. Spaulding.
- 115. Wood Technology.** 1 Q. Winter. 4 cr. Prerequisite, Botany 22 or consent of instructor. The physical, chemical, and mechanical properties of wood. Mr. Waters.
- 120. General Range Management.** 1 Q. Winter. 5 cr. Prerequisite, junior standing. An introduction course to the field of range management, class of stock, grazing season, grazing capacity, control and distribution of livestock on range. Range improvements; forest and range interrelationships. Mr. Morris.
- 121. Range Forage Plants.** 1 Q. Spring. 4 cr. Prerequisite, Forestry 120 and Botany 161a. Economic range of forage plants; forage value to different kinds of range animals; management problems in their use. Mr. Morris.
- 125ab. Forest Utilization.** 2 Q. Autumn. Spring. 4 cr. each quarter. Prerequisites Forestry 115 and Chemistry 11abc or 13abc, or consent of instructor. Manufacture and processing of products derived from the forest stand. Wood preservation. A survey course covering the fields of forest products and their uses. Field trips required. Mr. Spaulding.
- 127. Forest Recreation.** 1 Q. Autumn. Spring. 3 cr. Prerequisite, junior standing. Administrative, economic, and social aspects of the recreational use of forest lands. Field trips may be required. Mr. Clark.
- 130. Valuation.** 1 Q. Autumn. 4 cr. Prerequisite, Forestry 105 and 110, or consent of instructor. Finance and investment methods applied to forest enterprises; appraisals. Mr. Clark.
- 133. Logging.** 1 Q. Autumn. 4 cr. Prerequisite, junior standing. Equipment and methods of logging and forest transportation in the United States. Field trips. Mr. Kuehlke.
- 136ab. Forest Engineering.** 2 Q. Winter, spring. 4 cr. each quarter. Prerequisite, Forestry 20ab, Forestry 110abc, and Forestry 133, or consent of instructor. (a) Layout of logging railroads and truck roads, forest improvements and earthwork computations, determination of logging costs and time studies, (b) Application of forest engineering technics and methods to practice problems and including a 6-weeks field trip. Mr. Walbridge. Mr. Kuehlke.

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.

145ab. Forest Management. 2 Q. Winter. Spring. 4 cr. Prerequisite, Forestry 105, 110 and 130 (130 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. Kuehlike.

146. Applied Silviculture. 1 Q. Spring. 2 cr. Prerequisite, senior standing. Application of silvicultural technics and methods to field problems. Work done in field on senior spring trip. Mr. Kuehlike.

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

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

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

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

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

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

192. Research Methods. 1 Q. Any quarter if demand sufficient. 3-4 credits. Prerequisite, senior standing and consent of instructor. Study of research methodology and design of experiments and application to forest research. 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.

For Graduates

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

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

Geology

ASSOCIATE PROFESSOR WAYNE R. LOWELL (CHAIRMAN).

Objectives and Functions: The objectives which motivate the organization of the department and the courses of instruction given by the Department of Geology are: (1) To provide sound training in the fundamentals and principles of Geology. (2) To contribute to the subject knowledge of Geology through active research on original prob-

lems. (3) To demonstrate to the students the scientific method of thinking and the significance of science in modern civilization. (4) To prepare superior students for graduate training and an ultimate career as professional geologists. (5) To help the future citizens of Montana intelligently exploit and conserve the vast natural resources of the state.

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

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

Senior examinations will not be given.

For Undergraduates

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

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

22. Historical Geology. 2 Q. Autumn, winter. Continuous. 3 cr. Prerequisite, Geology 11a. The first quarter takes the study to the close of the Paleozoic era, and the second quarter continues it to the present time.

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

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

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

35. Field Geology. 1 Q. Spring. 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

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

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

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

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

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

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

For Graduates

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

Graduate School

DEAN W. P. CLARK, Classical Languages.

Members of the Graduate Council: L. G. BROWMAN, Zoology; D. J. EMBLEN, Business Administration; C. R. JEPPESEN, Physics; J. W. MAUCKER, Education; P. C. PHILLIPS, History; C. H. WALDON, Pharmacy; C. W. WATERS, Botany and Forestry.

Administration

Graduate instruction in the University is administered by a Dean and Council on Research and Graduate Study acting for the general faculty. The Registrar is the ex-officio Secretary of the Council.

Degrees Offered

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

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

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.

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

(4) 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 given at the option of any department or school.

Admission to the Graduate School

Applicants for admission to the Graduate School must hold the Bachelor's degree from Montana State University, or its equivalent from a college or university of approved standing. Official evidence must be offered of the completion of the minimum requirements for an undergraduate major in the field selected for graduate study or an allied field acceptable to the major department and 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 of instructor may not become candidates for advanced degrees from this University. This does not prevent such members from taking advanced courses for transfer to other institutions.

Admission to Candidacy for an Advanced Degree

If an applicant's record is satisfactory (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. (Master of Education degree candidates do not file thesis titles since no thesis is required but must have passed the qualifying tests, and beginning June 1, 1947, present professional papers).

Graduate Credit Courses

Undergraduate courses of advanced character are accepted for graduate credit. Such courses, however, must be of at least junior character. Courses numbered from 100 to 199 will 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.

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.

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 in-

vestigation in his field of special interest. He must present at least 45 credits in graduate courses and a thesis.

(2) Master of Education Degree.

Candidates for the Master of Education degree must have completed a minimum of 3 years' satisfactory teaching (one of which may have been military teaching experience) and offer 45 credits in graduate courses, at least ten hours of which must have been earned following completion of the teaching experience. 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.

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

Graduate work toward a Master's degree in music education will be offered in the summer of 1947, discontinued during the session 1947-48, and established definitely in the summer of 1948 and the session following.

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.

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.

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 HAROLD F. ADAMS, GEORGE P. DAHLBERG, CHARLES F. HERTLER (ACTING CHAIRMAN), AGNES L. STOODLEY; ASSISTANT PROFESSORS EDWARD S. CHINSKE, VINCENT V. WILSON; INSTRUCTOR PAUL M. SZAKASH.

Major Requirements: 53 or more credits in addition to courses Freshmen and Sophomore Physical Training, Men and Women (Phys Ed 11abc and 12abc). The following courses must be completed: Activity Skills (Phys Ed 15abc), Human Anatomy (Phys Ed 20ab), First Aid (Phys Ed 32), Techniques of Teaching Swimming (Phys Ed 36), Dance Methods and Materials (Phys Ed 45abc), Supervision and Teaching in Physical Education (Phys Ed 135). Kinesiology (Phys Ed 136), School Gymnastics (Phys Ed 137), Corrective Physical Education (Phys Ed 141), Physiology of Exercise (Phys Ed 148), Organization and Administration (Phys Ed 150), Health Education (Phys Ed 153), Coaching for Women (Phys Ed 63abc-women), Coaching of Basketball (Phys Ed 60), Coaching of Track (Phys Ed 61ab), Coaching of Football (Phys Ed 62ab-men); Elementary Zoology (Zool 10) and Human Physiology (Zool 24). Men may elect 10 credits from coaching courses. The following courses are recommended: General Hygiene (Bact 26), Elementary Bacteriology (Bact 19), General Bacteriology (Bact 117), Sanitation and Public Health (Bact 126); Comparative Vertebrate Zoology (Zool 23) and General Histology (Zool 105); General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13).

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 50.

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 30. 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, and the minor sports.

Facilities are provided by the Department for participation in athletic work for every member of the student body, intra-mural competition being maintained in football, basketball, baseball, track, tennis, cross-country running, indoor baseball, boxing, wrestling, gymnastics, swimming and fencing.

Intercollegiate competition in minor sports—tennis, wrestling, and swimming—is provided for by the athletic department.

For Undergraduates

- 11abc, 12abc. Freshman and Sophomore Physical Training (Men).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in swimming, floor work, apparatus work, competitive games, track, boxing, wrestling, tennis, and fencing. No student will be given the final grade in the last quarter of this course until he has passed the elementary examination in swimming. Mr. Wilson and Staff.
- 11abc, 12abc. Freshman and Sophomore Physical Training (Women).** 6 Q. Autumn, winter, spring, freshman and sophomore years. Summer. Swimming only. 1 cr. each quarter. Practical work in hockey, tennis, recreative games, mass class drills, apparatus work, elementary and advanced dancing, swimming, fencing, basketball, volleyball, baseball, track, and tennis. Staff.
- 15abc. Activity Skills.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. For major and minor students only. Students may enter any quarter. Prerequisite, 12abc or marked gymnastic ability. Practice in activities. Emphasis upon fundamentals and progression safety and supervision, tumbling, apparatus, stunts, games and fencing. Mr. Hertler.
- 20ab. Human Anatomy.** 2 Q. Autumn, Winter. 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. Summer. 2 cr. Open to all students of junior standing. Accidental injuries of the human body; methods of treatment, recognition and treatment of athletic injuries. Red Cross certification may be secured on completion of the course. Mr. Hertler.
- 36. Techniques of Teaching Swimming.** 1 Q. Spring. 2 cr. Open only to junior major and minor students. Methods of teaching in swimming and use of tests for classifying students. Mr. Hertler and Staff.
- 40. Athletic Training.** 1 Q. Winter. Summer. 2 cr. Prerequisite, Physical Education 20a. 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, S45. 4 cr. Students may enter any quarter. Prerequisite, junior standing. (a) Basic dance. (b) Folk dancing. (c) Tap and social dance. Staff.
- 59. Coaching of Baseball.** 1 Q. Spring. 2 cr. Prerequisite, sophomore standing. Staff.
- 60. Coaching of Basketball.** 1 Q. Autumn. Summer S60. 4 cr. Open to junior men. Theory and practice in handling work in basketball. Mr. Dahlberg.
- 61ab. Coaching of Track.** 2 Q. Winter, spring. 2 cr. each quarter. Summer, S61ab. 4 cr. Open to junior men. (a) Theory. (b) Practice. Mr. Fessenden.
- 62ab. Coaching of Football.** 2 Q. Spring, winter. 2 cr. each quarter. Summer S62ab. 4 cr. Open only to men of at least sophomore standing. 62a is prerequisite to 62b. (a) Practice. (b) Theory. Mr. Fessenden.
- 63abc. Coaching for Women.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Summer, S63. 4 cr. Prerequisite, Education 18 (or 25a) or concurrent registration. Course includes methods and materials. (a) Hockey, speedball. (b) Basketball, volleyball. (c) Tennis, softball, archery. Staff.

For Undergraduates and Graduates

- 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. Staff.
- 135. Supervision and Teaching in Physical Education (Combination of former 35a and 35b Systems and Methods).** 1 Q. Summer. 4 cr. Prerequisite, Physical Education 12abc and junior standing. Techniques and procedures in setting up and presenting a graded program of Physical Education activities. Includes rhythmical work, games, stunts, conditioning exercises, and achievement testing. Emphasis on interpretation of guide recommended by State Department of Public Instruction. Staff.
- 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. Spring. 4 cr. Prerequisite, Physical Education 35b. Growth and development of the child. Theory and practice in selecting and teaching activities for each school grade. Mr. Hertler.

141. Corrective Physical Education. 1 Q. Spring. Prerequisite, Physical Education 136. Open only to major students. 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.

148. Physiology of Exercise. 1 Q. Winter. Summer. 2 cr. Prerequisite, Zoology 24. Open only to major students. The physiological effects of the different types of exercises on the function of the human body. Mr. Hertler.

150. Organization and Administration. 1 Q. Autumn. 4 cr. Open to junior major students. The organization and administration of high school physical education departments. Management of the physical education plant. Mr. Hertler.

151. Curriculum Construction. 1 Q. Autumn. 3-4 cr. Prerequisite, senior standing and Physical Education 137. Classification and analysis of physical education activities; construction of programs and adaptation of programs to specific situations. Mr. Hertler.

152. Physical Therapy. 1 Q. Spring. 4 cr. Prerequisite, senior standing and Physical Education 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 majoring or minoring in Physical Education. The aims, objectives, and possible curricula for teaching health education in the elementary and high schools. Mr. Hertler.

160. Seminar in Health Education. Autumn. Winter. Spring. Summer. 1 cr. each Q. Prerequisite, senior standing and at least 25 credits in the Health Education major. This course may be repeated for credit not to exceed 3 credits. A study of the problems connected with the administration of community and school health programs by means of reviews of current literature and topical discussions. Mr. Hertler.

For Graduates

203. Tests and Measurements in Physical Education. 1 Q. Autumn. 4 cr. Types of tests and their reliability as part of a testing program. Methods for establishing distribution of scores; pupil rating in groups; correlation of scores. Mr. Hertler.

204. Research in Health and Physical Education. 1 Q. Any Quarter. 1-5 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 OSCAR J. HAMMEN, ROBERT T. TURNER, MELVIN C. WREN; INSTRUCTORS ROBERT BATES, JULES A. KARLIN, PAUL R. MURRAY.

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 80. The rule concerning specialization will be adjusted to fulfill the practical needs of such students.

Double majors may be arranged with the Department of Modern Languages and the Department of Economics and Sociology, and students may, with permission, offer such courses as Economics 103, 104 and 118, Journalism 35, etc. in partial fulfillment of the requirements for a degree.

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, 13b. Prerequisite, sophomore standing. Students may enter any quarter. The political, economic, and social history of England and the British Isles. Mr. Miller. Summer, Mr. Wren.

15. History of Greece. 1 Q. Winter. Summer. 4 cr. Prerequisite, sophomore standing. The cultural, social and political development of ancient Greece from prehistoric times to the Roman conquest. Mr. Clark.

16. History of Rome. 1 Q. Spring. 4 cr. Prerequisite, sophomore standing. The institutional, social, and cultural development of Rome to 395 A. D., with emphasis upon the period from the founding of the Republic to the death of Marcus Aurelius. Mr. Clark.

21abc. United States History. 3 Q. Autumn, winter, spring. 4 cr. each quarter. Summer, 21b. 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) 1812-1880. 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. Kariin, 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. 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. Bennett.

33. Medieval Europe. 1 Q. Autumn. 3 cr. Prerequisite, sophomore standing. The political, social, and economic development of Europe from the barbarian invasions to 1300. Mr. 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. Bennett.

104. Historical Methods. 1 Q. Autumn. 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. Autumn. 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.

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

114abc. Russia and Poland. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Summer, S114bc. 4 cr. Prerequisite, junior standing and a college course in modern European history. 114b required for registration in 114c. (a) The beginnings of Russia. Early expansion. (b) The Russia of the Tsars. 19th and early 20th century Russia. (c) Contemporary Russia. Mr. Hammen. Mr. Wren.

117ab. History of the Far East. 2 Q. Autumn, winter. Continuous. 8 cr. Prerequisite, junior standing and a college course in modern European history. The social, political, and economic aspects of the modernization of China, Japan, and the Philippine Islands; the conflicting interests of the Great Powers in the East. World War II. Mr. Wren.

121abc. Central Europe. 3 Q. Autumn, winter, spring. 3 cr. each quarter. Prerequisite, junior standing and a college course in modern European history. 121b required for registration in 121c. The growth and development of the states of Central Europe and the Balkans since early modern times. Mr. Hammen.

122. Montana History and Government. 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. 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. Summer. 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 postwar prosperity; the great depression and recovery. Mr. Karlin.

126. Economic History of Western Europe. 1 Q. Spring. 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. 4 cr. Prerequisite, History 21abc. English 59abc is desirable. An 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. Summer. 4 cr. Prerequisite, course 21bc. The internal affairs and external relationships of the United States in the 20th century. Mr. Karlin.

132. Contemporary European History. 1 Q. Winter. 4 cr. Prerequisite, junior standing and a college course in Modern European history. The internal affairs and external relationships of the principal European states during the past fifteen years. Mr. Turner.

For Graduates

200. Seminar in American History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Open to graduates who have a major or minor in history or political science, including course 21abc. A study of special problems in American history. Mr. Phillips.

201. Seminar in European History. 3 Q. Autumn, winter, spring. Summer. Credit variable. Prerequisite, 30 credits in history. A study of special problems in European history. Mr. Hammen.

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; constitutions, citizenship, suffrage, political parties, etc. Staff.

17. American Government and Politics. 1 Q. Autumn. Winter. 4 cr. Prerequisite, sophomore standing. The organization and functions of federal government and the problems of the present time. Mr. Turner. Mr. Murray.

18. State and Local Government. 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, course 14, 17 or 21b. A study of state, county, and municipal governments and their relation to the federal government. The changing functions of the states. Mr. Murray. Mr. Phillips.

20. Comparative Governments. 1 Q. Spring. Summer. 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. Mr. Turner. Mr. Bates.

37. Elements of Law. 1 Q. Spring. 3 cr. Prerequisite, course 14 or 17. The evolution 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. Winter, spring. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in the department. The law of nations in relation to peace, war, and neutrality. Mr. Bates.

107ab. Diplomatic History of Europe. 2 Q. Autumn, winter. 3 cr. each quarter. Prerequisite, junior standing and 15 credits in the department. Students may enter either quarter. International relations and world politics from the Congress of Vienna to World War I. Mr. Turner.

108. Present World Problems. 1 Q. Spring. Summer. 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. Not given in 1947-48. 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. Course 116a required for registration in 116b. (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. Mr. Murray.

119. Constitutional History of the U. S. 1 Q. Spring. 4 cr. Prerequisite, History 21abc. The origin and growth of the constitution in relation to the institutional development of the United States. Mr. Karlin.

120. American Foreign Relations. 1 Q. Winter. 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.

S129. American Political Theories. 1 Q. Summer. 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.

136. Government Regulation of Business. 1 Q. Spring. 4 cr. Prerequisite, course 116abc. The necessity for and the theories of government regulation; regulation in practice by legislation, by commission, and by judicial decision; the government in business. Mr. Murray.

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), ANNE C. PLATT; MONICA B. SWEARINGEN; ASSISTANT PROFESSOR MOLFRID MOE; INSTRUCTORS DORTHEA MILTZ, GLADYS VAN VOROUS.

Major Requirements: 50 or more credits in Home Economics, selected from courses listed under one of the following groups, in addition to General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13), Organic Chemistry (Chem 19), and Physiological Chemistry (Chem 103).

- 1. General:** Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), and Experimental Foods (Home Ec 138).
- 2. Teaching.** Introduction to Home Economics (Home Ec 17abc), Clothing Design (Home Ec 18), Problems in Home Equipment (Home Ec 80), Textiles (Home Ec 82), House Planning and Furnishing (Home Ec 119), Clothing (Home Ec 120), Nutrition (Home Ec 122), Child Development (Home Ec 124), Child Nutrition (Home Ec 125), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138). In addition, a major student should take History of Art (FA 31abc) and Educational Psychology (Educ 25a), Principles of Education

(Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), Problems in Teaching Home Economics (Educ 163), Home and Family Life Education (Educ 183). These courses prepare teachers of Vocational Home Economics in reimbursed schools.

- 3. Institutional Management:** Introduction to Home Economics (Home Ec 17abc), House Planning and Furnishing (Home Ec 119), Nutrition (Home Ec 122), Nutrition in Disease (Home Ec 123), Child Nutrition (Home Ec 125), Institutional Cookery (Home Ec 133), Institutional Management (Home Ec 135), Experimental Foods (Home Ec 138), Problems in Home Economics (Home Ec 198). In addition, a major student should select one or more from the following: Problems in Home Equipment (Home Ec 80), Child Development (Home Ec 124), Home Living Center (Home Ec 127), Home Management (Home Ec 128), Problems in Family Living (Home Ec 129), Problems of the Consumer (Home Ec 131). To qualify for a dietetic internship in a hospital the following are also required: Elementary Bacteriology (Bact 19), Human Physiology (Zool 24), Elementary Accounting (Bus Ad 11a), Elementary Sociology (Ec & Soc 16), and a minimum of 5 credits in Education.

Other opportunities in business and professional fields are open to Home Economics graduates.

The combined fields of Journalism and Home Economics offer excellent opportunities for special careers in advertising publications, and radio programs for the home. With this in mind the Home Economics Department recommends the following courses which offer valuable background and training for these and similar positions: Reporting (Journ 2lab), Copyreading (Journ 30), Principles of Advertising (Journ 40ab), Typography (Journ 38), Newscasting (Journ 48abc), Trade and Technical Publications (Journ 34), Promotion and Public Relations (Journ 35).

For further information students should consult the chairman of the department.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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 Miltz.

18. Clothing Design. 1 Q. Winter. 4 cr. The principles of design and their application to clothing. Miss Gleason.

19. Food Conservation. 1 Q. Summer. 5 cr. Open to all students. The fundamental methods used in conserving, processing, and storing the various foods for family needs. Miss Platt.

24. Elementary Nutrition. 1 Q. Spring. Summer. 5 cr. No Pre-requisite. Open only to non-majors. A study of fundamental principles of adequate human nutrition. Miss Platt.

80. Problems in Home Equipment. 1 Q. Autumn. 4 cr. Materials, specifications, selection, care, and use of equipment. Miss Miltz.

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.

586. 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.

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.

122. Nutrition. 1 Q. Autumn, 5 cr. Prerequisite, Home Economics 17b and Chemistry 103. Dietetics given in the light of the chemistry and physiology of digestion. Miss Platt.

123. Nutrition in Disease. 1 Q. Spring. 4 cr. Prerequisite, Home Economics 122. The symptoms of disease, Prophylaxis, and feeding in disease. Miss Platt.

124. Child Development. 3 Q. Autumn, winter, spring. Summer. 3-5 cr. Prerequisite, Psychology 11 and junior standing. Development of motor, linguistic, and intellectual skills and abilities of young children studied through observation and participation in the Nursery School. May be repeated to a maximum of nine credits. Miss Gleason.

125. Child Nutrition. 1 Q. Winter. 3 cr. Prerequisite, Home Economics 122. The science of human nutrition as it applies to children, using the University Nursery School as a laboratory for many of the problems studied. Miss Platt.

Note: Courses 127 and 128 must be taken concurrently. The two courses require approximately 24 hours a week for lecture and laboratory time.

127. Home Living Center. 1 Q. Autumn, winter, spring. Summer. 5 cr. Prerequisite, Home Economics 122 or consent of instructor and senior standing. Residence in the home living center for one term, applying principles gained in other courses to home problems. Miss Miltz.

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. Miss Miltz.

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, 3 cr. in Economics and Sociology and consent of instructor. A critical analysis of problems confronting the consumer. Miss Miltz.

133. Institutional Cookery. 1 Q. Autumn. 5 cr. Prerequisite, Home Economics 122 or concurrent registration. The application of scientific, economic, and sociological principles to the feeding of large numbers of people. Mrs. Swearingen.

135. Institutional Management. 1 Q. Winter. 5 cr. Prerequisite, Home Economics 133. Organization, management, and equipment of special types of institutions, such as dormitories, hospitals, tea rooms, cafeterias, and hotel dining rooms. Mrs. Swearingen.

138. Experimental Foods. 1 Q. Spring. 4 cr. Prerequisite, Home Economics 17b and Chemistry 19. Special problems are assigned for individual investigation. A study of foods from the scientific experimental point of view, approached by means of experiment and problems dealing with food compositions and preparation. Miss Platt.

163. Problems in Teaching Home Economics. See Special Methods courses page 84. Miss Moe.

183. Home and Family Life Education. See School of Education page 83. 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 DONALD R. COE, RAY W. FENTON. PROFESSIONAL LECTURERS JOHN W. LYMAN, NORMAN G. WARSINSKE.

Through honest and accurate channels of communication, democratic government must find a source of information. Through the media of such communication, democratic living can progress. Journalism thus may help to guide the citizen towards intelligent participation in his community and in his world. Journalism education, accepted and supported today by practicing journalists throughout the United States, is the professional training of tomorrow's editor and reporter, radio commentator and advertising executive.

The Montana State University School of Journalism was organized in 1914 and is one of the nation's pioneer institutions for journalism education. Its high rank was recognized in 1917 through its charter membership in the American Association of Schools and Departments of Journalism. It has retained its affiliation ever since with this organization of 34 institutions offering Class A journalism training.

Four fundamental objectives have been maintained by the School of Journalism. They are:

1. To qualify the journalism student for the profession of journalism through a broad and liberal education, so that he will be equipped with an appreciation and knowledge of his world and its problems.
2. To provide professional training in the fundamental journalistic techniques for his future lifework—on the newspaper, the magazine staff, in advertising, or radio journalism.
3. To further the progress and standing of all journalism through a realization by the student of the social responsibilities of his profession so that he will contribute to its growth in public service and esteem.
4. To create a greater number of informed and intelligent readers of the newspaper and listeners to the radio, through special courses open to non-majors, and thus serve the general education of the American college student.

Requirements for Admission

The regular University requirements for admission apply to the School of Journalism (pages 24 to 28). 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 28 to 33), except in foreign languages.
- (2) The recommended curriculum for majors in journalism, (pages 125 and 126).

- (3) A comprehensive examination in the senior year, covering the student's entire college program. A grade of "C" or better must be obtained. Candidates for special honors will be required to take an additional honors examination.

Candidates for the degree of Master of Arts in Journalism must comply with the regulations governing graduate work set forth on pages 108 to 112.

The Journalism Curriculum

The School of Journalism's course is four years.

During the first two years of enrollment in the School of Journalism, the student is required to complete the survey courses of the divisions of the College of Arts and Sciences. These serve as a foundation of general education for the professional training in journalism. The School of Journalism may accept equivalent substitutes for survey courses to meet cases of individual necessity or special interest.

In addition to the professional journalism courses which the student selects with the aid of careful guidance, he is given a wide choice of electives in other departments during his college program. Journalism training should not emphasize narrow specialization. With this in mind, the School of Journalism especially stresses the importance of a good background in the social sciences—history, political science, economics, and sociology. All journalism majors should possess facility and skill in typewriting; all written work for journalism courses must be typed. In addition, a knowledge of shorthand will be most useful.

For certain students who have special journalism interests—in advertising, in radio, in 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); Tex-

tiles (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 Radio Journalism 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).

The School of Journalism offers practical radio experience through a regular broadcast, written and produced by students in this course and presented every week over Station KGVO from the radio studio in the Journalism building.

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
30	Copyreading	2
31a	Copyreading Practice	2
40ab	Principles of Advertising	6
49	History of Journalism	3
126	High School Newspaper	3
		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 39) and Retail Store Advertising (Journ 44).

Fourteen 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 24 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; the Gannaway Prize in Rural Journalism; the Sigma Delta Chi Kaimin Service and Scholarship Awards. More details regarding these scholarships are given on pages 46 to 50.

The two nationally recognized journalism fraternities, Sigma Delta Chi for men and Theta Sigma Phi for women, both maintain chapters in the School of Journalism and have for thirty years. In addition, the School itself supports the Press Club, organization to which all journalism students belong.

Recommended Curriculum for Journalism Majors

Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 10abc, Introduction to Journalism.....	2	2	2
General 11abc, Introduction to Social Sciences	5	5	5
General 13abc, Introduction to Biological Sciences ..	5	5	5
English 12abc, Language in Action	3	3	3
Physical Education 11abc, Physical Education	1	1	1
Military Science 11abc, Military Science (Men).....	1	1	1
	16-17	16-17	16-17

Sophomore Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Journalism 21ab, Reporting	2	2	--
Journalism 22ab, Reporting Practice	2	2	--
Journalism 30, Copyreading	--	--	2
Journalism 38, Typography	2	--	--
General 15abc, Introduction to Humanities	5	5	5
Physical Education 12abc, Physical Education.....	1	1	1
Military Science 12abc, Military Science (Men).....	1	1	1
Electives	6	6	6
	16-17	16-17	16-17

Junior Year

Journalism 31, Copyreading Practice	--	2	2
Journalism 37, Law of Journalism	--	3	--
Journalism 40ab, Principles of Advertising.....	3	3	--
Journalism 41, Advertising Practice	--	--	2
Journalism 49, History of Journalism	--	--	3
Electives	13	8	9
	16	16	16

Senior Year

Journalism 100abc, Senior Seminar	6	6	6
Electives	10	10	10
	16	16	16

Total elective hours, 72 hours.

Total recommended hours in general education, 60 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. Fenton.

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. Alcorn.

24. Newspaper Management. 1 Q. Spring. 3 cr. Prerequisite, junior standing. The problems of management in the daily and weekly newspaper fields; actual financial setups and operation of newspaper and printing plants; cost-finding practice and systems in general use. Mr. Alcorn.

25. Editorial Writing. 1 Q. Autumn. Winter. 3 cr. Prerequisite, junior standing or consent of instructor. Preparation and presentation of editorial interpretation and comment. Editorial history; functions of editorial page. Mr. Fenton.

30. Copyreading. 1 Q. Autumn. Spring. Summer, 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. Struckman.

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. Dugan.

33. Magazine Article Writing. 1 Q. Autumn. 3 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. Fenton.

37. Law of Journalism. 1 Q. Winter. Spring. 3 cr. Prerequisite, junior standing or consent of the instructor. The laws of libel, slander, and right of privacy as they affect both press and radio. Contempt of court by publication; newspaper rights in newsgathering; property rights in news; regulatory provisions of state and federal statutes. Mr. Struckman.

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. Coe.

39. Graphic Arts. 1 Q. Autumn. Winter. Spring. 3 cr. Prerequisite, Journalism 38, or consent of instructor. Open to non-majors. Students may enter any quarter. Study of various printing and engraving processes, including letter press, offset lithography, intaglio, electrotpe and stereotype. Attention is paid to the use of inks, paper, color, and other materials of the graphic arts. Mr. Alcorn.

40ab. Principles of Advertising. 2 Q. Autumn, winter. Summer, 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. A general background course in advertising offered jointly by the School of Journalism and the School of Business Administration. Mr. Dugan. Mr. Smith.

41. Advertising Practice. 1 Q. Autumn. Winter. Spring. 2 cr. each quarter. Prerequisite, Journalism 40ab or concurrent registration. Preparation, promotion, and sale of advertising. Lecture, and staff work on the Kaimin. Mr. Dugan.

42. News Photography. 1 Q. Autumn. Winter. Spring. 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. Dugan.

44. Retail Store Advertising. 1 Q. Spring. 3 cr. Prerequisite, Journalism 40ab. Open to non-majors. Integration of retail store merchandising among advertising media. Study of technical aspects of advertising schedules for retail stores. Mr. Dugan.

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. Winter. 3 cr. Prerequisite, junior standing or consent of the instructor. Open to non-majors. The historical background of the American press. Mr. Fenton.

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 overall journalism course on the seminar pattern, in-

corporating 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. Fenton.

126. 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.

136. Advanced Journalism Problems. 1-3 Q. Autumn. Winter. Spring. 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. Summer, 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 CHARLES W. LEAPHART (DEAN), WALTER L. POPE, J. HOWARD TOELLE, DAVID R. MASON, EDWIN W. BRIGGS; ASSISTANT PROFESSORS FRANCIS E. COAD, JAMES C. GARLINGTON, RUSSELL E. SMITH. INSTRUCTORS EDMUND T. FRITZ, DONOVAN WORDEN, WILLIAM BOONE. LIBRARIAN CHARLOTTE RUSSELL.

The School of Law is located in a modernly equipped law school building with adequate class, office, library, and court room facilities. The school has a good working library of more than thirty thousand volumes. To a very great extent the library is the result of the generous gifts and legacies of Mrs. W. W. Dixon, and gifts of John J. McHatton, and the Anaconda Copper Mining Company. The school is a member of the Association of American Law Schools and is one of the schools approved by the American Bar Association.

The School of Law will operate on a four quarter basis as long as the needs of returning veterans require it. Nine quarters work in residence are requisite for the Bachelor of Laws degree. Students who attend continuously and who do satisfactory work will be able to secure the degree in two and one-quarter calendar years.

Requirements for Admission

Non-veteran applicants for admission must present credits equal to one-half of the work acceptable for a Bachelor's degree in Montana State University of which not more than 10 per cent may include work in non theory courses in military science, hygiene, domestic arts, physical education, vocal or instrumental music, or other courses of similar character. This work must be done in residence at an approved college or university and have been passed with a scholastic average at least equal to the average required for graduation in the institution attended, and this average shall also be attained by the student in his theory courses.

Furthermore, the applicant for admission must, in his pre-legal work, satisfy the scholastic average requirements for graduation of

students of the second period in the College of Arts and Sciences of Montana State University (see page 32). These requirements are that he must have obtained a number of grade points at least equal to all of the credits for which he has registered and for which he has received a grade. Negative grade points (1 for each credit of grade I, E, or F) must be subtracted from the positive grade points earned to determine the number of grade points acquired toward meeting grade point requirements. When credits are accepted from another institution, grade points are evaluated at the time of transfer; however, where a student has had pre-legal work at Montana State University and at another institution, he must meet the above requirements on credits earned at Montana State University as well as on his entire record.

A veteran of the present war must present the same amount of credits with the same restrictions as to the percentage of non theory courses and scholastic average as the non veterans. He may, however, in lieu of, or in addition to, offering for admission credits obtained in regular college or university courses, offer credits for:

- (1) Military training as such (not to exceed 12 quarter credits). For purposes of admission credits so obtained are classed as credits in theory courses.
- (2) Study or intellectual growth while the applicant was in the armed forces if the achievements resulting from such study or intellectual growth have been evaluated by a testing program within the armed forces or by examination given by an approved college, and if available data or tests with respect to this additional work shows unusual performance or ability.
- (3) Work done on a college campus in class under the direction of regular members of the college faculty while the applicant was a member of the armed services, if that college will give credit for such work towards its own degree and the work is of superior caliber.

He may satisfy the residence requirements by only one academic year of study in residence, either as a civilian or in the uniform of his country, in an approved college or university if he has completed substantially one quarter of the work acceptable for the bachelors degree at the institution attended and the quality of his work has been equal to the quality required for graduation by the institution.

Although students are admitted who have met the foregoing requirements, three years of pre-legal preparation are recommended.

It is recommended that pre-legal students complete the curriculum of the Division of Social Sciences, page 56.

Special students are not admitted to the School of Law.

For the University admission requirements, see page 24.

Requirements for Graduation

Candidates for the Bachelor of Laws degree are required to complete:

- (1) The requirements for admission listed above.
- (2) Nine quarters of work in a law school of recognized standing, the last three of which must be completed in residence in Montana State University. Two summer sessions of approximately 6 weeks each will be counted as one quarter.

- (3) The following courses: Contracts, Property, Torts, Criminal Law and Procedure, Practice Court, Forms of Action and Code Pleading, or Civil Procedure, and Legal Writing.
- (4) A total of 126 credits in law with an average of at least one grade point for each credit.

Candidates for the Bachelor of Arts degree with Law as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 28 to 33 and page 56).

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 33, will not be given except to candidates for honors.

General Information

No student will be allowed credit in any one quarter for over 15 hours of work in the School of Law; except that in addition, within the discretion of the Dean, a student may be allowed to take an examination to remove a condition and be given credit upon satisfactory passage of the same. A student may also be allowed one additional credit for Legal Writing.

The case system of instruction is employed. Special attention is given to practice court work, in which the students are required not only to argue legal questions, but to try cases, prepare appeals, and go through all the steps incident to the trial of a law suit. A thorough course is given in the use of law books.

Where courses extend over more than one quarter, credit is conditional upon the completion of and final satisfactory examination over the whole course except where because of unusual circumstances arrangements have been made in advance for examination and credit at the end of other quarters.

In continuous courses examinations will also be given at the end of the first quarter. Conditions may be removed only in the regular examination at the end of a repetition of the course.

The honor system has been in successful operation since the foundation of the School.

The curriculum of the School of Law is designed to afford preparation for the practice of law in any of the United States, but special attention will be given in all courses to the codes and decisions of Montana.

Graduates of the School of Law may, in the discretion of the Supreme Court of Montana, be admitted to practice in the courts of Montana without further examination.

Combined Degrees

Undergraduate students in regular standing, candidates for the degree of Bachelor of Arts, electing law as a major subject at the beginning of the junior year may count not to exceed 65 credit hours of the law course towards graduation and the degree of Bachelor of Arts.

Students may also combine Business Administration and Law so as to secure in six years the degree of Bachelor of Arts in Business Administration and the degree of Bachelor of Laws.

Courses for Non-Professional Students

Courses in the Law School are open to students in other departments and schools in the University who meet its entrance requirements. Credits obtained may apply toward degrees in such departments.

Curriculum

First Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits	Summer Quarter Credits
Civil Procedure	3	3	3	9
(a) Contracts	3	3	3	9
(b) Criminal Law and Procedure	2	2	2	6
Property	3	3	3	3
Torts	3	3	3	..

Students who begin law in the Winter Quarter take Contracts 6, Torts 6, and Property 3 hours in the Winter Quarter, and Contracts 3, Torts 3, Property 3, and Criminal Law 6 hours in the Spring Quarter.

Second and Third Years

(c) Administrative Law	3	3	..	6
Agency	2	2	..	..
Appellate Practice	1	1	1	..
Bills and Notes	2	2	2	..
Business Organizations	2	2	4	..
Conflicts of Law	3	3	..	..
(d) Constitutional Law	3	3	..	6
Corporations .....	..	..	..	6
Creditors' Rights	2	2	2	..
Damages .....	..	..	3	..
(b) Domestic Relations .....	..	..	..	3
Equity	2	2	2	..
Evidence	2	2	2	..
Insurance .....	..	..	3	..
(e) Irrigation Law .....	..	..	2	..
(a) Labor Relations .....	..	..	..	3
Legal Ethics	2	..	..	..
Legal Writing .....	..	1	..	..
(f) Mining Law .....	..	..	2	..
(b) Municipal Corporations .....	..	..	..	3
Practice Court	2	1	..	..
Sales	2	2	2	..
Suretyship and Mortgages	2	2	2	..
(g) Taxation	3	3	..	6
(h) Trade Regulation	2	2	2	6
Trusts	2	2	2	..
Use of Law Books	2	..	..	..
Wills and Administration .....	..	2	2	..

- (a) To be given in Summer 1947, not in 1948.
- (b) To be given in Summer 1948, not in 1947.
- (c) Not to be given in Summer 1947 nor the autumn and winter quarters 1947-48. To be given in Summer 1948 and the autumn and winter quarters 1948-49.
- (d) Given in Summer 1946. Not given in the autumn and winter quarters 1946-47. To be given in the autumn and winter quarters 1947-48.
- (e) Given in 1946-47. Will not be given in 1947-48.
- (f) Not given in 1946-47. Will be given in 1947-48.
- (g) Given in Summer 1946. Not given in the autumn, winter, spring or summer quarters 1946-47. Will be given in the autumn, winter, and summer quarters of 1947-48.
- (h) Not given in Summer 1946. To be given in Summer 1947. Not to be given in the autumn, winter, spring, and summer quarters 1947-48.

Courses

- Administrative Law.** 2 Q. Autumn, winter. Continuous. 6 cr. Sear's Cases on Administrative Law. Mr. Mason.
- Agency.** 2 Q. Autumn, winter. Continuous. 4 cr. Mechem's Cases on Agency, 3rd edition. Mr. Briggs.
- Appellate Practice.** 3 Q. Autumn, winter, spring. Continuous. 3 cr. Smith's Cases and Materials on Appellate Practice. Mr. Mason.
- Bills and Notes.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Smith and Moore's Cases on Bills and Notes, 4th edition. Mr. Mason.
- Business Organizations.** 3 Q. Autumn, winter, spring. Continuous. 9 cr. Frey's Cases and Statutes on Business Associations. Mr. Briggs.
- Civil Procedure.** 3 Q. Autumn, winter, spring. Continuous. 1 Q. Summer. 9 cr. Sunderland's Cases and Materials on Judicial Administration. (Magill's Cases on Civil Procedure, 3rd edition. Summer 1946). Mr. Mason. Mr. Toelle.
- Conflicts of Law.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Cheatham, Dowling, Goodrich, and Griswold's Cases on Conflict of Laws, 2nd edition. Mr. Briggs.
- Constitutional Law.** 2 Q. Autumn, winter. Continuous. 1 Q. Summer 1946. 6 cr. Not given autumn, winter, 1946-47. Dodd's Cases on Constitutional Law, 3rd edition. Mr. Mason.
- Contracts.** 3 Q. Autumn, winter, spring. Continuous. 2 Q. Winter, spring. Continuous; 1 Q. Summer (1947). 9 cr. Williston's Cases on Contracts, 4th edition. Mr. Leaphart. Mr. Boone.
- Corporations.** 1 Q. Summer. 6 cr.
- Creditors Rights.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. Hanna and McLaughlin's Cases on Creditors Rights. Mr. Toelle.
- Criminal Law and Procedure.** 3 Q. Autumn, winter, spring. Continuous; 1 Q. Spring; 1 Q. Summer (1946). 6 cr. Mikell's Cases on Criminal Law and Procedure, 3rd edition. Mr. Briggs.
- Damages.** 1 Q. Spring. 3 cr. Cases on Damages, 2nd edition. Crane.
- Domestic Relations.** 1 Q. Summer 1946. 3 cr. Jacob's Cases on Domestic Relations, 2nd edition. Mr. Briggs.
- Equity.** 3 Q. Autumn, winter, spring. 6 cr. Continuous. Chafee and Simpson Cases on Equity, 2nd edition. Mr. Coad.
- Evidence.** 3 Q. Autumn, winter, spring. Continuous. 6 cr. McCormick's Cases on Evidences. Mr. Smith.
- 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 1947. 3 cr. Casebook to be announced.
- Legal Ethics.** 1 Q. Autumn. 2 cr. Costigan's Cases and Materials on the Legal Profession and its Ethics, 2nd edition. Mr. Toelle.
- Legal Writing.** 1 Q. Winter. 1 cr. For third year students. No text. Staff.
- Mining Law.** 1 Q. Spring. 2 cr. Costigan's Cases and Materials on Mining Law. Will not be given in 1946-47. Mr. Toelle.
- Municipal Corporations.** 1 Q. Summer 1946. 3 cr. Tooke and McIntire's Cases on Municipal Corporations, 3rd edition. Mr. Mason.

Practice Court. 3 Q. Autumn, winter, spring. 3 cr. Continuous. Montana Code of Civil Procedure, selected cases, and practical exercises. Mr. 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.

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.

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.

Taxation. 2 Q. Autumn, winter, continuous. 1 Q. Summer 1946. 6 cr. Magill and McGuire's Cases on Taxation. Mr. Coad.

Torts. 3 Q. Autumn, winter, spring. Continuous. 2 Q. Winter, spring. Continuous. 9 cr. Harper's Bohlen Cases on the Law of Torts. 4th edition. Mr. Toelle. Mr. Garlington.

Trade Regulation. 3 Q. Autumn, winter, spring. Continuous. 6 cr. Handler's Cases and materials on Trade Regulation. Not given in 1947-48. Mr. Coad.

Trusts. 3 Q. Autumn, winter, spring. Continuous. 6 cr. Scott's Cases on Trusts, 3rd edition. Mr. Leaphart. Mr. Pope.

Use of Law Books. 1 Q. Autumn. 2 cr. Beardsley's Legal Bibliography and Use of Law Books. Mr. Toelle.

Wills and Administration. 2 Q. Winter, spring. Continuous. 4 cr. Bingham's Costigan Cases on Wills and Administration, 3rd edition. Mr. Toelle.

Mathematics

PROFESSOR A. S. MERRILL (chairman); ASSISTANT PROFESSORS ANDREWA R. NOBLE, T. G. OSTROM; INSTRUCTORS MRS. EDNA K. BENNETT, MRS. HELEN D. GILLESPIE, WALTER HOOK, MRS. EVELYN E. WEBB.

Major Requirements: 45 or more credits. However, for students presenting three and a half entrance units in mathematics, a 40 credit minimum, and for students with four entrance units, a 35 credit minimum may be permitted at the discretion of the Department. No student may offer in fulfillment of these minimum requirements more than four of the following courses or their high school equivalents: Survey of College Mathematics (Math 12), Plane Trigonometry (Math 13), Spherical Trigonometry (Math 14), College Algebra (Math 16), Elementary Mathematics of Investments (Math 19), Plane Analytic Geometry (Math 21), Statistics (Math 25). Courses in Intermediate Algebra (Math 10), Solid Geometry (Math 11), Introductory Business Mathematics (Math 18), and Descriptive Astronomy (All) may not be counted toward a major in Mathematics. Students majoring in Mathematics must complete General Physics (Physics 20abc) or the equivalent.

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

Students who plan to secure a certificate to teach should consult the certificate requirements listed on page 80.

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 131) and those numbered over 100 [except Ordinary Differential Equations (Math 101) and Calculus III (Math 107a), Calculus IV (Math 107b)] are offered subject to demand.

During the early post-war period elementary courses will be repeated according to the demand in so far as the limitations of the staff permit.

For Undergraduates

A. Elementary Algebra. 1 Q. Spring. Summer. No cr. A sub-freshman, refresher course for students who have had no algebra in high school or who wish to cover this ground for review. Staff.

B. Plane Geometry. 1 Q. Summer. No cr. 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 $1\frac{1}{2}$ units of algebra or who have completed Mathematics 18 or 35a may not receive credit in this course. Staff.

11. Solid Geometry. 1 Q. 5 cr. Prerequisite, Mathematics 10 and one entrance unit in plane geometry. Students who present entrance credit in solid geometry may not receive credit in this course. 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 13 or equivalent. Spherical trigonometry and certain topics in plane trigonometry. Staff.

16. College Algebra. 1 Q. Autumn. Summer. 5 cr. Prerequisite, Mathematics 10 or equivalent. Students who present 2 entrance units of high school algebra must have the permission of the Mathematics Department before receiving credit in this course. Staff.

17. College Geometry for Teachers. 1 Q. Summer. $2\frac{1}{2}$ -5 cr. Prerequisite, one entrance unit of plane geometry and consent of instructor. Designed to cover problems in the teaching of high school geometry with the use of material from the field usually designated as college geometry. Miss Noble.

18. Introductory Business Mathematics. 1 Q. Autumn. 5 cr. Prerequisite, 1 entrance unit of algebra. This course covers practically the same field as Mathematics 10, except that work on progressions and binomial theorem replaces the study of quadratic equations and systems. Students who present $1\frac{1}{2}$ entrance units of algebra or who have completed Mathematics 10 or 35a may not receive credit in this course. Staff.

19. Elementary Mathematics of Investments. 1 Q. Winter. Summer. 5 cr. Prerequisite, Mathematics 18 or $1\frac{1}{2}$ entrance units of algebra. Mathematics 19 may not be taken for credit by those who have had 25 or more credits in mathematics. Staff.

20. Advanced Mathematics of Investments. 1 Q. Winter. 5 cr. Prerequisite, Mathematics 19 or 25 credits in the Department of Mathematics. Not given in 1947-48. Mr. Merrill.

21. Plane Analytic Geometry. 1 Q. Spring. Summer. 5 cr. Prerequisite, Mathematics 13 or equivalent, and Mathematics 16. Staff.

22. Calculus I. 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 21. Differential calculus, including introductory work on integration. Staff.

23. Calculus II. 1 Q. Winter. 5 cr. Prerequisite, Mathematics 22. Applications of differential calculus; integral calculus. Staff.

25. Statistics. 1 Q. Spring. Summer. 5 cr. Prerequisite, Mathematics 10 or 18 or equivalent. Staff.

26. Advanced Statistics. 1 Q. Winter. 5 cr. Prerequisite, Mathematics 25, or 25 credits in mathematics. Not given in 1947-48. Mr. Merrill.

For Undergraduates and Graduates

101. Ordinary Differential Equations. 1 Q. Autumn. 5 cr. Prerequisite, Mathematics 23. Staff.

104. Theory of Equations. 1 Q. 5 cr. Prerequisite, Mathematics 22. Staff.

107a. Calculus III. 1 Q. Spring. 5 cr. Prerequisite, Mathematics 23. Infinite series; expansion of functions; hyperbolic functions; partial differentiation; multiple integration. Staff.

107b. Calculus IV. 1 Q. Winter. 5 cr. Prerequisite, Mathematics 107a. Introductory theory of functions. Staff.

131. Teaching of Secondary Mathematics. See Special Methods courses page 84.

150. Seminar. 1 Q. Any quarter. Credit variable. Prerequisite, junior standing and consent of instructor. This course provides guidance in special work for advanced students. Staff.

For Graduates

200. Graduate Seminar. 1 Q. Any quarter. Credit variable. Prerequisite, graduate standing and consent of instructor. This course provides guidance in graduate subjects or research work. Staff.

Astronomy

All. 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 which involves three academic years of scientific training and twelve months of practical laboratory experience in an approved hospital. Upon the completion of the fourth year's work the student will be required to pass an examination given by the American Society of Clinical Pathologists covering the practical laboratory instruction. At least the third year of University work prescribed in this course must be taken in residence at Montana State University. Satisfactory completion of this course leads to the degree of Bachelor of Science in Medical Technology.

The curriculum for this course has been designed for those students who have had adequate high school preparation, which should include one and one-half units of algebra, one unit of geometry, one of chemistry, and two units of a modern foreign language. Students who lack this preparation should plan to spend four years in the University before going to a hospital for the practical laboratory instruction.

Since the number of hospital internships available is limited, the department will recommend candidates for these internships largely on the basis of superior scholarship.

The curriculum is as follows, and has been approved by the Council of Education and Hospitals of the American Medical Association:

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Zoology 14ab, Elementary Zoology and Psych 11, General Psychology	5	5	5
Chemistry 13, Inorganic Chemistry and Qualitative Analysis	5	5	5
English 11ab, Language in Action and Math 13, Trigonometry	5	5	5
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science (Men)	1	1	1
	16-17	16-17	16-17
Sophomore Year			
Physics 20abc, General Physics	5	5	5
Chem. 101, The Carbon Compounds and Chem. 17, Quantitative Analysis	5	5	5
English Literature or Philosophy	4	..	..
History or Economics .....	..	..	4
Elective .....	..	4-5	..
Phys. Ed. 12abc, Physical Education	1	1	1
Mil. Sci. 12abc, Military Science (Men)	1	1	1
	15-16	15-17	15-16
Junior Year			
Zoology 103, Parasitology and Zoology 24, Human Physiology	3	..	5
Zoology 105, General Histology .....	..	5	..
Bact. 117, General Bacteriology, Bact. 118, Immu- nology and Bact. 119, Pathogenic Bacteriology	5	5	5
Bact. 125, Hematology and Bact. 121 Diagnostic Bacteriology .....	..	5	5
History or Economics	4	..	..
Elective	3	..	..
	15	15	15
Senior Year			

Twelve months' internship in an accredited hospital.
Credits earned in practical laboratory work may be applied toward graduation only for the degree of Bachelor of Science in Medical Technology.

Department of Military Science and Tactics

PROFESSOR J. B. LOVLESS, (Colonel, Infantry) (chairman); JOE E. GOLDEN, (Lt. Colonel, Infantry), RUSSELL F. FISHER, (Lt. Colonel, Air Corps); ASSOCIATE PROFESSORS JOSEPH A. SHOEMAKER, (Major, Infantry), JOSEPH S. CONLIN, (Major, Air Corps), AMOS B. SHATTUCK, (Captain, Air Corps), ASSISTANT PROFESSORS JEAN A. MULLER (M/Sgt. DEML), JOHN D. SWENTY (M/Sgt., Inf.), EVERETT H. SWANN (M/Sgt., Air Corps), EVERETT J. ALLEN (1st Sgt., Infantry), JOHN M. SNODGRASS (1st/Sgt., Infantry), BURNIE L. EUBANKS (T/Sgt., DEML), GLEN K. DEVEREAUX (T/Sgt., Air Corps), ROBERT E. LICHTY (T/Sgt. Air Corps, all Assistants, United States Army.

2. The University maintains a unit of the Senior Division of the Reserve Officers' Training Corps, organized in 1919 under authority of the National Defense Act. The unit consists of the Elementary and Advanced courses in both Infantry and Air Corps, 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 the 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 presentment 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.
 3. C. T. D. training.
 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. Exemption for one year.

- (a) Completion of three years Junior Division ROTC Course.

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 **Elementary 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. Elementary 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 Corps). 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 elementary 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 sixty-six 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 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 elementary 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. War Department Manuals are provided for the students in all courses.

For Undergraduates

Note: Students who are irregular in the sequence of the basic courses 11abc and 12abc should note that the work 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.

11abc. Military Science and Tactics (1st Year Elementary—Branch Immaterial) 3 Q. Autumn, winter, spring. 1 credit each quarter. Students may enter any quarter. (a) Individual Weapons and Marksmanship, National Defense Act and ROTC, World Military Situation, Hygiene and First Aid. (b) World Military Situation, Military Organization, Hygiene and First Aid, Leadership, Drill and Exercise of Command, Maps and Aerial Photographs. (c) World Military Situation, Leadership, Drill and Exercise of Command.

12abc. Military Science and Tactics (2d Year Elementary—Branch Immaterial). 3 Q. Autumn, winter, spring. 1 credit each quarter. Students may enter any quarter. (a) World Military Situation, Maps and Aerial Photographs, Military Administration, Evolution of Warfare. (b) World Military Situation, Leadership, Drill and Exercise of Command, Military Law and Boards. (c) World Military Situation, Leadership, Drill and Exercise of Command.

13abc. Military Science and Tactics: (1st Year Advanced Infantry). 3 Q. Autumn, winter, spring. 2½ credits each quarter. (a) Geographical Foundations of National Power, Occupied Territories, Military Law and Boards, Tactics and Techniques (Motors and Transportation, Organization, Tactics, The Military Team). (b) Military Leadership, Psychology, and Personnel Management, Geographical Foundations of National Power, Tactics and Technique (Tactics, The Military Team). (c) Military Leadership, Psychology and Personnel Management, Leadership, Drill and Exercise of Command, Tactics and Technique (Communications, Gunnery Technique of Fire and Fire Control.)

14abc. Military Science and Tactics: (2d Year Advanced Infantry). 3 Q. Autumn, winter, spring. 2½ credits each quarter. (a) Command and Staff, Military Teaching Methods, Psychological Warfare, Combined and

Joint Operations, Military Mobilization and Demobilization, Tactics and Technique, (New developments). (b) Tactics and Technique (Supply and Maintenance, Tactics, Troop Movements). (c) Leadership, Drill and Exercise of Command, Tactics and Technique (Communications, Gunnery, Technique of Fire and Fire Control.

15abc. Military Science and Tactics: (1st Year Advanced Air Corps)
3 Q. Autumn, winter, spring. 2½ credits each quarter. (a) Military Leadership, Psychology and Personnel Management; Military Problems of the U. S.; History of the AAF; Organization of the AAF; Administration and Personnel Management; AAF Training. (b) AAF Supply; Military Problems of the U. S.; Guided Missiles; AAF Inspection Systems; Occupied Territories; AAF Statistical Control Methods; Military Laws and Boards; Transportation. (c) Aeronautics; Navigation; Communications; Chemical Warfare; Camouflage; Air Intelligence and Combat Orders.

16abc. Military Science and Tactics: (2nd Year Advanced Air Corps).
3 Q. Autumn, winter, spring. 2½ credits each quarter. (a) (b) (c) AAF Supply. This course, while not designed to produce a fully qualified supply officer, will provide the student with a sound knowledge of the duties and functions of the supply officer, as well as the principles of basic foundation on which Air Force Supply is founded.

Modern Languages

PROFESSORS RUDOLPH O. HOFFMAN, BART E. THOMAS (chairman);
ASSOCIATE PROFESSOR PAUL A. BISCHOFF; ASSISTANT PROFESSORS ROBERT M. BURGESS, THEODORE H. SHOEMAKER, THORA SORENSON; INSTRUCTORS LOUISE KRAUS, ELENA VARNECK.

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 31). Students who have one high school unit in a modern language should enter course 13a, Intermediate French; those with two units, Advanced French (French 15); those with three units, courses numbered over 100, subject, however, to a placement examination.

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

French

Major Requirements. Candidates for the degree of Bachelor of Arts in French must meet the following requirements:

1. French 11 to 119 inclusive, or equivalent, and 15 credits selected from courses numbered 121 to 132 inclusive. If a student, on the basis of a placement examination, places in a course numbered over 100, 18 credits may be the minimum requirement.

2. Five quarters (or equivalent) of another language. Students should not start another language until they have had three quarters of work in the first language.

3. Two quarters in the history of Europe, chosen from the following: French Revolution and Napoleonic Era (Hist 29), Europe in the 19th Century (Hist 30ab), Medieval Europe (Hist 33), Renaissance and Reformation (Hist 34), The Ancient Regime (Hist 35).

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

For Undergraduates

- 11. Elementary French.** 2 Q. Autumn, winter. Continuous. 10 cr. Summer. 5 cr. French Staff.
- 13a. Intermediate French.** 1 Q. Spring. Summer. 5 cr. Prerequisite, French 11 or equivalent. French Staff.
- 13b. Intermediate French.** 1 Q. Autumn. Summer. 4 cr. Prerequisite, French 11 or equivalent. French Staff.
- 15. Advanced French.** 1 Q. Winter. Summer. 4 cr. Prerequisite, French 13b or equivalent. French Staff.
- 17. French Grammar Review and Composition.** 1 Q. Spring. Summer. 4 cr. Prerequisite, French 15 or equivalent. French Staff.

For Undergraduates and Graduates

- 115. Practical Phonetics.** 1 Q. Autumn. Spring. 1 cr. Prerequisite, French 15 or equivalent. French Staff.
- 119. General Survey of French Literature.** 1 Q. Winter. 4 cr. Prerequisite, French 17 or equivalent. 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 1947-48, and in alternate years. Mr. Hoffman.
- *127. The 19th Century French Literature.** 1 Q. Winter. 3 cr. Prerequisite, French 17 or equivalent. Given in 1948-49 and in alternate years. Mr. Burgess.
- *131. Advanced French Composition.** 1 Q. Spring. 3 cr. Prerequisite, French 17 and one additional course numbered over 100, or equivalent. Given in 1947-48, and in alternate years. Mr. 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.

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

For Undergraduates

11. Elementary German. 2 Q. Autumn, winter. Continuous. 10 cr. Summer 11a. 5 cr. German Staff.

13a. Intermediate German. 1 Q. Spring. Summer. 5 cr. Prerequisite, German 11 or equivalent. German Staff.

13b. Intermediate German. 1 Q. Autumn. Summer. 4 cr. Prerequisite, German 13a or equivalent. German Staff.

15. Advanced German. 1 Q. Winter. Summer. 4 cr. Prerequisite, German 13b or equivalent. German Staff.

17. German Grammar, Composition, Conversation. 1 Q. Spring. 4 cr. Prerequisite, German 15 or equivalent. German Staff.

For Undergraduates and Graduates

***119. General Survey of German Literature.** 1 Q. Autumn. 3 cr. Prerequisite, German 17 or equivalent. Given in 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 55), 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 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.

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

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 80.

For Undergraduates

11. **Elementary Spanish.** 2 Q. Autumn, winter. Winter, spring. 10 cr. Continuous. Summer. Spanish Staff.
- 13a. **Intermediate Spanish.** 1 Q. Autumn. Spring. Summer. 5 cr. Prerequisite, Spanish 11 or equivalent. Spanish Staff.
- 13b. **Intermediate Spanish.** 1 Q. Autumn. Winter. Summer. 4 cr. Prerequisite, Spanish 13a or equivalent. Spanish Staff.
15. **Advanced Spanish.** 1 Q. Autumn. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 13b or equivalent. Spanish Staff.
17. **Spanish Grammar, Composition, Conversation.** 1 Q. Winter. Spring. Summer. 4 cr. Prerequisite, Spanish 15 or equivalent. Mr. Thomas. 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. 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. **Picaresque Novel.** 1 Q. Spring. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1948-49, and in alternate years. Miss Sorenson.
123. **19th Century Spanish Novel.** 1 Q. Autumn. 3 cr. Prerequisite, Spanish 17. Romanticism and the novel of this century. Given in 1947-48, and in alternate years. Mr. Bischoff.
124. **19th Century Spanish Drama.** 1 Q. Winter. 3 cr. Prerequisite, junior standing and Spanish 17. Given in 1947-48, and in alternate years. Miss Sorenson.
- 125ab. **Spanish-American Literature.** 2 Q. Winter, spring. 3 cr. each quarter. Prerequisite, Spanish 17. (a) General survey of the literary movement from Colonial times through the Modernista movement. (b) Contemporary prose writers with emphasis on the novelists of the Argentine, Mexico, Colombia, and Venezuela. Given in 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. Mr. Bischoff.
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. LeFort. Mr. Thomas.
131. **Commercial Spanish.** 1 Q. Spring. 3 cr. Prerequisite, Spanish 17. Writing of Spanish commercial letters and a study of commercial practices in Spanish-America. Designed for students in Pan American studies. Given in 1947-48, and in alternate years. Spanish Staff.
132. **Language-Area Seminar in Spanish.** 1 Q. Summer. 1½-3 cr. Prerequisite, History and Spanish majors and consent of departmental chairman. Mr. Thomas. Mr. LeFort. Mr. Ellis. Mr. Bischoff.
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 Undergraduates

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; ASSOCIATE PROFESSORS BERNICE BERRY RAMSKILL, STANLEY M. TEEL; INSTRUCTORS EUGENE ANDRIE, LOIS COLE, HASMIG GEDICKIAN, J. JUSTIN GRAY, NORMAN GULBRANDSEN, RAYMOND KELTON, LEONA MARVIN, A. T. MEYER, RUDOLPH WENDT.

Requirements for Admission

1. The regular University requirements for admission apply to the School of Music, pages 24 to 28. 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. 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 sing on pitch and show talent for musical expression as demonstrated by the performance of standard songs in English and should be able to read a simple song at sight.

Piano. Major and minor scales, major and minor arpeggios in moderate tempo, some standard études such as Heller, Op. 47; small works of Bach such as Little Preludes and Two-Part Inventions; easy sonatas and standard compositions such as Haydn Sonata in G Major, Schubert Impromptu Op. 142, No. 2.

Violin. Ability to perform études such as Kreutzer études Nos. 1 to 32 and Tartini G Minor Sonata.

Organ. Same as Piano.

Wind Instruments. Must have mastered elementary technique of his or her instrument.

3. An entrance examination in music aptitude and placement tests in applied music are required.

Requirements for Graduation

1. Candidates for the degree of Bachelor of Music in music education are required to complete satisfactorily 186 credits as outlined in suggested Curriculum A, and must have a minimum proficiency in applied music as follows: Piano, two years of continuous study or its equivalent in performing ability; Voice, Wind Instruments, and Violin, each for one year of continuous study or the equivalent in performing ability.

2. Candidates for the degree of Bachelor of Music in applied music must meet the general university requirements for graduation (pages 28 to 33), with the exception that only two of the restricted elective requirements (to be selected from sections 2, 3, 4, and 5 under "Restricted Elective Requirements") must be completed. In addition, they must complete the music courses suggested in Curriculum B and meet the following requirements in the field of specialization:

Voice. The candidate must have the ability to perform satisfactorily and to demonstrate a knowledge of the technique of singing, including breath control, resonance, placement, diction, and interpretation. He must have both a singing and teaching knowledge of lieder, art song, oratorio, opera, and sacred literature, and a singing knowledge of French, Italian, and German.

For his specialization requirements the student in voice must include Choral Groups (Music 10abc, 2 years), Conducting (Music 31a), Applied Music (Music 1, Piano, 2 years or its equivalent in performing ability).

Piano. The candidates must be able to demonstrate the ability to play scales, arpeggios, chords, octaves, and double notes in various speeds and with various tonal effects. Repertoire must include classic, romantic, and modern compositions such as Bach, Chromatic Fantasia and Fugue, preludes and fugues from the Well-Tempered Clavier; Beethoven Sonata Op. 53 and a concerto; Brahms Sonata in F Minor, Mozart Concerto in E-Flat Major, large compositions of Chopin, Liszt, and Grieg; compositions from modern composers such as Rachmaninoff, MacDowell, Debussy, and Ravel. Candidates must be able to read compositions of moderate difficulty and average song accompaniments at sight.

For his specialization requirements the student in piano must include Choral Groups (Music 10abc, 2 years), Class Piano Methods (Music 23abc), Ensemble Groups (Music 40, 1 year), Keyboard Harmony (Music 47abc), and Interpretation and Style (Music 140abc).

Violin. The candidate must be able to play scales, arpeggios, thirds, sixths, octaves, and harmonics satisfactorily and must have studied such representative works as études of Kreutzer, Fiorilli, Rovelli, Rode; concertos chosen from Bach, Mozart, Viotti, Rode, Beethoven, Wieniawski, Vieuxtemps, Bruch, and Brahms, and sonatas chosen from Bach, Mozart, Beethoven, Grieg, and Brahms; miscellaneous concert pieces in the standard repertoire.

For his specialization requirements the student in violin must include Orchestra (Music 10abc, 3 years), Conducting (Music 31ab), Ensemble Groups (Music 40, 1 year), Orchestration (Music 129abc), and Piano (Music 1, 2 years or its equivalent in performing ability).

Organ. The candidate must be able to demonstrate ability in sight reading, in accompaniment of oratorios and masses, and in general service playing. He should have a large repertoire of organ literature of all schools, classic and modern, of the degree of difficulty indicated by the following: Bach, Fantasia and Fugue in B minor; Handel, Concerto in G; advanced works in Guilmant, Widor, Franck, Vierne, Dupre, Mendelssohn, and others; works of contemporary French, English, German, and American schools.

For his specialization requirements the student in organ must include Choral Groups (Music 10abc, 2 years), Conducting (Music 31a), Ensemble Groups (Music 40, 1 year), Keyboard Harmony (Music 47abc).

Wind Instruments. The candidate must be able to perform representative solos from the literature for his instrument and to carry his part in a professional or semi-professional band or orchestra.

For his specialization requirements the student in wind instruments must include Band (Music 10abc, 3 years), Conducting (Music 31ab), Ensemble Groups (Music 40, 2 years), School and Instrumental Program (Music 152), and Applied Music (Music 1, Piano, 2 years).

3. Candidates for the Bachelor of Arts degree with Music as a major must meet the regular University and College of Arts and Sciences requirements for graduation (see pages 28 to 33 and page 55).

4. Senior examinations are required of all students who major in Music.

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 111.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

General Information

The Montana State University School of Music is a member of the National Association of Schools of Music.

The School of Music seeks to develop the musical interests and talents of students planning a professional career and of students whose major interests lie in other fields wishing to add to their enjoyment of music and to the enrichment of their lives through the re-creation of music for their own satisfaction. The curricula include not only systematic and progressive instruction in the structure, history, appreciation, and practice of music; but also instruction in those branches of higher learning which bear most directly upon music and without a knowledge of which success in the higher domain of music is impossible.

Students who do not major in music will be allowed to count towards graduation only 6 credits in ensemble work and 12 credits in applied music. These non-major students may register for one credit where one lesson per week is taken or for two credits if two lessons per week are taken. Ensemble music courses are indicated by an asterisk (*) affixed to the number of the course description, and applied music courses are indicated by a dagger (†) affixed to the number of the course description.

Music majors who have not included 10abc and 40 in their music electives may be required to participate in these courses without credit.

Students are required to appear in recitals at the request of the instructor. The instructor's permission must be obtained before the student appears in public.

Students registered for courses numbered 1, 5, 6, 7, and 8 may be required to attend the lessons of another student registered in the same course.

For information concerning the Music School Foundation Scholarships and the State Board of Education Music Scholarships, see page 48.

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.

In keeping with advanced thought of leading educators, the faculty of the School of Music recommends to its students the adoption of a five-year course leading to the Bachelor's degree. This plan will enable the student to prepare more fully for professional activity and for post-graduate study. An adjusted curriculum for the five-year course will be worked out to meet the needs of the individual. Students electing this course should consult with the Dean of the School not later than the freshman year concerning the modification of the various curricula listed below.

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 80.

Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	2	2	2
Music 10, Choral Groups, Band or Orchestra.....	1	1	1
Music 11abc, Theory I	4	4	4
Music 25, String Instruments in Class or Music 29, Wind Instruments in Class	1	1	1
Music 35abc, Listening to Music	3	3	3
English 12abc, Language in Action	3	3	3
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science (Men).....	1	1	1
	15-16	15-16	15-16

Sophomore Year

Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	2	2	2
Music 10, Choral Groups, Band or Orchestra.....	1	1	1
Music 25, String Instruments in Class or Music 29, Wind Instruments in Class	1	1	1
Music 31ab, Conducting	3	3	--
Music 41abc, Theory II	4	4	4
Psych. 11, General Psychology	--	--	5
Electives	4	4	3
Phys. Ed. 12abc, Physical Education	1	1	1
Mil. Sci. 12abc, Military Science (Men)	1	1	1
	16-17	16-17	17-18

Junior Year

Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	2	2	2
Music 10, Choral Groups, Band or Orchestra.....	1	1	1
Music 123abc, School Music	3	3	3
Music 125abc, Counterpoint	2	2	2
Educ. 25a, Educational Psychology; Educ. 25b, Principles of Education and Educ. 25c, Sec- ondary School Teaching Procedures	4	4	4
Electives	4	4	4
	16	16	16

Senior Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	2	2	2
Music 10, Choral Groups, Band or Orchestra.....	1	1	1
Music 13abc, History of Music	2	2	2
Education 26ab, Observation and Teaching.....	..	5	4
Electives	10	5	6
	15	15	15

B. Curriculum for Bachelor of Music Degree in Applied Music

Completion of the first two years of work in Curriculum B qualifies the student to receive the Elementary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Completion of the entire Curriculum qualifies the student to receive the Secondary State Certificate in Applied Music by endorsement from the State Department of Public Instruction. Students who intend to request a certificate in applied music by endorsement must include General Psychology (Psych. 11), Educational Psychology (Educ 25a) and Principles of Education (Educ 25b) in the free electives listed in the curriculum.

Freshman Year

Music 5, Applied Music (Voice, piano, violin, organ or wind instruments)	4	4	4
Music 11abc, Theory I	4	4	4
Music 35abc, Listening to Music	3	3	3
Music Elective (See note below)	1	1	1
English 12abc, Language in Action	3	3	3
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science (Men)	1	1	1
	16-17	16-17	16-17

Sophomore Year

Music 6, Applied Music (Voice, piano, violin, organ or wind instruments)	4	4	4
Music 41abc, Theory II	4	4	4
Music Elective (See note below)	1	1	1
Restricted Electives	4	4	4
Elective (Fine Arts 31abc, History of Art, recom- mended)	3	3	3
Phys. Ed. 12abc, Physical Education	1	1	1
Mil. Sci. 12abc, Military Science (Men)	1	1	1
	17-18	17-18	17-18

Junior Year

Music 7, Applied Music (Voice, piano, violin, organ or wind instruments)	4	4	4
Music 125abc, Counterpoint	2	2	2
Music 158abc, Form and Analysis	2	2	2
Music Electives (See note below)	4	4	4
Electives	4-5	4-5	4-5
	16-17	16-17	16-17

Senior Year

Music 8, Applied Music (Voice, piano, violin, organ or wind instruments)	4	4	4
Music 134abc, History of Music	2	2	2
Music 141, Score Reading and Music 142, Senior Recital	2	..	2
Music Electives (See note below)	3	3	3
Electives	3-5	3-5	3-5
	14-16	14-16	14-16

Note: In addition to the courses specified in Curriculum B above, the student must also complete the work outlined as specialization requirements under voice, piano, violin, organ, wind instruments (page 144), 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			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	1	1	1
Music 11abc, Theory I	4	4	4
Music 35abc, Listening to Music	3	3	3
General 11abc, Introduction to Social Science or General 15abc, Introduction to Humanities...	5	5	5
English 12abc, Language in Action	3	3	3
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science (Men)	1	1	1
	17-18	17-18	17-18

Sophomore Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Music 1, Applied Music (Voice, piano, violin, organ or wind instruments)	1	1	1
Music 41abc, Theory II	4	4	4
General 13abc, Introduction to Biological Sciences	5	5	5
Foreign Language	5	5	5
Phys. Ed. 12abc, Physical Education	1	1	1
Mil. Sci. 12abc, Military Science (Men)	1	1	1
	16-17	16-17	16-17

Note: The work of the Junior and Senior years is devoted largely to completing any remaining University restricted electives, free electives, and music electives, as well as Applied Music 5 during each quarter of these years.

For Undergraduates

†1. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1 or 2 cr. Scales, arpeggios, sight reading, and interpretation. A course for students not majoring in applied music and for students who are unable to meet the entrance requirements in Music 5. Staff.

†5. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1 to 4 cr. Prerequisite, satisfactory placement examination as outlined in School of Music entrance requirements. Individual instruction designed to meet the requirements of first year students majoring in the various fields of applied music. Staff.

†6. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 5. Continuation of individual instruction. Staff.

†7. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 6. Continuation of individual instruction. Staff.

†8. **Applied Music.** (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring. Summer. 1 to 4 cr. Prerequisite, satisfactory completion of Music 7. Continuation of individual instruction leading to fulfillment of requirements as outlined for applied music majors. Staff.

*10abc. **Band, Orchestra, Choral Groups.** 3 Q. Autumn, winter, spring. Summer. 1 cr. each quarter. Band, A Cappella Choir, Men's Glee Club, Women's Glee Club, Mixed Chorus and orchestra. Prerequisite, consent of instructor. Staff.

11abc. Theory I. 3 Q. Autumn, winter, spring, Summer, S11a. 4 cr. each quarter. The art and science of musical structure, including the study of scales, keys, intervals, chords, cadences, melody writing, beginning modulations, and rhythms. Practice in two-, three-, and four-part writing, analysis, dictation, and keyboard application. The course is designed to acquaint the student with the fundamentals of musicianship, to increase his accuracy and understanding in musical performance, and to train him to think in tone so that he is able to sing, identify, and write the music he hears. Mr. Teel, Mr. Gray, Mr. Kelton.

†12abc. Voice in Class. 3 Q. Autumn, winter, spring, Summer, S12a. 1 cr. each quarter. Breathing methods, tone placement, and enunciation leading to the singing of simple songs. Designed for students who desire practical training in singing without specialization. Miss Gedickian.

***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. Kelton.

31ab. Conducting. 2 Q. Autumn, winter, 3 cr. each quarter. Summer, 31a or 31b. 3 cr. Students may enter either quarter. Prerequisite, 10 credits in music. Fundamentals of choral and instrumental conducting. The University choral and instrumental groups are made available to advanced students for practical experience. Mr. Gulbrandsen. Mr. Gray.

35abc. Listening to Music. 3 Q. Autumn, winter, spring, Summer, S35a. 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. Gulbrandsen. Mr. Teel.

†40. Ensemble Groups. 3 Q. Autumn, winter, spring, Summer. 1 cr. each quarter. Any small group of two or more players or singers may have a course outlined by the instructor. Opportunity is offered for the development of sight reading and for gaining acquaintance with music literature; accompanying. Staff.

41abc. Theory II. 3 Q. Autumn, winter, spring, 4 cr. each quarter. Summer, S41a. 4 cr. A continuation of Theory I. Further practice in sight singing, ear-training, dictation, and keyboard work; the inter-relation of harmony and counterpoint; the analysis of Bach chorales; and creative work exemplifying the contents of the course. Mr. Meyer.

45abc. Microphone and Program Technique. 3 Q. Autumn, winter, spring, 2 cr. each quarter. (a) Use of public address system. (bc) Preparation and practice in broadcasting musical programs. Either quarter of 45b or c is interchangeable. 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 extempore playing. Mr. Wendt.

For Undergraduates and Graduates

†105. Applied Music. (Voice, piano, violin, organ, wind instruments.) 3 Q. Autumn, winter, spring, Summer. 1-3 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.

***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.

†Applied Music.

*Ensemble Music.

- 123abc. School Music.** See Special Methods courses page 84.
- 125abc. Counterpoint.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 41c. Two-, three-, and four-part counterpoint. Mr. Andrie.
- *129abc. Orchestration.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. Mr. Andrie.
- S131. Advanced Conducting.** 1 Q. (May be repeated for credit to a limit of 6 credits.) Summer. 3 cr. Prerequisite, Music 31ab and junior standing. A continuation of 31ab. 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.
- 140abc. Interpretation and Style.** 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, consent of instructor. Piano compositions of different national schools and periods and characteristics of each from the standpoint of interpretation and style. Mr. Crowder.
- *141. Score Reading.** 1 Q. Autumn. 2 cr. Prerequisite, junior standing. 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 123abc and junior standing. An advanced course in the study of choral music for the junior and senior high school. Actual study of materials at 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 123abc and junior standing. An advanced course designed to meet the needs of school music conductors and director. 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 125c or concurrent registration. A course designed to familiarize the student with the melodic, harmonic, and formal structure of the different kinds of musical composition. Mr. Andrie.
- *159abc. Composition.** 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, Music 125c. A course in creative writing. Mr. Andrie.
- S162. Seminar in Public School Music.** 1 Q. Summer. Cr. variable. Prerequisite, junior standing. Mr. Teel.

For Graduates

- S200. Research and Professional Writing.** 1 Q. Summer. Credit variable to a total of 5. Prerequisite, graduate standing in the School of 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.
- S221. Contemporary Trends in Music Education.** 1 Q. Summer. 3 cr. Prerequisite, graduate standing in the School of 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.

Applied Music Fees per quarter.

A fee of \$25.00 per quarter will be charged all music majors, to cover applied music instruction as required by the curricula and advised by the Dean of the School of Music.

For non-majors the fees per quarter will be:

Voice, Piano, Violin

Applied Music 1, 5, 6, 7, 8. Two lessons a week.....	\$40.00
One lesson a week.....	20.00

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

Organ

Applied Music 1, 5, 6, 7, 8. Two lessons a week.....	36.00
One lesson a week.....	18.00

Wind Instruments

Applied Music 1, 5, 6, 7, 8. Two lessons a week.....	24.00
One lesson a week.....	12.00

For majors and non-majors who register for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of \$1.75 per private lesson will be made. Refunds are based on the number of weeks elapsed since the beginning of the quarter.

Lessons in applied music missed by the instructor will be made up within the quarter. Lessons missed by students or lessons falling on a legal holiday will not be made up.

Rentals, per quarter

Piano and practice room. One hour daily.....	\$3.00
Additional hour daily.....	2.00
Organ and practice room. One hour daily.....	6.00
Additional hour daily	5.00

Students registered in Music 25 and 29 must rent instruments unless they provide their own.

Rentals must be paid for entire quarter. No refunds of rentals will be made.

School of Pharmacy

PROFESSORS CHARLES E. F. MOLLETT, JOHN F. SUCHY, CURTIS H. WALDON (Dean); INSTRUCTOR GORDON H. BRYAN; SECRETARY DIANE M. ELLISON; LIBRARIAN MARJORIE J. BRUNETT.

The School of Pharmacy offers an opportunity to the individual who is properly qualified to obtain a professional education which will prepare him for a lifetime of service to his fellowmen. Well-trained pharmacists find good paying positions in the several fields of Pharmacy. A pharmacist may desire to undertake the practice of Pharmacy in a retail drug store, or he may want to seek employment with one of the pharmaceutical manufacturers. Many graduates engage in some pharmaceutical specialty, such as drug assay, food and drug analysis, toxicology, pharmacology, pharmacognosy or some other related scientific or professional work. Women in pharmacy have excellent opportunities in hospital pharmacy, quite often combining radiography and clinical analysis with pharmaceutical work.

Pharmacy graduates are eligible for commissions in the Pharmacy corps of the United States Army, and many accept positions with United States Public Health Service or the Veterans Administration. The Federal Civil Service classifies Pharmacy in the professional classification requiring graduation from a recognized school of pharmacy.

There is an ever increasing demand for well-trained pharmacists in pharmaceutical manufacturing companies and for many other important positions. The demand for pharmacists with ad-

vanced training, particularly those who go on and complete the requirements for advanced degrees has never been satisfied.

The curriculum of the School of Pharmacy, Montana State University, is designed to yield an education and the training necessary for leadership in our ever increasing complex social and economic life; to make its graduates professionally and legally qualified for the distribution of 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 adjusted so as to meet the demands made upon him both professionally and in his community life.

The laboratory facilities of the School of Pharmacy are of the best. Each laboratory is equipped with the latest type of apparatus. Besides the laboratories where basic training is acquired there are special ones for advanced instruction, such as a manufacturing laboratory where tablet manufacturing, etc., is carried on, a hospital pharmacy laboratory where hospital techniques are acquired and a pharmacology laboratory to demonstrate and evaluate the action of drugs. The equipment in the various laboratories is being constantly augmented in order to keep abreast of recent advances in laboratory techniques.

The School of Pharmacy maintains a medicinal plant garden which is used as a means of supplying laboratory materials and for training students in the recognition and culture of drug plants. The garden offers a means of carrying on research in pharmacognosy and plant chemistry.

The School of Pharmacy is a member of the American Association of Colleges of Pharmacy and is fully accredited by the American Council on Pharmaceutical Education.

The School of Pharmacy offers the degree of Bachelor of Science in Pharmacy which can be completed in four academic years. The curriculum for the Bachelor's degree has been so arranged that all students are required to take essentially the same courses in the freshman and sophomore years. However, in the junior year and particularly in the senior year, each student is encouraged to elect as far as possible those courses which will fit him best for the work he contemplates entering upon after graduation.

The Master of Science degree in Pharmacy ordinarily can be completed in one academic year beyond the Bachelor of Science degree. It is possible to major in Pharmacy, Pharmaceutical Chemistry, or Pharmacology. Each graduate student is required to select a major subject and two minor subjects, one minor must be outside the School of Pharmacy. A foreign language is not required for the Master's degree. (See pages 108 to 112).

The American Foundation for Pharmaceutical Education annually offers a number of scholarships for deserving students.

For the academic year 1947-48 there will be two graduate assistantships available. For other awards and prizes, see pages 46-50.

The Montana Board of Pharmacy examines candidates for registration at least once a year. The law requires that to be entitled to examination by the Board as a pharmacist, the applicant must be a citizen of the United States, of good moral character, at least twenty-

one years of age, and shall be a graduate of the School of Pharmacy of Montana State University or a college or a school of pharmacy recognized and approved by the American Association of Colleges of Pharmacy, but such applicant shall not receive a license until he has at least one year of practical experience in a pharmacy which has been approved by the Board of Pharmacy. During this year, provided the applicant has passed such examination, he shall be licensed as an assistant pharmacist only. (NOTE:) A recent ruling states that all practical experience must be obtained in a pharmacy in the State of Montana in order to qualify for registration.

Graduates of the School of Pharmacy are eligible for examination to practice pharmacy in any state, but graduates of this School who successfully pass the Montana State Board of Pharmacy examination are privileged to reciprocate with forty-five other states and with the District of Columbia, Alaska and Puerto Rico, without further examination, provided they possess the experience requirement of these states before taking the examination.

Requirements for Admission

The regular University requirements for admission apply to the School of Pharmacy. (See pages 24 to 28).

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 28 to 33).
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 108 to 112 and must complete a program satisfactory to the School of Pharmacy.

Curriculum in Pharmacy

Freshman Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Pharm. 10, Principles of Pharmacy	3	3	5
Pharm. 24a, Pharmacognosy	--	--	3
Pharm. 14, Pharmaceutical Chemistry	5	5	5
Chem. 11 or 13, Inorganic Chemistry	3	3	3
Eng. 12abc, Language in Action	5	5	--
Botany 10, Pharmaceutical Botany	1	1	1
*Math., Mathematics	1	1	1
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science	1	1	1

18

18

18

*Course entered dependent upon high school preparation.

Sophomore Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Pharm. 24b, Pharmacognosy	5	5	5
Pharm. 21, Operative Pharmacy	1	1	1
Pharm. 26, History and Literature of Pharmacy....	5	5	5
Chem. 101, Organic Chemistry	5	5	5
Physics 11abc, General Physics	5	5	5
Psych. 11, General Psychology or approved elective ..	1	1	1
Phys. Ed. 12abc, Physical Education	1	1	1
Mil. Sci. 12abc, Military Science	1	1	1
	18	18	18
Junior Year			
Pharm. 52, Drug Analysis	5	5	..
Pharm. 50, Manufacturing Pharmacy	4	3	3
Pharm. 77, Pharmaceutical Economics .....	..	3	3
Pharm. 95a, Dispensing .....	..	..	5
Zool. 10, General Zoology	5	..	..
Zool. 24, Human Physiology .....	..	..	5
Bact. 117, General Bacteriology	5	..	..
Bact. 118, Immunology .....	..	5	..
Bus. Ad. 11, Accounting or approved elective.....	..	4	4
	19	17	17
Senior Year			
Pharm. 95b, Dispensing	5	..	..
Pharm. 90, Proprietary Products .....	..	3	..
Pharm. 75, Veterinary Pharmacy .....	..	..	3
Pharm. 97, Pharmaceutical Practice	2	2	2
Pharm. 114, Organic Medicinal Products.....	3-5	3-5	..
Pharm. 140, Pharmacology	4	4	4
Pharm. 141, Bioassay .....	..	..	4
Phys. Ed. 32, First Aid .....	..	..	2
Bus. Ad. 41, Business Law or approved elective....	..	3	3
Electives	4	..	0-4
	18-20	15-17	14-18

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 Bachelors degree.

For Undergraduates

10ab. Principles of Pharmacy. 2 Q. Autumn, winter. 3 cr. each quarter. Continuous. Summer. The study of metrology and pharmaceutical techniques and processes. Mr. Waldon and Mr. Peterson.

14. Pharmaceutical Chemistry. 1 Q. Spring. 3 cr. Prerequisite, Chemistry 11b or 13b or equivalent. The pharmaceutical chemistry of the official inorganic chemicals used medicinally. Mr. Suchy.

21ab. Operative Pharmacy. 2 Q. Winter, spring. 5 cr. each quarter. Continuous. Summer, 21a. Prerequisite, Pharmacy 10 and Pharmacy 24a. The study of waters, solutions, syrups, spirits, tinctures, fluid extracts, and other pharmaceutical preparations of the U. S. Pharmacopoeia and National Formulary. Mr. Peterson.

24ab. Pharmacognosy. 2 Q. Autumn, winter. 5 cr. each quarter. Continuous. Prerequisite, Botany 13. A comprehensive macroscopic and microscopic study of the official crude plant and animal drugs, including their nomenclature, sources, preparation, identification, constituents, doses and uses. Mr. Mollett.

25. Field Pharmacognosy. 1 Q. Spring. Summer. Autumn. 3 cr. Prerequisite, Pharmacy 24 or consent of instructor. The official indigenous plants; their growth in the medicinal garden are studied as to propagation, methods of selection and preservation of the parts used in pharmacy. Mr. Mollett.

26abc. History and Literature of Pharmacy. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Summer. The origin, evolution and present

status of the profession; the books and periodicals used in pharmacy and ethics of the profession. Mr. Mollett.

50. Manufacturing Pharmacy. 1 Q. Spring. Summer. 4 cr. Prerequisite, Pharmacy 21 and Pharmacy 24. Study and manufacture of pharmaceuticals in quantities. Mr. Peterson.

52ab. Drug Analysis. 2 Q. Autumn, winter. 5 cr. each quarter. Prerequisite, Pharmacy 21, Pharmacy 24, Chemistry 101, or equivalent. Quantitative analysis of official drugs and preparation according to the methods of the U. S. P. and N. F. Mr. Suchy.

60. Cosmetics. 1 Q. Winter. 5 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Chemistry 101, or equivalent. Study of the composition, manufacture and packaging of toilet preparations; laboratory instructions in the preparation of cosmetics. Mr. Peterson.

75. Veterinary Pharmacy. 1 Q. Spring. 3 cr. Prerequisite, Pharmacy 21, Pharmacy 24, Pharmacy 114. Study of pharmaceuticals used in the treatment of diseases in animals. Mr. Waldon.

77ab. Pharmaceutical Economics. 2 Q. Winter, spring. 3 cr. each quarter. Continuous. Prerequisites, Pharmacy 21, Pharmacy 24. Lectures and recitations on the establishment, management and development of the modern drug store. Abstracts of assigned readings in current pharmaceutical literature. Mr. Mollett.

90. Proprietary Preparations. 1 Q. Autumn. 3 cr. Prerequisite, senior standing. The currently used pharmaceutical products of the various drug manufactures are considered. Mr. Mollett.

91. Hospital Pharmacy. 1 Q. Autumn. 5 cr. Prerequisite, Pharmacy 21 and junior standing. The various procedures and techniques employed in the practice of pharmacy in the hospital. Mr. Peterson.

92abc. Hospital Practice. 1-3 Q. Autumn. Winter. Spring. Summer. 3 cr. each quarter. Prerequisite, Pharmacy 91. This is a laboratory course whereby the student is offered the opportunity of working in a hospital pharmacy. Staff.

95ab. Dispensing. 2 Q. Spring, autumn. 5 cr. each quarter. Continuous. Prerequisite, Pharmacy 50 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. Mr. Peterson.

97abc. Pharmaceutical Practice. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Prerequisite, senior standing. Students are assigned to various pharmacies in order to acquaint them with pharmacy as it is practiced in different drug stores. Staff.

For Undergraduates and Graduates

101abc. Seminar. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Primarily for graduate students, but open to qualified seniors. Staff.

113. Drug Microscopy. 1 Q. Spring. 2 cr. Prerequisite, junior standing and Pharmacy 24. Microscopic examination of drugs, foods and spices. The detection of adulterants and impurities. Mr. Suchy.

114ab. Organic Medicinal Products. 2 Q. Autumn, winter. 3-5 cr. each quarter. Continuous. Prerequisite, Pharmacy 21 and Chemistry 101 or equivalent. Sources, methods of production, classification, properties and uses of natural and synthetic compounds used as therapeutic agents. Mr. Suchy.

140ab. Pharmacology. 2 Q. Autumn, winter. 4 cr. each quarter. Continuous. Prerequisite, Pharmacy 114 and Zoology 24, or equivalent. Actions and therapeutic uses and posology of drugs and their preparations. Mr. Waldon.

141. Biological Assays. 1 Q. Spring. 5 cr. Prerequisite, Pharmacy 140. The evaluation of the strength of drugs by biological means. Mr. Waldon.

150. Advanced Manufacturing Pharmacy. 1 Q. Winter. 3 cr. Prerequisite, Pharmacy 50. Study of more complex production techniques. Mr. Waldon. Mr. Peterson.

165. Advanced Analysis. 1 Q. Winter. 5 cr. Prerequisite, Pharmacy 52 and Pharmacy 114. A study of the more involved method of analyses as applied to food and drugs. Mr. Suchy.

For Graduates

201. Research. Credits and hours to be arranged.

205. Alkaloids. 1 Q. Any quarter. 4 cr. Prerequisite, Pharmacy 114 or equivalent. Study of the structure, synthesis, isolation, identification, and structure of the alkaloids. Mr. Suchy.

207. Sterols, Terpenes and Volatile Oils. 1 Q. Any quarter. 3 cr. Prerequisite, Pharmacy 114 or equivalent. Study of the occurrence, preparation, isolation and chemistry of the sterols, terpenes and volatile oils. Mr. Suchy.

209. Advanced Pharmacology. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 140 or equivalent. Study of the more involved actions of drugs upon cells and organs. Mr. Waldon.

210. Advanced Pharmacy. 1-3 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 95 or equivalent. A study of the more difficult pharmaceutical preparations. Mr. Waldon.

212. Advanced Bioassay. 1 Q. Any quarter. 3-5 cr. Prerequisite, Pharmacy 141 or equivalent. The more invaluable biological assays are considered. Mr. Waldon.

Physics

PROFESSORS C. RULON JEPPESEN and GARVIN D. SHALLENBERGER (chairman).

Major Requirements: 40 or more credits in Physics. In preparation for advanced courses, a student should take General Physics (Physics 20abc) in the sophomore year. Essential courses offered in other departments: Plane Trigonometry (Math 13), College Algebra (Math 16), Plane Analytic Geometry (Math 21), Calculus I (Math 22), Calculus II (Math 23), and Inorganic Chemistry and Qualitative Analysis (Chem 13). Students planning to teach should elect General Psychology (Psych 11), Educational Psychology (Educ 25a), Principles of Education (Educ 25b), Secondary School Teaching Procedures (Educ 25c), Observation and Teaching (Educ 26a), and 7 additional credits in the School of Education.

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

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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 and Mr. Jeppesen.

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 and Mr. Jeppesen.

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 S11bc and 20bc. Mr. Jeppesen. Mr. Shallenberger.

60. Weather. 1 Q. Winter. 3 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. Shallenberger and Mr. Jeppesen.

For Undergraduates and Graduates

114. Electricity. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Lectures and laboratory. Given in 1948-49, and in alternate years. Mr. Jeppesen.

122. Light. 1 Q. Autumn. 5 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. Prerequisite, 25 credits in physics and Mathematics 23. Lectures and laboratory. Mr. Jeppesen.

146. Heat. 1 Q. Winter. 5 cr. Prerequisite, Physics 20abc and Mathematics 23 or concurrent registration. Not a laboratory course. Given in 1947-48, and in alternate years. Mr. Jeppesen.

152. Atomic Physics. 1 Q. Autumn. 5 cr. Prerequisite, Physics 20abc and Mathematics 22 or concurrent registration. Lectures and laboratory. Given in 1947-48, and in alternate years. Mr. Jeppesen.

154. Analytical Mechanics. 1 Q. Spring. 5 cr. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Given in 1947-48, and in alternate years. Mr. Shallenberger.

166. Electronics. 1 Q. Spring. 3 cr. Prerequisite, Physics 114 and Mathematics 23. Lectures and laboratory. Given in 1948-49, and in alternate years. Mr. Jeppesen.

170ab. Theoretical Physics. 2 Q. Winter, spring. 5 cr. each quarter. Prerequisite, Physics 20abc and Mathematics 23. Not a laboratory course. Mr. Jeppesen.

180. Physics Seminar. 1 Q. Spring. 1 cr. A library and discussion course required of physics majors. Mr. Jeppesen.

For Graduates

201. Research. Given subject to demand. 2-5 cr. Prerequisites, graduate standing and consent of instructor. Mr. Jeppesen.

210abc. Advanced Theoretical Physics. 3 Q. Autumn, winter, spring. 5 cr. each quarter. Prerequisite, a major or the equivalent in physics. Not a laboratory course. Given subject to demand. Mr. Jeppesen. Mr. Shallenberger.

212abc. Advanced Experimental Physics. 3 Q. Autumn, winter, spring. 2 cr. each quarter. Given subject to demand. Mr. Jeppesen. Mr. Shallenberger.

252. Radiation and Atomic Structure. Given subject to demand. 5 cr. Prerequisite, Physics 152 and graduate standing. Mr. Jeppesen.

Pre-Business Administration

Students who plan to enter the School of Business Administration should see the suggested curriculum, the requirements for graduation, and the courses in the School of Business Administration, page 61.

Pre-Education

Students who plan to enter the School of Education should complete the curriculum of the Division of Social Sciences. For further information regarding the School of Education, see page 78.

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 128.

Pre-Medical Course

Montana State University offers courses which prepare students for entrance to any medical school in the United States. The entrance requirements to such schools as adopted by the Council on Medical Education of the American Medical Association are as follows:

High School. Students must have completed a four-year course of at least fifteen units in a standard accredited high school or other school of standard secondary grade, or have passed examinations for unconditional entrance to college. The subjects taken in high school should include, if possible, at least two years of work in Latin.

Colleges. The minimum requirement is two years of collegiate work extending through thirty-two weeks each and comprising ninety quarter credits. Many of the better medical schools, however, require three years of preparatory work and an increasing number require graduation from college.

Pre-Medical Curriculum

The following courses will satisfy the requirements of medical schools requiring only two years of preparatory work:

Chemistry: Fifteen credits in general chemistry which may include qualitative analysis; ten credits in organic chemistry.

Zoology. Fifteen credits in zoology and botany, but not in botany alone.

Physics: Fifteen credits in general physics.

English: Nine credits in composition.

French or German: A reading knowledge of one modern language. This includes at least one year's college work in addition to high school credits.

Electives: To make ninety credit hours, electives should be selected from non-science courses in general.

These requirements will be fulfilled in the University by completing Inorganic Chemistry & Qualitative Analysis (Chem 13), The Carbon Compounds (Chem 101), Elementary Zoology (Zool 14ab), General Physics (Phys 20abc), Language in Action (Eng 11ab or 12abc) and Intermediate French or German (Mod Lang 13b).

In a few cases the above courses somewhat more than satisfy the minimum requirements; but many medical schools require other courses in addition. Students should plan their pre-medical work to fit the demands of the particular school they wish to attend.

While the minimum requirements as outlined comprise college credits for only two years, pre-medical majors should note that the general requirements of Montana State University, which apply to all

students, and the extra requirements of most medical schools take **at least one more year to complete.** Medical schools ordinarily urge students to undertake a more thorough preparation than the minimum course outlined above. However, many medical schools have announced that during the war emergency students may begin their medical training with less than the usual pre-medical requirements. If in addition pre-medical majors wish to graduate, they may complete a fourth year at Montana State University and receive the Bachelor of Arts degree with a major in Pre-Medical Sciences. The additional courses required for this degree include General Bacteriology (Bact 117), Immunology (Bact 118), Pathogenic Bacteriology (Bact 119), Quantitative Analysis (Chem 17), 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 winter quarter of the regular school year.

Pre-Nursing Education

Montana State University offers a program in Pre-Nursing Education which covers a period of nine quarters on the University campus either followed by or preceded by three years of training in an accredited nursing school. Upon completion of this program, the student receives the degree of Bachelor of Science in Nursing Education. At least the third year of university work in this program must be completed in residence at Montana State University.

Curriculum in Pre-Nursing Education

To be followed by three years of training in an accredited nursing school, for which the equivalent of one year's college work is allowed.

Freshman Year			
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
General 13abc, Introduction to Biological Science.....	5	5	5
Chem. 11, General Chemistry or Chem. 13, In-organic and Qualitative Analysis	5	5	5
Eng. 11ab, Language in Action and Eng. 20, Principles of Speech	5	5	5
Phys. Ed. 11abc, Physical Education	1	1	1
	16	16	16
Sophomore Year			
Zoology 10, General Zoology	5	..	..
Chem. 19, Organic Chemistry .....	..	5	..
Chem. 103, Physiological Chemistry .....	..	..	5-6
Bacteriology 19, Elementary Bacteriology.....	5	..	..
Econ. & Sociol. 16, Elementary Sociology and Econ. & Sociol. 17, Social Problems .....	..	4	4
Psychology 11, General Psychology	5	..	..
Home Ec. 17b, Introduction to Home Economics and Home Ec. 24, Elementary Nutrition.....	..	5	5
Phys. Ed. 12abc, Physical Education.....	1	1	1
	16	15	15-16

Junior Year

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Fine Arts 31abc, History of Art	3	3	3
Elective in English Literature	4	..	4
Psych. & Philos. 51, Ethics .....	..	5	..
Zoology 24, Human Physiology .....	..	..	5
Psych. 115, Abnormal Psychology	5	..	..
History 30b, Europe in the 19th Century.....	..	3	..
Elective in History .....	..	..	4
Econ. & Sociol. 130, Principles of Social Case Work	4	..	..
Home Economics 124, Child Development.....	..	3-5	..
	16	14-16	16

Curriculum in Post-Nursing Education

(Preceded by three years of training in an accredited nursing school, for which the equivalent of one year's college work is allowed.)

First Year (Sophomore standing)

Chemistry 11, General Chemistry or Chem. 13, Inorganic and Qualitative Analysis	5	5	5
Gen. 11abc, Introduction to Social Science	5	5	5
Eng. 11ab, Language in Action and Eng. 20, Prin- ciples of Speech	5	5	5
	15	15	15

Second Year (Junior standing)

Psychology 11, General Psychology	5	..	..
Home Ec. 17b, Introduction to Home Economics and Home Ec. 24, Elementary Nutrition.....	..	5	5
Bacteriology 19, Elementary Bacteriology.....	5	..	..
Econ. & Sociol. 16, Elementary Sociology and Econ. & Sociol. 17, Social Problems .....	..	4	4
Gen. 13abc, Introduction to Biological Science.....	5	5	5
Elective .....	..	2	2
	15	16	16

Third Year (Senior standing)

Econ. & Sociol. 130, Principles of Social Case Work	4	..	..
Home Ec. 124, Child Development .....	..	3-5	..
Zoology 24, Human Physiology .....	..	..	5
Psych. 115, Abnormal Psychology	5	..	..
Gen. 15abc, Introduction to Humanities.....	5	5	5
Fine Arts 31abc, History of Art	3	3	3
Psych. & Philos. 52ab, History of Philosophy.....	..	5	5
	17	16-18	18

The credit grant for the three years of nurses training, when allowed in the post-nursing curriculum is made contingent upon the completion of the work outlined in that curriculum.

Although the curricula outlined is intended to cover three years, it is possible to accelerate the completion of the work by attendance during summer sessions and by careful selection of courses. However, the field of nursing is increasing in its scope and importance to such an extent that there is a great deficiency of broadly educated persons to form its policies and direct its activities. For this reason the University is contemplating the establishment of a full four-year program in Pre-Nursing Education.

The hospital schools in which the nurses training is completed must follow the curriculum of the National League of Nursing Education and the National Association of Collegiate Schools of Nursing.

Psychology and Philosophy

PROFESSOR E. A. ATKINSON (Chairman); ASSOCIATE PROFESSORS PHIL W. BUCK, MAURINE CLOW, EDWIN L. MARVIN; ASSISTANT PROFESSORS BERT R. SAPPENFIELD, DAVID S. BRODY.

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), and Problems in Psychology and Philosophy (Psych 190). Elementary Zoology (Zool 14ab), and Statistics (Math 25) should be completed.

Senior examinations will be given only to candidates for honors.

For Undergraduates

11. **General Psychology.** 1 Q. Autumn. Winter. Spring. Summer. 5 cr. Open to all students. An outline study of the whole field, and an introduction to the special courses in psychology. Atkinson and Staff.

12. **Experimental Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11. Laboratory methods and apparatus used in the study of basic psychological processes. Mr. Atkinson.

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. - 5

14. **Social Psychology.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 11. Effects of social factors on the personality and behavior of individuals. Psychology of propaganda, leadership, morale, social attitudes and related topics. Mr. Sappenfield.

15. **Psychology of Personality.** 1 Q. Spring. 3 cr. Prerequisite, Psychology 11. Principles of personality organization and processes of organization. The social stimulus values of modes of behavior and personal characteristics. Mr. Atkinson. - 3

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. Spring. 5 cr. Prerequisite, Psychology 11. Mr. Buck.

33. **Vocational Psychology.** 1 Q. Winter. 5 cr. Prerequisite, Psychology 11. A study of the psychological principles in determining vocational fitness; theory and technique of objective methods of selection and guidance; special and general aptitude tests, trade tests, and rating scales, with special reference to the student's occupational problems. Mr. Buck.

50. **Logic.** 1 Q. Spring. 5 cr. A study of the valid forms of reasoning, the methods of science, and the detection of fallacies. Mr. Marvin.

51. **Ethics.** 1 Q. Winter. 5 cr. Inquiry into the nature of moral values, the standards of moral judgment, and the moral problems arising in the personal life and in social relations. Mr. Marvin.

52a. **History of Ancient and Medieval Philosophy.** 1 Q. Winter. 5 cr. Prerequisite, sophomore standing, or consent of instructor. Mr. Marvin.

52b. **History of Modern Philosophy.** 1 Q. Spring. 5 cr. Prerequisite, either Psychology 55 or Psychology 52a. Mr. Marvin.

55. **Introduction to Philosophy.** 1 Q. Autumn. 5 cr. Prerequisite, sophomore standing or consent of instructor. A study of human nature and the human effort to establish standards of thought, feeling, and conduct. Topics treated will include personal ethics, social and political philosophy, the meaning of religion for man, and the endeavor to reach a unified view of the world. Mr. Marvin.

For Undergraduates and Graduates

✓ 104. **Systematic Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, junior standing and Psychology 12. A study of the historical development of the major psychological systems; functionalism, structuralism, behaviorism, psychoanalysis, gestalt, etc. Mr. Sappenfield.

✓ 111. **Advanced General Psychology.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 12. Mr. Sappenfield.

✓ 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. Atkinson.

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

129. **Individual Differences.** 1 Q. Autumn. 5 cr. Prerequisite, Psychology 11 and junior standing. Principles of individual differences and their measurement. Emphasis on test construction and the principles of interpretation of psychological tests. Mr. Sappenfield.

✓ 130. **Psychological Testing.** 1 Q. Winter. 5 cr. Prerequisite, psychology 129 and junior standing. Description, application, and interpretation of specific group and individual psychological tests to measure intelligence, aptitudes, and personality. Emphasis on Stanford-Binet, Wechsler-Bellevue, and other individual clinical tests. Mr. Sappenfield.

131. **Clinical Psychology.** 1 Q. Spring. 5 cr. Prerequisite, Psychology 115 and 130, and junior standing. Techniques applicable to clinical problems. Emphasis on history taking, diagnostic interviewing and testing, and the therapeutic interview. Mr. Sappenfield.

156. **Contemporary Philosophy.** 1 Q. Autumn, 5 cr. Prerequisite, junior standing 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, Correspondence Study, and Alumni Relations, and supervises University publications, the News Service, and all radio programs.

Adult Education and Correspondence Study

MISS MARY MARGARET COURTNEY, Secretary

The University is a member of the National University Extension Association, the standardizing agency for home study and extension class work. One of the principal aims of the association is the pro-

tection of the quality of credits earned through extension classes and correspondence 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 Adult Education and Correspondence 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, Advanced Accounting, Auditing, Cost Accounting, Corporation Finance, Foreign Trade, Marketing, Methods of Teaching Typewriting, Methods of Teaching Shorthand, Salesmanship.

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

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

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

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

Geology—General Geology, World Geography.

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

Home Economics—Elementary Nutrition, House Planning and Furnishing, Textiles.

Journalism—The High School Newspaper.

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

Modern Languages—Elementary French (11b); Intermediate French; Advanced French; General Survey of French Literature; French Culture and Life; French Grammar Review and Composition; The Seventeenth Century French Literature; The Eighteenth Century French Literature; French Reading; The Nineteenth Century French Literature; Advanced French Composition. Elementary German (11b); Intermediate German; Advanced German; German Grammar, Composition, Conversation; German Readings. Elementary Spanish (11b); Intermediate Spanish; Advanced Spanish; Spanish Grammar, Composition, Conversation; General Survey of Spanish Literature; Spanish

Drama of the Golden Age; Spanish Novel and Drama of the Nineteenth Century; Contemporary Spanish Drama; Spanish-American Literature; Commercial Spanish; Contemporary Spanish Novel; Spanish-American Civilization.

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

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

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

Correspondence Study Fees

The fees for correspondence courses, payable in advance, are \$4 for each quarter credit.

A charge of \$2 will be made for extension of time for completion of a correspondence study course, except in the case of students required to suspend the correspondence study work while in attendance at some institution. If no work has been done on a course, and all other rules have been complied with, upon payment of \$2, the fee will be transferred to another course upon request.

Extension Course

Regular University courses are made available to the public through the adult education program. These courses are usually given in the evening and are offered in accessible communities where there is sufficient demand to justify the organization of classes.

Extension students pay the same fee, \$4 per quarter credit, as correspondence students. Persons who wish to attend extension classes as "auditors" pay a flat fee of \$5 per course.

Institutes and Lectures

The University is broadening its adult education 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 1946: President, Carl E. Dragstedt '23, Missoula. Vice president, Karl Martinson '28, Missoula. Executive Council Members, John Hauck '34, Butte; Mrs. L. A. Colby '27, Missoula; Mrs. Thomas E. Campbell '39, Missoula; George Greenwood '04, Seattle; Mrs. Wallace Brennan '25, Missoula; Hugh J. Lemire '33, Miles City. Secretary-treasurer, Andy Cogswell '27, Montana State University. Alumni Office Secretary, Mrs. Helen Warden '27.

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 attend 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, Portland, Los Angeles and Washington, D. C. Groups which sponsor occasional get-togethers are located in New York, Chicago and San Francisco.

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. During 1947-48 the division hopes to complete a radio center on the campus from which it can broadcast all its programs.

PLACEMENT BUREAU

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

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

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.

Wildlife Technology

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.

The curriculum for this major is as follows:

	Freshman Year		
	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Botany 10a, Forestry Botany, and *Math 10, Intermediate Algebra or Math 13, Trigonometry....	5	5	--
Botany 10b, Forestry Botany	--	--	5
Chem 11abc, General Chemistry or Chem 13abc, Organic and Qualitative Analysis	5	5	5
English 11ab, Language in Action and *Math 10, Intermediate Algebra or Math 13, Trigonometry	5	5	5
Phys. Ed. 11abc, Physical Education	1	1	1
Mil. Sci. 11abc, Military Science (Men)	1	1	1
	17	17	17

*Courses entered dependent on high school preparation.

	Autumn Quarter Credits	Winter Quarter Credits	Spring Quarter Credits
Sophomore Year			
General 15abc, Introduction to Humanities.....	5	5	5
Physics 11a, General Physics and Physics 25, Selected Topics from General Physics	5	5	..
Forestry 12a, Mapping .....	..	..	2
Zoology 14ab, Elementary Zoology and Zoology 23, Comparative Vertebrate Zoology.....	5	5	5
Zoology 118, Forest Entomology .....	..	..	3
Phys. Ed. 12abc, Physical Education.....	1	1	1
Mil. Sci. 12abc, Military Science (Men).....	1	1	1
	17	17	17
Junior Year			
General 11abc, Introduction to Social Science	5	5	5
Forestry 20a, Surveying	4	..	..
Botany 22, Plant Physiology and Botany 51, Plant Ecology .....	..	5	5
Zoology 107, Aquatic Biology	3	..	..
Zoology 109, Mammalogy and Zoology 108, Or- nithology	4	..	4
Mathematics 25, Statistics .....	..	5	..
	16	15	14
Senior Year			
Zoology 125, Genetics, Zoology 103 Parasitology and Zoology 128, Animal Ecology	5	3	5
Zoology 131, Advanced Vertebrate Zoology or Zoology 132, Advanced Invertebrate Zoology..	..	..	2-5
Botany 161ab, Systematic Botany	5	..	5
Botany 126, Evolution .....	..	3	..
Wildlife 150, Seminar Wildlife Problems	2-3	..	2-3
Forestry 120, General Range Management .....	..	5	..
Electives	2-3	3-5	..
	14-16	14-16	14-18

For five-year majors, additional courses should be elected from the following: The Carbon Compounds (Chem 101), General Bacteriology (Bact 117), Principles of Economics (Econ 14), General Geology (Geol 11ab), Human Physiology (Zool 24), General Histology (Zool 105), Composition (Eng 30ab), Forest Recreation (For 127), Wildlife Management (For 138), Mapping (For 12b), General Psychology (Psych 11).

150. Seminar in Wildlife Problems. 2 Q. Autumn, spring. 2-3 credits each quarter. Prerequisite, senior standing in Wildlife or Forestry. Designed to acquaint the student with source materials dealing with administration and modern techniques used in propagation, habitat improvement, field censusing. Mr. Severy. Mr. Wright.

Zoology

PROFESSORS GORDON B. CASTLE (CHAIRMAN), LUDVIG G. BROWMAN;
ASSISTANT PROFESSOR PHILIP L. WRIGHT; INSTRUCTOR ROYAL B. BRUNSON.

Major Requirements: At least 40 credits including Elementary Zoology (Zool 14ab), Field Zoology (Zool 12), Comparative Vertebrate Zoology (Zool 23), Vertebrate Embryology (Zool 102), Genetics (Zool 125), Animal Ecology (Zool 128), 3 credits of Biological Literature (Zool 129), 4 credits of Advanced Invertebrate Zoology I (Zool 132) and Human Physiology (Zool 24) or 3 credits of Advanced Vertebrate

Zoology IV (Zool 131). The following courses must be completed: General Botany (Bot 11ab), Classification of Spring Flora (Bot 12), Evolution (Bot 126), and General Chemistry (Chem 11) or Inorganic Chemistry and Qualitative Analysis (Chem 13). Students who contemplate graduate work in Zoology should elect during the junior and senior years General Physics (Physics 20abc) and General Histology (Zool 105), and should secure a reading knowledge of French or German.

Students who plan to secure a certificate to teach should consult the certification requirements listed on page 80.

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

For Undergraduates

10. General Zoology. 1 Q. Autumn. Winter. 5 cr. Open to all students. Primarily for students of Forestry, Pharmacy, and Physical Education. Survey of a typical vertebrate and the application of certain biological principles. Mr. Brunson. Mr. Santisteban.

12. Field Zoology. 1 Q. Spring. 2-3 cr. Prerequisite, Zoology 14b. A field and laboratory course in the collection, preservation, and identification of animals. Mr. Brunson.

14ab. Elementary Zoology. 2 Q. Autumn, winter. 5 cr. each quarter. Summer, 14a. Open to all students. 14a is a prerequisite to 14b. A survey of the invertebrates and the prochordates. Anatomy, physiology, phylogeny and basic zoological principles. Mr. Castle. 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. Wright.

24. Human Physiology. 1 Q. Spring. Summer. 5 cr. Prerequisite, sophomore standing. The problems of digestion, absorption, circulation, excretion, irritability, and locomotion, together with the physiological phenomena associated with tissue repair, growth, and reproduction. Mr. Browman.

For Undergraduates and Graduates

101. General Comparative Embryology. 1 Q. Autumn. 5 cr. Prerequisite, Zoology 14ab and junior standing. The early stages of development of the invertebrates and vertebrates, including maturation of the germ cells, fertilization, cleavage, formation of germ layers, and origin of the embryo. Given in 1946-47, and alternate years. Mr. Browman.

102. Vertebrate Embryology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 14ab and junior standing. Later development especially of the vertebrates, with emphasis on birds (chick) and mammals (pig). A study of organ formation, based on prepared histological material, with a consideration of experimental evidence. Mr. Browman.

103. Parasitology. 1 Q. Winter. 3 cr. Prerequisite, Zoology 14ab and junior standing. An introduction to animal parasitology with emphasis on parasites of game animals. Given in 1947-48, and alternate years. Mr. Brunson.

105. General Histology. 1 Q. Winter. 5 cr. Prerequisite, Zoology 23 and junior standing; knowledge of chemistry is recommended. Methods of fixation, sectioning, and staining animal tissues. Use of the microscope and a study of basic tissues. Mr. Wright.

107. Aquatic Biology. 1 Q. Autumn. 3 cr. Prerequisite, Zoology 14ab, junior standing, and Botany 11ab. The plants and animals which make up the diet of fishes and the taxonomy and ecological distribution of the common game and coarse fishes. Given in 1947-48, and alternate years. Mr. Brunson.

108. Ornithology. 1 Q. Spring. 4 cr. Prerequisite, Zoology 10 or Zoology 14ab, and junior standing. The life histories, habits, and distribution of birds. Mr. Wright.

109. Mammalogy. 1 Q. Autumn. 4 cr. Prerequisite, Zoology 23 and junior standing. The life histories, habits, and distribution of mammals, with some experience in field identification and preparation of skeletons and skins. Mr. Wright.

118. Forest Entomology. 1 Q. Spring. 3 cr. Prerequisite, Zoology 10 or 14ab, and junior standing. The more common forest insects of Western Montana from the standpoint of distribution, economic importance, and methods of control. Mr. Castle.

125. Genetics. 1 Q. Autumn. (Winter, 1947-48 only). 5 cr. Prerequisite, Zoology 23 or Botany 22, and junior standing. The facts and theories of heredity, mechanisms of heredity, involving considerations of segregation, random assortment, linkage systems, and mutations, and their relations to visible cell processes. Mr. Browman.

128. Animal Ecology. 1 Q. Spring. 5 cr. Prerequisite, Zoology 14ab and junior standing. The relationship between animals and their environment, illustrated by field studies of animal communities in Western Montana, with special emphasis on the invertebrates. Mr. Castle.

129. Biological Literature. 3 Q. Autumn, winter, spring. 1 cr. each quarter. Prerequisite, senior standing and 20 credits in Zoology or Botany. Reviews of recent literature as a survey of the trend of study and experimentation in biological fields. Reports of special studies. Zoology and Botany Staffs.

131. Advanced Vertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 23, junior standing, and consent of instructor. (I) Morphology. (II) Endocrinology. (III) Ecology. (IV) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.

132. Advanced Invertebrate Zoology. 1 Q. Any quarter. 2-5 cr. Prerequisite, Zoology 14ab, junior standing, and consent of instructor. (I) Morphology and Taxonomy. (II) Ecology. (III) Physiology. By variation of content as indicated, the course may be repeated during succeeding quarters. Zoology Staff.

For Graduates

200. Advanced Zoological Problems. 1-3 Q. Autumn, winter, spring. Credit variable. Opportunity is given graduate students with sufficient preparation and ability to pursue original investigations. Staff.

Summer Session

Note: For information pertaining to the summer session, consult the current summer session bulletin, which may be obtained upon request.

The summer session of Montana State University is a ten-weeks' session. In 1946 the session will begin June 16 and will close August 22. 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 24 to 28).

FEES

Fees for the Summer Session

For ten-week term	\$39.50
For six-week term	26.50
For two-week term	11.50

Limited registrants (students who register for less than seven credits for ten weeks, or less than four credits for six weeks) pay one-half the above schedule of fees. Students who register and attend classes regularly but without credit are charged the same fees as limited registrants.

Persons who are given the privileges of "special attendants" are charged \$2.00 for each course.

Most scholarships, including high school honor scholarships, do not exempt holders from payment of the summer session fee. Certain music and military scholarships do carry such exemption.

For further information regarding summer session fees see summer session bulletin.

Credit Toward Degrees

University credit toward degrees is given to those who satisfy the regular entrance requirements. The normal schedule which may be carried during the ten weeks of the session is 15 credits, plus 1 credit in Physical Education S11 and 1 credit in applied or ensemble music or in applied acting or stagecraft or in current events; the maximum registration for six weeks is 8 credits plus 1 credit in either Physical Education S11, or in applied or ensemble music, or in applied acting or stagecraft or in current events. Permission to carry more than this number is granted only for special reasons.

Residence requirements for the Bachelor's degree may be fulfilled by three summer sessions of ten weeks each, during which time the students must complete at least forty-five quarter credits. Of the last forty-five credits required for graduation, thirty-five credits must be earned in residence at Montana State University.

Credit Toward Teachers' Certificates

Courses required for Montana teachers' certificates will be given.

Graduate Work

During the summer session, properly qualified students may do work toward a Master of Arts, 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 108 to 112.

Certificate of Attendance

Students in the summer session who are not registered as candidates for degrees, will, upon request to the Registrar, receive a certificate of attendance for courses satisfactorily completed.

SUMMARY OF REGISTRATION

SUMMARY OF REGISTRATION, 1946-47

COLLEGE, SCHOOL OR COURSE	Graduates		Seniors		Juniors		Sophomores		Freshmen		Specials		Totals							
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women						
Arts and Sciences	39	25	64	82	81	163	120	111	231	815	291	1106	22	5	27	1532	719	2251		
Business Administration	6	3	9	80	20	100	71	26	97							157	49	206		
Education	12	5	17	17	6	23	18	11	29					2		47	24	71		
Forestry	10	1	11	40	2	42	39		39	211	211	211	6		6	416	3	419		
Journalism	1		1	24	15	39	22	18	40	67	36	103	2		2	141	86	227		
Law				63	1	64	55	2	57				1		1	154	5	159		
Music	1	2	3	10	11	21	10	11	21	28	30	58	1	1	2	63	73	136		
Pharmacy	6	1	7	12	5	17	11	13	24	53	8	61				118	36	154		
Totals	138	38	176	320	142	462	326	192	518	1174	365	1539	32	8	40	2628	995	3623		
Applied Music Specials																3	2	5		
Shorthand and Typing Specials																		4		
Unclassified																		4		
TOTALS																		14	11	25
Summer Quarter, 1946																		2645	1012	3657
																		691	375	1066
TOTALS																		3336	1387	4723
Less Duplicates																		512	119	631
Total Enrollment of Resident Students																		2824	1268	4092
Correspondence and Extension Students																		431	448	879
TOTALS																		3255	1716	4971
Less Duplicates																		105	98	203
Total for year 1946-47																		3150	1618	4768

Handwritten notes: 15331, 30/1/47, 10/6/47

Summary of Registration by Counties States and Countries, 1946-47

Counties in Montana	Wom- en		Total	Counties in Montana	Wom- en		Total
	Men	en			Men	en	
Beaverhead	26	8	34	Valley	38	20	58
Big Horn	19	8	27	Wheatland	13	2	15
Blaine	21	12	33	Wibaux	3	4	7
Broadwater	7	10	17	Yellowstone	102	71	173
Carbon	21	18	39				
Carter	11	2	13	Totals	2359	1133	3492
Cascade	126	47	173	States & Territories			
Choteau	31	10	41	Alaska	1	0	1
Custer	34	20	54	Arkansas	3	2	5
Daniels	27	6	33	Arizona	3	1	4
Dawson	33	6	39	California	58	16	74
Deer Lodge	57	17	74	Colorado	5	0	5
Fallon	6	4	10	Connecticut	5	0	5
Fergus	46	32	78	Delaware	1	0	1
Flathead	113	44	157	Florida	3	0	3
Gallatin	32	13	45	Georgia	2	0	2
Garfield	6	3	9	Idaho	20	18	38
Glacier	19	27	46	Illinois	25	8	33
Golden Valley	6	3	9	Indiana	13	0	13
Granite	14	7	21	Iowa	3	3	6
Hill	23	16	39	Kansas	4	1	5
Jefferson	10	4	14	Kentucky	1	0	1
Judith Basin	11	6	17	Louisiana	1	1	2
Lake	59	27	86	Michigan	4	3	7
Lewis & Clark	86	38	124	Maryland	2	1	3
Liberty	2	4	6	Massachusetts	8	1	9
Lincoln	35	10	45	Minnesota	9	5	14
McCone	7	7	14	Missouri	3	1	4
Madison	15	8	23	Nebraska	2	1	3
Meagher	7	5	12	New Jersey	12	0	12
Mineral	4	6	10	New Mexico	1	0	1
Missoula	737	323	1060	New York	36	4	40
Musselshell	21	13	34	North Carolina	1	0	1
Park	33	23	56	North Dakota	45	25	70
Petroleum	4	4	8	Ohio	13	2	15
Phillips	10	10	20	Oklahoma	3	1	4
Pondera	15	16	31	Oregon	12	7	19
Powder River	6	4	10	Pennsylvania	21	5	26
Powell	32	22	54	South Dakota	19	4	23
Prairie	5	4	9	Tennessee	6	0	6
Ravalli	63	32	95	Texas	7	1	8
Richland	26	10	36	Utah	4	0	4
Roosevelt	28	14	42	Virginia	2	1	3
Rosebud	14	10	24	Washington	51	16	67
Sanders	35	16	51	Washington, D. C.	1	1	2
Sheridan	28	11	39	West Virginia	1	0	1
Silver Bow	168	49	217	Wisconsin	27	1	28
Stillwater	13	14	27	Wyoming	19	3	22
Sweetgrass	11	5	16	Territory of			
Teton	12	14	26	Hawaii		1	1
Toole	26	11	37				
Treasure	2	3	5	Totals	457	134	591

Countries				Countries	2359	1133	3492
Canada	3	0	3	Other States	457	134	591
Costa Rica	0	1	1	Other Countries	8	1	9
Cuba	1	0	1				
Norway	1	0	1				
Puerto Rico	3	0	3				
Totals	8	1	9	Totals	2824	1268	4092

Degrees Granted 1946-47*

	Men	Women	Total
Honorary Degrees:			
Doctor of Science	1	---	1
Total Honorary Degrees	1	---	1
Master of Arts:			
Chemistry	1	---	1
Education	1	---	1
English	2	---	2
History and Political Science	---	1	1
Physical Education	1	---	1
Psychology	1	1	2
Spanish	1	---	1
Total Master of Arts Degrees	7	2	9
Master of Education	14	6	20
Bachelor of Arts:			
Bacteriology and Hygiene	---	4	4
Chemistry	2	---	2
Economics and Sociology	10	8	18
English	2	8	10
Fine Arts	1	1	2
French	---	1	1
Geology	2	---	2
Health and Physical Education	1	2	3
History	4	3	7
Home Economics	---	5	5
Law	5	---	5
Mathematics	1	---	1
Physics	1	---	1
Psychology	---	4	4
Pre-Medical Sciences	2	---	2
Spanish	---	6	6
Total Bachelor's Degrees, Arts and Sciences	31	42	73
Bachelor of Arts in Business Administration	25	9	34
Bachelor of Arts in Education	7	5	12
Bachelor of Science in Forestry	14	---	14
Bachelor of Arts in Journalism	8	5	13
Bachelor of Science in Medical Technology	---	1	1
Bachelor of Music	---	7	7
Bachelor of Science in Pharmacy	---	3	3
Bachelor of Laws	20	1	21
Secondary State Certificate	3	7	10

*Spring 1946 to Winter 1947 inclusive.

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