The Guidebook to Montana State University is published to provide current information to be used by prospective students, their parents, their teachers, and advisers; by college students, faculty members, and administrative officials; by registrars and accrediting agencies. It also serves as an official legal document and provides an historical record.

The Guidebook is planned to furnish the student with information needed for making long-range educational plans leading to a chosen career. If you have not chosen your career, you may attend for a year or two as a "General" major, taking courses that meet general requirements for graduation and that provide general education as a firm foundation for more specific work selected at least by the end of your sophomore year.

1. Consult tables, contents to locate information.
2. Secure application forms from the Registrar's Office, fill them out completely and with care.
3. Study with care those sections on REGISTRATION AND GENERAL REGULATIONS, GRADUATION REQUIREMENTS, ETC. and review the information every registration period.
4. Plan your program at least a year in advance and then double-check your programs against the printed schedules of classes since there are often deviations from the listings in the Guidebook.
5. When your major is selected, study carefully the specific additional requirements for graduation listed under your chosen curriculum.
6. When in doubt as to meanings or interpretation of listed information, consult your adviser, or department chairman, or check with the Registrar or Assistant Registrar.

*Section marked this way with an asterisk should be studied with particular care.

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Grading System—Grade Points

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Biological Station

Bureau of Government Research

Forest and Conservation Experiment Station

Wildlife Research Unit

Typographical Laboratory and Press

Public Service Division

Summer College

*Student Services

The Office of the Dean of Students, Counseling Service, Student Health Service, Placement, Housing, Residence Halls, Family Housing, Women's Cooperative House, Fraternity and So-

*pOrganizational Instruction

*Course Numbering System

*Key to Course Descriptions

This will help you to understand descriptions of courses listed later in the Guidebook.

Courses of Instruction

Anthropology

Art

Bacteriology

Ballet

Biological Sciences

Botany

Business Administration

Chemistry

Drama

Economics

Education

English

Foreign Languages

French

German

Greek

Italian

Latin

Russian

Spanish

Forestry

General Courses

Geology

Graduate School

Health & Physical Education

History

Home Economics

Journalism

Law

Liberal Arts

Liberal Service

Mathematics

Medical Technology

Music

Pharmacy

Philosophy

Physics

Physical Sciences

Psychology

Political Science

Pre-Medical Sciences

Radio & Television

Religion

Reserve Officer Training Corps

Science

Military Science

Secretarial-Home Arts

Social Welfare

Sociology

Speech

Speech Pathology & Audiology

Wildlife Technology

Zoology

CORRECTION PLEASE! page 41. Geology, sophomore year, 2 1 2 under Group II and III relates to ROTC.

Montana State University Bulletin

Number 478 May, 1958

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For publications and detailed information concerning the different schools and colleges address the Registrar of the particular institution concerned. Communications intended for the Executive Office of the University of Montana should be addressed to the State Capitol, Helena, Montana.
University Hall Tower
A Forestry class identifies trees of the pine family by the cones.

Journalists work on the Kaimin, student newspaper.

Student in Education practice teaches at elementary school.

A class in Elementary French studies in the Language Laboratory.
Home Economics offers training in child care and guidance.

A professor of English confers with a student.

Women's Center
Freshmen white-wash the "M" on Mount Sentinel annually.

One of the social events of the year is the Sadie Hawkins Dance.

Students enjoy dancing in the Lodge.
Room in Turner Hall

Craig Residence Hall

Looking across the Oval.
THE UNIVERSITY OF MONTANA

The University of Montana is constituted under the provisions of Chapter 29 of the Laws of the Thirtieth Legislative Assembly, approved March 14, 1913 (effective July 1, 1913).

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

MONTANA STATE BOARD OF EDUCATION

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Ex-Officio Secretary

CLARENCE L. POTHOLM

Corvallis

MRS. G. E. CHAMBERS, 1960

Cut Bank

MERRITT N. WARDEN, 1961

Kalispell

EMMET P. RILEY, 1962

Butte

EARL L. HALE, 1963

Great Falls

GEO. F. H. PETRO, 1965

Miles City

BOYNTON G. PAIGE, 1966

Phenix

The University comprises the following institutions, schools, and departments:

MONTANA STATE UNIVERSITY, MISSOULA

Established February 17, 1893, and consisting of:

- The Graduate School
- The College of Arts and Sciences
- The School of Law
- The School of Pharmacy
- The School of Forestry
- The School of Journalism
- The School of Music
- The School of Business Administration
- The School of Education
- The College of Fine Arts
- The Summer College

R. R. Remne, President

MONTANA STATE COLLEGE, BOZEMAN

Established February 16, 1893, and consisting of:

- The Division of Agriculture
- The Division of Engineering
- The Division of Household and Applied Arts
- The Division of Science
- The Division of Education
- The School of Nursing
- The Agricultural Experiment Station
- The Montana Grain Inspection Laboratory
- The Montana Wool Laboratory
- The Central Montana Branch Station (Moccasin)
- The Eastern Branch Station (Sidney)
- The Horticulture Branch Station (Corvallis)

R. R. Remne, President

MONTANA SCHOOL OF MINES, BUTTE

Established February 17, 1893, and consisting of:

- The Course in Mining Engineering
- The Bureau of Mines and Geology
- The Course in Petroleum Engineering
- The Course in Ceramic Engineering

Edwin G. Koch, President

WESTERN MONTANA COLLEGE OF EDUCATION, DILLON

Established February 23, 1893, and consisting of:

- The Two-year Course in Teacher Education
- The Four-year Course in Teacher Education (Elementary and Secondary)

James E. Short, President

EASTERN MONTANA COLLEGE OF EDUCATION, BILLINGS

Established March 12, 1925, and consisting of:

- The Two-year Curriculum in Teacher Education
- The Four-year Curriculum in Teacher Education—Elementary and Secondary
- The Graduate Division

Herbert L. Steele, President

NORTHERN MONTANA COLLEGE, HAVRE

Established March 8, 1913, and consisting of:

- The Two-year Legal Arts, Vocational, Technical, and Pre-professional Courses
- The Three-year Course in Medical Secretarial Work

L. O. Brockman, President

MONTANA STATE UNIVERSITY CALENDAR 1958 - 59

1958

AUTUMN QUARTER

September 21-27, Sunday through Saturday
Orientation Week and Registration
September 24-27, Wednesday through Saturday
Registration of former students
September 29, Monday
Instruction Begins
November 11, Tuesday
Veterans Day, a Holiday
November 27, Thursday
Thanksgiving Day, a Holiday
December 15-19, Monday through Friday
Examinations
December 19, 5:20 p.m.
Autumn Quarter Ends; Christmas
Recess Begins

1959

WINTER QUARTER

January 5-6, Monday and Tuesday
Registration
January 7, Wednesday
Instruction Begins
February 17, Tuesday
Charter Day
March 16-20, Monday through Friday
Examinations
March 20, 5:20 p.m.
Winter Quarter Ends
Spring Recess Begins

SPRING QUARTER

March 30-31, Monday and Tuesday
Registration
April 1, Wednesday
Instruction Begins
May 22-23, Friday and Saturday
Interscholastic Meet
May 30, Saturday
Memorial Day, a Holiday
June 8, Monday
Commencement
June 8-12, Monday through Friday
Examinations
June 12, 5:20 p.m.
Spring Quarter Ends

SUMMER SESSION

June 15, Monday
(10 weeks and first term)
Registration
June 18, Tuesday
Instruction Begins
July 6, Monday
Independence Day, a Holiday
July 20, Monday
Second Term Begins
August 21, Friday
Session Ends

AUTUMN QUARTER

September 20-28, Sunday through Saturday
Orientation Week and Registration
September 23-25, Wednesday through Friday
Registration of former students
September 29, Monday
Instruction Begins
November 11, Wednesday
Veterans Day, a Holiday
November 26, Thursday
Thanksgiving Day, a Holiday
December 14-18, Monday through Friday
Examinations
December 18, 5:20 p.m.
Autumn Quarter Ends
Christmas Recess Begins

1959

WINTER QUARTER

January 5-6, Monday and Tuesday
Registration
January 7, Wednesday
Instruction Begins
February 17, Tuesday
Charter Day
March 16-20, Monday through Friday
Examinations
March 20, 5:20 p.m.
Winter Quarter Ends
Spring Recess Begins

SPRING QUARTER

March 30-31, Monday and Tuesday
Registration
April 1, Wednesday
Instruction Begins
May 22-23, Friday and Saturday
Interscholastic Meet
May 30, Saturday
Memorial Day, a Holiday
June 8, Monday
Commencement
June 8-12, Monday through Friday
Examinations
June 12, 5:20 p.m.
Spring Quarter Ends

SUMMER SESSION

June 15, Monday
(10 weeks and first term)
Registration
June 18, Tuesday
Instruction Begins
July 6, Monday
Independence Day, a Holiday
July 20, Monday
Second Term Begins
August 21, Friday
Session Ends

1959

SPRING QUARTER

March 30-31, Monday and Tuesday
Registration
April 1, Wednesday
Instruction Begins
May 22-23, Friday and Saturday
Interscholastic Meet
May 30, Saturday
Memorial Day, a Holiday
June 8, Monday
Commencement
June 8-12, Monday through Friday
Examinations
June 12, 5:20 p.m.
Spring Quarter Ends

SUMMER SESSION

June 15, Monday
(10 weeks and first term)
Registration
June 18, Tuesday
Instruction Begins
July 6, Monday
Independence Day, a Holiday
July 20, Monday
Second Term Begins
August 21, Friday
Session Ends

LAW CALENDAR 1958 - 59

FALL SEMESTER 1958

September 22-24, Monday through Wednesday
Registration and Orientation of New Law Students (Including Transfer Students From Other Schools)
September 24, Wednesday
Registration of Upperclass Law Students
September 26, Thursday
Instruction Begins
November 27, Thursday
Thanksgiving Day (no classes)
December 20, Saturday
Christmas Vacation Begins After Last Class
January 4, 1959
Classes Resume at 9:00 a.m.
January 7-10, Wednesday through Friday
Pre-registration
January 26-31, Monday through Saturday
Semester Examinations

SPRING SEMESTER 1959

February 2, Monday
Registration for Spring Semester
February 3, Tuesday
Classes Begin at 8:00 a.m.
March 21, Saturday
Spring Vacation Begins After Last Class
March 28, Saturday
Classes Resume at 8:00 a.m.
April 15-17, Wednesday through Friday
Pre-registration for Courses in the Fall Semester, 1959
May 28-June 3, Thursday through Wednesday
Examinations
June 8, Monday
Commencement

FALL SEMESTER 1959

September 21-23, Monday through Wednesday
Registration and Orientation of New Law Students (Including Transfer Students From Other Schools)
September 23, Wednesday
Registration of Upperclass Law Students
September 24, Thursday
Classes Begin at 8:00 a.m.
November 26, Thursday
Thanksgiving Day (no classes)
December 19, Saturday
Christmas Vacation Begins After Last Class
January 4, 1960
Classes Resume at 9:00 a.m.
January 8-9, Wednesday through Friday
Pre-registration
January 23-30, Monday through Saturday
Semester Examinations
OFFICIAL DIRECTORY, 1957-58

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DUGAN, EDWARD B., B.J., M.A., Professor
GARVER, RICHARD A., B.A., M.A., Ph.D., Assistant Professor
JOHNSON, DOROTHY M., B.A., Assistant Professor (part time)
JORGENSEN, ERLING S., B.A., M.A., Ph.D., Associate Professor
YU, FREDERICK TEH-CHI, B.A., M.A., Ph.D., Associate Professor
SCHOOL OF LAW

BARROWS, RICHARD, B.S., LL.B., Assistant Professor, Librarian
BRIGGS, EDWIN W., B.S., LL.B., LL.M., Professor (on leave)
COTTER, JOHN F., LL.B., Visiting Professor (Spring Semester 1958)
CROMWELL, GARDNER, B.A., LL.B., LL.M., Assistant Professor
KIMBALL, EDWARD L., B.S., LL.B., Assistant Professor
LEAPHART, CHARLES W., B.A., M.A., LL.B., S.J.D., Dean Emeritus, Professor Emeritus
LOHN, SHERMAN V., B.A., LL.B., LL.M., Assistant Professor (part-time)
McFARLAND, CARL, B.A., M.A., LL.B., S.J.D., LL.D. (honorary), President, Professor
MASON, DAVID R., LL.B., B.A., S.J.D., Professor
MUNRO, JAMES, B.A., J.D., Assistant Professor
RUSOFF, LESTER R., B.A., LL.B., LL.M., Associate Professor
SMITH, RUSSELL E., LL.B., Assistant Professor (part time)
STONE, ALBERT W., B.A., LL.B., Associate Professor
SULLIVAN, ROBERT E., B.A., LL.B., Dean, Professor
TOELLE, J. HOWARD, B.A., LL.B., M.A., LL.M., Professor Emeritus

MATHEMATICS

BALLARD, WILLIAM R., B.A., M.S., Ph.D., Assistant Professor
CHATLAND, HAROLD, B.A., M.S., Ph.D., Professor, Dean of the Faculty, Academic Vice President
COWELL, WAYNE R., B.S., M.S., Ph.D., Assistant Professor
HASHISAKI, JOSEPH, B.A., M.A., Ph.D., Associate Professor, Assistant to the Dean of the Faculty
HIGMAN, DONALD G., B.A., M.A., Ph.D., Associate Professor (on leave of absence, 1956-58)
MERRILL, A. S., B.A., M.A., Ph.D., Professor Emeritus, Vice President Emeritus
MYERS, VERA T. (Mrs.), B.A., M.A., Lecturer (part-time)
MYERS, WILLIAM M., Jr., B.A., M.A., Ph.D., Associate Professor
OSTROM, THEODORE G., B.A., B.S., M.A., Ph.D., Professor
PETERSON, JOHN A., B.A., M.A., Instructor
REINHARDT, HOWARD E., B.S., M.A., Assistant Professor
SCHMIDT, WOLFGANG, Ph.D., Assistant Professor (on leave of absence)
SCHMITTROTH, LOUIS A., B.S., M.S., Ph.D., Assistant Professor
YOUNG, FREDERICK H., B.A., M.A., Ph.D., Associate Professor

SCHOOL OF PHARMACY

BRUNET, EMERY W., B.S., M.S., Instructor
BRYAN, GORDON H., B.S., M.S., Ph.D., Associate Professor
MOLLETT, CHARLES E. F., Ph.C., B.A., M.S., Professor Emeritus
SUCHY, JOHN F., Ph.C., B.S., M.S., Ph.D., Professor
VAN HORNE, ROBERT L., B.S., M.S., Ph.D., Dean, Professor
WALES, JOHN L., B.S., M.S., Ph.D., Assistant Professor

PHILOSOPHY

ADAMCZEWSKI, ZYGMENT, B.A., M.A., Ph.D., Assistant Professor
ARMOUR, J. LESLIE, B.A., Ph.D., Assistant Professor
BUGBEE, HENRY G., Jr., B.A., M.A., Ph.D., Professor (on leave of absence)
MARVIN, EDWIN L., B.A., M.A., Professor
SCHUSTER, CYNTHIA A. (Mrs.), B.A., M.A., Ph.D., Associate Professor

OFFICIAL DIRECTORY—5

PHYSICS

HAYDEN, RICHARD J., B.A., M.S., Ph.D., Associate Professor
JAKOBSON, MARK J., B.A., M.A., Ph.D., Associate Professor
JEFFREY, C. RULON, B.A., M.A., Ph.D., Professor
SHALLENBERGER, G. D., B.S., M.S., Ph.D., Professor
TAYLOR, ARCHER, B.S., Instructor

PSYCHOLOGY

AMMONS, R. B., B.A., M.A., Ph.D., Professor
ATKINSON, E. A., B.A., M.A., Professor, Director of the Summer Session
BRISSEY, F. LEE, B.A., M.A., Ph.D., Lecturer (part time)
BURGESS, THOMAS C., B.A., Ph.D., Assistant Professor
CLOW, MAURINE, B.A., M.A., Ph.D., Professor, Associate Dean of Students
COOPER, HOMER C., B.A., M.A., Ph.D., Assistant Professor
duMAS, FRANK M., B.S., M.A., Ph.D., Associate Professor
GORDON, JESSE E., B.S., M.A., Ph.D., Assistant Professor
JAMES, ROBERT L., B.S., M.S., Lecturer (part time)
NOBLE, CLYDE E., B.A., M.S., Ph.D., Associate Professor
SAPPENFIELD, BERT R., B.A., M.A., Ph.D., Professor
STRAUGHAN, JAMES H., B.A., Ph.D., Assistant Professor (on leave 1957-58)

AFFILIATED SCHOOL OF RELIGION

FERM, DEANE W., B.A., B.D., M.A., Ph.D., Assistant Professor, Director
FORD, RICHARD S., B.A., M.Th., Ph.D., Assistant Professor
JOHNSON, GLENN, B.Th., B.D., Instructor

RESERVE OFFICERS TRAINING CORPS

Air Science

HAGOOD, DONALD M., Captain, USAF, B.A., Assistant Professor
HOLSTEDT, JOHN H., Major, USAF, B.A., Associate Professor
JAMISON, DONALD C., Colonel, USAF, B.A., Professor
PERRY, ELMER T., Major, USAF, B.A., Associate Professor
PHILLIPS, JOHN W., Captain, USAF, B.A., Assistant Professor

Military Science (Army)

DEMMONS, JACK L., 1st Lt., U. S. Army, B.S., Instructor
GILBERTSON, RODNEY B., Captain, U. S. Army, B.S., Assistant Professor
HARPER, ROBERT L., Captain, U. S. Army, B.S., Assistant Professor
LAMB, EMMRICH D., Jr., Major, U. S. Army, Ph.B., Associate Professor (transferred October 30, 1957)
LEWIS, WILLIAM J., Lt. Col., U.S. Army, B.A., Professor

SOCIOLOGY, ANTHROPOLOGY, SOCIAL WELFARE

BROWDER, W. GORDON, B.A., M.A., Ph.D., Professor
BROWN, BRUCE M., B.A., M.A., Instructor
COLVIN, MILTON, B.A., Ph.D., Assistant Professor
DAY, BARBARA R., B.S., M.A., Ph.D., Assistant Professor
EVANS, IDRIS W., B.A., M.A., Instructor
GOLD, RAYMOND L., M.A., Ph.D., Assistant Professor
MALOUF, CARLING I., B.S., M.S., Ph.D., Assistant Professor
TASCHER, HAROLD, B.A., M.A., Ph.D., Professor
TAYLOR, D. C., B.A., M.A., Ph.D., Assistant Professor
OFFICIAL DIRECTORY

SPEECH
COOPE, EVELYN SEEDORF, B.A., M.A., Ph.D., Associate Professor
FESENDEHN, SETH A., B.S., M.S., Ph.D., Professor (on leave of absence)
HANSEN, BERT, B.A., M.A., Professor
McGINNIS, RALPH Y., B.A., M.A., Ph.D., Professor
PARKER, CHARLES B., B.A., M.A., Ph.D., Assistant Professor
SIOIS, LOUIS M., B.A., M.A., Lecturer

ZOOLOGY
BROWMAN, LUDVIG G., B.S., Ph.D., Professor
BRUNSON, ROYAL B., B.S., M.S., Ph.D., Professor
CASTLE, GORDON B., B.A., M.A., Ph.D., Professor; Director, Biological Station
CRAIGHED, JOHN J., B.A., M.S., Ph.D., Associate Professor
HOFFMANN, ROBERT S., B.S., M.A., Ph.D., Assistant Professor
HOWELL, BARBARA J., B.S., M.S., Ph.D., Assistant Professor
SENGER, CLYDE M., B.A., M.S., Ph.D., Assistant Professor
WEISEL, GEORGE F., B.A., M.A., Ph.D., Professor
WRIGHT, PHILIP L., B.S., M.S., Ph.D., Professor

LIBRARY
CAMPBELL, KATHLEEN, B.S., M.S., Librarian (Professor)
DAVIS, JEAN (Mrs.), B.A., M.A., Reference Librarian (Instructor)
DeLAND, MARY F. (Mrs.), B.A., B.S.L.S., Acting Catalog Librarian (Instructor)
FISCHER, ROBERT E., B.A., M.S. in L.S., Acquisitions Librarian (Assistant Professor)
MIDGETT, ADELAINE S., B.A., Assistant, Catalog Department (Instructor)
NELSON, RITA (Mrs.), B.A., Assistant Acquisitions Librarian (Instructor) (part-time)
SPEAR, LUCILE E., B.A., M.A., Documents and Serials Librarian (Professor)
WHITE, M. CATHERINE, B.A., M.A., Assistant Librarian and Reference Librarian Emeritus (Professor Emeritus)

BUSINESS AND ECONOMIC RESEARCH
CHAMBERS, EDWARD J., B.Com., B.A., M.A., Ph.D., Associate Director; Associate Professor, Business Administration
JOHNSON, MAXINE C. (Mrs.), B.A., M.A., Research Associate; Instructor, Business Administration
SHAUDYS, JEAN H. (Mrs.), B.A., M.A., Ph.D., Research Associate (part-time)
SHEARER, HENRY K., B.A., M.A., Ph.D., Director, Associate Professor, Economics

GOVERNMENT
RICHERT, ROBERT B., B.A., M.A., Ph.D., Director; Assistant Professor, History and Political Science

BIOLOGICAL STATION
CASTLE, GORDON B., B.A., M.A., Ph.D., Director; Professor, Zoology
Staff of Botany and Zoology Departments

FOREST AND CONSERVATION
Baldwin, DON, B.S.F., Superintendent of Nursery and Supervisor of School Forest
COONEY, ROBERT F., B.S.F., Research Associate
WILLIAMS, ROSS A., B.S.F., M.F., Director; Dean and Professor, Forestry
Staff of Forestry School

WILDLIFE UNIT
CRAIGHED, JOHN J., B.A., M.S., Ph.D., Leader, Montana Cooperative Wildlife Research Unit; Associate Professor, Forestry and Zoology
PENZELLY, W. LESLIE, B.A., M.S., Head, Conservation Education Extension (Assistant Professor)
TABER, RICHARD D., B.A., M.S., Ph.D., Assistant Leader, Montana Cooperative Wildlife Research Unit; Assistant Professor, Forestry
WRIGHT, PHILIP L., B.S., M.S., Ph.D., Assistant Leader, Montana Cooperative Wildlife Research Unit; Professor, Zoology

PUBLIC SERVICE DIVISION
ANDERSON, HOMER E., B.S., M.A., Director

RESIDENCE HALLS
ANDERSON, MARGARET M. (Mrs.), B.A., Acting Manager, Residence Halls
BERRY, RUTH M. (Mrs.), Head Resident, Elrod Hall
GORDON, INA C. (Mrs.), Head Resident Emeritus, Corbin Hall
HAFNERFIELD, LOIS (Mrs.), B.A., Assistant Head Resident, Women's Residence Halls
HUGH, EDITH V. (Mrs.), Head Resident, Freshman Women's Residence Halls
MOORE, ELIZABETH V. (Mrs.), Assistant Head Resident, Freshman Women's Residence Halls
PETERS, GRACE BLAKE (Mrs.), Head Resident Emeritus, Elrod Hall
RIMEL, SARA V. (Mrs.), Head Resident, Turner Hall
ROUSH, MARJORIE ANNE, B.S., M.A., Head Counselor, Women's Residence Halls
SPaulding, WILLIE (Mrs.), B.A., Assistant Head Resident, Turner Hall
THOMPSON, JANE, (Mrs.), Head Resident Emeritus, Corbin Hall
TURMAN, CORINNE (Mrs.), B.A., Assistant Head Resident, Freshman Women's Residence Halls
WESTBY, CARL M., B.A., M.A., Head Resident, Craig Hall

FOOD SERVICE
CHAMBERLAIN, D. GERTRUDE, B.S., Dietitian; Instructor, Home Economics
DALTORP, LOIS M. (Mrs.), B.A., Dietitian; Instructor, Home Economics (Resigned October 31, 1957)
ETHERIDGE, FANNIE E., B.S., M.S., Dietitian (spring quarter)
GAETZ, E. RAE, B.S., Dietitian; Instructor, Home Economics
KOTSHEVVAR, LENDAL H., B.A., M.S., Ph.D., Director; Professor, Home Economics
MacArthur, ELEANOR, B.A., Assistant Director; Assistant Professor, Home Economics (on leave winter and spring quarters)
STEWART, GERTRUDE, B.A., Assistant to Director

MISCELLANEOUS ADMINISTRATION
ARMESBY, LUCILLE JAMESON (Mrs.), B.A., Secretary to the President (Assistant Professor)
BAGLEY, E. KIRK, B.A., Controller (Professor)
BOURKE, MARCUS J., Superintendent, Buildings and Grounds
CLARK, S. KENDRICK, B.A., Auditor, Business Office
FERGUSON, MARY ELROD (Mrs.), B.S., M.A., Assistant Director Emeritus, Museum and Northwest Historical Collection (Assistant Professor Emeritus)
FOLSOM, GWENDOLYN, B.A., M.A., Research Assistant and Secretary, President's Office
HANSEN, ROBERT, M.D., Director, Health Service (part time)
Loomis, EMMA B. (Mrs.), B.A., M.A., Assistant Registrar (Instructor)
MARTIN, EARL W., B.A., Director, Student Activity Facilities (Instructor)
MILLER, ROSS L., B.A., Director, News Service, Alumni Secretary
MONAHAN, THOMAS F., B.A., M.A., Assistant to the Dean of Students
MURPHY, CALVIN L., B.A., Assistant Controller, Business Office
PHILLIPS, RAYMOND V., B.A., M.Ed., Ph.D., Director, Counseling and Placement Service (Associate Professor)
RYAN, JAMES, B.A., Distribution Manager, University Press
SWEARINGEN, T. G., B.A., Director, Planning and Construction Office
MONTANA STATE UNIVERSITY

In 1893 the Third Legislative Assembly of Montana chartered the University of Montana and located it at Missoula. Later legislation called it the State University of Montana. Still later statutes refer to it as Montana State University, by which name it is now generally known.

Missoula is a residential city of approximately 33,000 about 100 miles west of the continental divide on the headwaters of the Columbia river system in west central Montana. Located at an elevation of 3200 feet, it is served by two transcontinental railroads, bus lines operating on the main east-west north-south U. S. highways, and by air.

ACCREDITATION
Montana State University is fully accredited by the Northwest Association of Secondary and Higher Schools.

SUPPORT AND ENDOWMENT
Federal land grants made available during territorial days were allocated to Montana State University on its creation. It continues, however, to receive its main support in the form of biennial legislative appropriations and student fees. It also receives gifts, grants, and endowments for scholarships, teaching development, and research from private and other sources. The Montana State University Endowment Foundation, among others, is a separately chartered and managed trust which receives, manages, and distributes private contributions for University purposes.

CAMPUS AND PHYSICAL PLANT
The main campus spreads over 125 acres; and there are extensive adjuncts such as the Golf Course (155 acres), Biological Station (160 acres), the Forest Nursery (200 acres), and the Experimental Forest (20,000 acres). The physical plant includes twenty-eight brick and masonry buildings, of which five were completed in 1953, as well as numerous other structures for storage and other purposes.

Special instructional facilities also include the Biological Station, 80 miles north of the campus on Flathead Lake with buildings for housing and research; the Forest Nursery and the Experimental Forest near the campus; the Wildlife Research Unit; and the University Press, located in the Journalism building. In addition to the general library there is a separate library for the law school. Special museums and collections include those relating to anthropology, biology, geology, and history.

THE LIBRARY
More than 415,000 volumes and government documents are housed in the library building and in the law school library.

The library receives over 900 periodicals in addition to newspapers and college exchanges.

CONTROL AND ADMINISTRATION
Subject to the Constitution and statutes, general control and supervision of all Montana state institutions of higher education are vested in the eleven-member State Board of Education. There is also a local three-member Executive Board for each institution. The immediate administration of each institution is vested in a president.

By statute the State's combined system of higher education is called "The University of Montana." An executive office and executive secretary are located in the State Capitol at Helena, Montana, mainly for the handling of administrative routine business and the State Board of Education and other state offices and departments.

The right is reserved to change any of the rules and regulations of the University at any time including those relating to admission, instruction, and graduation. The right to withdraw curricula and specific courses as well as to impose or increase fees is similarly reserved. All such changes are effective at such times as the proper authorities determine and apply not only to prospective students but also to those who, at such times, are already enrolled in the University.

REQUIREMENTS FOR ADMISSION
Applications for admission should be sent to the Registrar, Montana State University, Missoula, Montana, on a form which may be obtained from the high school principal or by writing to the University. Of possible applications for admission should be sent in at least a month before registration. The following credentials are required: (a) Completed application and high school transcript on forms provided by Montana State University. (b) Official transcript from each college attended, including institutions attended while in military service, carrying a statement of honorable dismissal from the last college attended.

GENERAL ADMISSION. Applicants for admission must be of good moral character. Veterans of any branch of the United States Armed Forces should present a discharge marked other than “dishonorable.”

Graduates of any fully accredited high school or academy, are admitted to regular standing. The completion of a high school or preparatory course of four years, including three years of English and one year of American history and government, is the standard for regular admission. This includes foreign students.

HIGH SCHOOL PREPARATION. Although general admission to the University is granted as indicated above, additional units of high school work are needed for certain professional curricula. High school courses should be chosen to meet requirements for the curriculum selected, otherwise, additional time may be required in college. The student should check the curriculum of his choice and take in high school those courses listed as "needed" where such courses are indicated under “High School Preparation.” The "recommended courses" under "High School Preparation" would be helpful, but no loss of time would be involved if the student did not take them in high school.

ADMISSION BY EXAMINATION. A person not a graduate of an accredited high school may meet regular admission requirements by passing examinations on not less than fifteen units of secondary school work. These examinations must cover the specifically required courses in English and American history and government. Credit is allowed the student for any courses taken in an accredited high school; thus the examinations need only cover those units of work lacking for general admission. Veterans and in-service students over 21 years of age may be admitted on satisfactory scores on the High School Level General Educational Development (G. E. D.) Tests.

CONDITIONAL ADMISSION. A person who has attended an accredited high school for four years, but lacks one course for graduation therefrom other than the required courses in English and American history and government, will be admitted on condition that the deficiency is made up within a year.

ADMISSION BY TRANSFER. A transfer student must meet general admission requirements, be eligible to return to the school from which he is transferring, and his record must be such as would assure his admission to, or reinstatement at, this University had he been one of its students. Credits earned at Montana State College, Montana School of Mines, Northern Montana College, Eastern Montana College of Education and Western Montana College of Education may be transferred to the University. However, a number of highly specialized curricula are offered at these 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. The two-year course of junior college rank may not be used to decrease the two years usually required to complete senior college work at Montana State University.

ADMISSION AS SPECIAL STUDENTS. Persons 21 years of age and over who are not graduates of high schools, who cannot offer all the requirements for admission, and who are not candidates for degrees may be admitted as special students upon passing general aptitude and English placement tests and the submission of satisfactory evidence that they are prepared to pursue successfully the courses they desire. Such special students may acquire status as
regular students and become candidates for degrees either (a) by taking entrance examinations or (b) by transferring to entrance credit sufficient credits earned in the University to make up all entrance requirements for admission to regular standing. A special student may not register for his seventh quarter of residence, including summer sessions, until all entrance units required for admission to regular standing are made up.

UNCLASSIFIED STUDENTS. Students permitted to select their subjects without reference to the requirements of any prescribed course of study may register as unclassified students.

REGISTRATION AND GENERAL REGULATIONS

Time for registration is set aside during Orientation week. Two days at the beginning of other quarters are also used for this purpose. A student's registration is subject to the approval of an appointed faculty adviser until choice of major field of study has been made; after this choice, the head (or his delegate) of the department or school in which the curriculum is offered becomes the adviser.

ORIENTATION WEEK. The first week of autumn quarter is set aside for the orientation and registration of new students. The program includes: (1) Acquainting the student with the campus, the classroom buildings, and residence hall; (2) Examing the University program in detail—the types of instruction offered and the courses in which a student may prepare at the University. (3) A physical examination. (4) Various tests to help the student determine university aptitudes and the courses in which he or she will learn most effectively. Social activities in which students become acquainted with fellow classmates, students of other classes, and members of the faculty. (5) Official registration in the University, with the assistance of a member of the faculty in the selection of courses.

REQUIRED COURSES. Regular students must so arrange their studies, quarter by quarter, that they will normally complete all required courses and group requirements by the end of their third year at the University except in their field of specialization.

MAXIMUM CREDIT LOAD. Except for students registered in an approved curriculum, the maximum credit load per quarter is as follows: (1) For Freshmen, fifteen credits plus physical education and ROTC as required; (2) For Sophomores, six credits plus physical education and ROTC as required; (3) Juniors and Seniors may register for seventeen credits except that students with approximately C average grades may be permitted by their advisers to register for eighteen credits.

In addition to these allowed numbers of credits per quarter, freshmen may take two additional credits and sophomores one additional credit selected from applied or ensemble music, applied acting and stagecraft, current events and imaginative writing. The student must maintain a C average during the previous quarter in residence in order to be permitted to carry these added credits. Freecollege courses in English Composition or Mathematics which carry no credit, count toward the maximum load according to the number of class hours per week.

CHANGES OF ENROLLMENT. Applications for changes in enrollment must be made by the student on proper forms and filed at the Registrar's Office.

Withdrawal from a course after the fourth week is permitted only under unusual circumstances and then only by petition approved by the adviser, the instructor and the chairman of the student's major department or school. In such cases the instructor must indicate whether the student is passing or failing. A grade of "F" is recorded in all instances unless changed for due cause by those approving the petition. If the grade is changed, a grade of "W" will be assigned. All withdrawals must be formal and must be recorded by the student with the Registrar on proper forms secured from the Registrar's Office. After the ninth week the student who withdraws receives a grade, usually incomplete.

WITHDRAWALS FROM THE UNIVERSITY. Students who withdraw from the University during a quarter are required to fill out withdrawal forms in the Registrar's Office. If this is not done, the student will not be entitled to certification of honorable dismissal. When withdrawal forms signed by the Dean or Associate Dean of Students are filed before the end of the ninth week of a quarter, grades of "W" are assigned. After the ninth week, the student who withdraws receives a grade, usually incomplete.

REPEITION OF COURSE. When a course in which a student has previously received credit is repeated with proper authorization, the credit and the first grade received are automatically cancelled and the credit and second grade are recorded, even if the second grade is lower. In order to obtain authorization to fulfill a course, the student must file with the registrar at the time of registration a petition carrying approval of the adviser, the chairman of the department in which the student is majoring and of the chairman of the department in which the course is given.

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.

VETERAN REGISTRATION. Veterans' subsistence payments from the Veteran's Administration are based on the number of hours of work for which the student is registered. A minimum of 14 credit hours is required for full payment under the Korean G. I. Bill.

DEGREES OFFERED

Bachelor's, Master's and Doctor of Education degrees are offered at Montana State University. More details about degrees offered and the requirements for degrees are to be found in the section of the guidebook dealing with the Graduate School and also under the various alphabetically listed curricula.

GRADING SYSTEM

The class work of the student will be rated on a system of letter grades:

A—Work of the best grade; B—work better than average; C—average work; D—work below average, but barely passing; F—failure; +—pass without defining grade. The grade I—incomplete is given if all the work in a course has not been completed and there is sufficient reason for this. An incomplete must be removed not later than one calendar year of attendance after the incomplete grade was assigned.

In thesis and law courses 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 the course; upon completing the course, a grade is given which applies to the whole course.

Grad point scores are computed as follows: 4 grade points for each credit of A; 3 grade points for each credit of B; 2 grade points for each credit of C; 1 grade point and credit of D. In a subject in which an "incomplete" grade has been received, grade points are counted only after this incomplete has been removed.

To compute grade point averages for graduation, the total number of grade points for courses offered for graduation will be divided by the total number of credits earned in these courses.

Music Building
GUIDEBOOK GOVERNING GRADUATION

Students must meet requirements of the guidebook in effect when they entered the University, or they may arrange with their department chairmen to graduate under a later guidebook. Students changing majors are governed by the guidebook in effect at the time of such change.

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 degrees or certificates must file formal applications with the Registrar on the date specified by University Notices. Applications must be filed at least one quarter preceding the quarter in which requirements are to be completed.

CREDITS REQUIRED FOR A DEGREE. The work in Montana State University is measured 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 of preparation, recitation, lecture, or laboratory work. A total of 180 credits plus six credits in required physical education is necessary in all courses for graduation with a student's degree except that more are required in Forestry, Law and Pharmacy. Candidates for the degree of Bachelor of Science in Forestry must complete 192 credits in addition to regular requirements in Physical Education and ROTC. Candidates for the degree of Bachelor of Science in Pharmacy must complete three years of Law totaling 126 credits in addition to the entrance requirements of the School of Law. Candidates for the degree of Bachelor of Science in Pharmacy must complete a five year course. Candidates for the Bachelor of Arts degree in the College of Arts and Sciences must complete 93 credits in that college. This includes credits in Art and Drama.

CREDITS REQUIRED FOR A MAJOR. Students may be required to complete from 45 to 60 credits in the chosen field. For education majors, the number of credits is from 40 to 60. In curricula allowing 5 credits of a survey course to count as part of major requirements, the total maximum of 60 credits allowed in the major includes these 5 credits. This rule on maximum credits allowed does 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 Foreign Languages and Mathematics.

Not more than 65 credits in one foreign language and not more than 90 credits in all foreign languages may be counted towards graduation in that area.

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 28 credits in ROTC or 15 credits in religion may be counted towards graduation.

Except in the School of Music, not more than 12 credits in applied music nor 6 credits in ensemble music may be counted towards graduation.

Not more than 12 credits in Dance, including any Ballet courses taken as physical education, may be counted towards graduation.

Only students majoring in Business Administration, those taking a teaching major or minor in Business Administration or those following the curricula in Secretarial-Home Arts are allowed to present more than 19 credits earned in Business Administration 180-181-182, 183, 184-185-186, 187-188-189 and 190-191.

GRADE POINT REQUIREMENTS. The average of the student's grades on the credits offered for graduation must equal the official University average passing grade of "C". A "C" average is required for all courses in one major field of study for which a grade is received. A transfer student must meet the grade point requirement on credits earned at Montana State University as well as on his entire record.

To continue in third year major courses, at least a 2.0 (C) average is required on all credits previously registered for and for which final grades have been received in major courses. This also applies to teaching majors.

Students whose work falls too far below the C average required for graduation are, under certain circumstances, dropped from the University.

After a student has been dropped for low grades, he is usually not readmitted until three quarters have passed. However, the Academic Standards Committee may, if convinced that the circumstances warrant, readmit upon his appeal any student at any time.

SPECIALIZATION. A student must select a major field of study before entering the junior year at the University. Usually the selection will be made earlier.

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 unless excused for cause. Discharged veterans and students 27 or more years of age are excused from this requirement. All students are also required to pass the University swimming test.

2. ROTC, a total of 6 quarters (10 credits) required of all freshmen and sophomore men. It is mandatory that this work be accomplished during the first six quarters and cannot be deferred except by petition by the student. For cause this requirement may be waived, entirely or in part, upon approval by the Professor of Military Science and Tactics or Professor of Air Science.

Students who complete the six weeks summer training at the end of the freshman year with the Marine Corps Platoon Leaders Class or with the Aviation Platoon Leaders Class may be exempt from the second year of basic ROTC. Students who are disenrolled from one of these programs will take the required ROTC.

Recognized causes and their effects are as follows: Physical disability as certified by the Health Director; Full waiver Equivalent training at another institution—On equivalent basis prior federal active military service on full-time basis

Less than six months: None Six months but less than 12 months 3 quarters 12 months or more Full waiver

Two quarters of Air Science 110, Air Force Band, may be substituted for Air Science or Military Science 103 and 203.

3. Freshman Composition English 104-105, 2 quarters (10 credits) or English 101-102-103, 3 quarters (9 credits). All students registering for the first time in either of these freshman composition courses must take a placement examination; those who fail to demonstrate an acceptable college standard of proficiency may substitute English 101 for 105 and 103.

INTRODUCTION TO BIOLOGICAL SCIENCES, and 151-152-153 INTRODUCTION TO THE HUMANITIES, will satisfy the requirements to groups I and III respectively.

GROUP I. Astronomy, Bacteriology, Botany, Chemistry, General 120 or 121-122-123, 151 and 152, 10 credits from other sub-groups, or 151-152-153 and 5 credits from other sub-groups, Geology, Mathematics, Physics, Zoology.

GROUP II. Anthropology, Economics, Geography, History, Political Science, Sociology.

GROUP III. Art (231-232-233 only), Foreign Languages (213-215, and other literature courses only), General 151-152-153, 151-152-153, or part of it with credits from other sub-groups, General 151 and 152, and 5 credits from other sub-groups, Geology, Mathematics, Physics, Zoology.

In the School of Forestry, Group II requirement may be partially satisfied by Forestry 421, 5 cr. Five credits of Speech are accepted as part of the Group III requirement.
Eleven teachers may fulfill Group I requirements with the General 125 PHYSICAL SCIENCE FOR TEACHERS, General 128 BIOLOGY INTELLIGENCE FOR TEACHERS, and Mathematics 130 THEORY OF ARITHMETIC.

FOREIGN LANGUAGE REQUIREMENT. For the degree of Bachelor of Arts in the College of Arts and Sciences, Bachelor of Arts in Business Administration, and Bachelor of Arts in Journalism, a knowledge of either a modern or classical foreign language is required. This requirement may be satisfied by demonstrating a reading knowledge at the level of attainment expected of a student who has passed at least five quarters in a language, by taking three years of high school and passing the required test examination at the University, by two years in high school plus one quarter in the University, by one year in high school plus one year (three quarters) in the University, by five quarters (20 credits) at the University, by three quarters or equivalent in two foreign languages. A student may be allowed credit toward the fulfillment of the language requirement for high school language study recognized as the level of attainment on a required placement examination which also indicates the level of the course in which he may continue in the University. Foreign language placement and reading examinations are given and certified by the Department of Foreign Languages.

An examination covering examinations must be made by the end of the fourth week of any quarter. Such examinations must be taken at least two weeks before final grades for the quarter are due.

CORRESPONDENCE STUDY. Up to 30 credits earned by correspondence study may be counted toward graduation.

VETERANS' CREDIT. Upon application veterans may be granted credit for work completed in special service training courses in accordance with the recommendations of the American Council on Education, and not more than 12 "unassigned" credits at the rate of three credits for the first three months of service and one additional credit for each subsequent four months of service. Nine quarter credits are allowed for completion of the senior phase of the Marine Corps Platoon Leaders course.

RESIDENCE REQUIREMENTS. Students who transfer credits earned elsewhere and seek a degree from Montana State University must, in addition to meeting other requirements of the University, earn at least 45 credits, and devote not less than three quarters to resident study at the University; and 35 of the last 45 credits earned for a degree must be earned in resident study at the University.

REQUIREMENTS OF PARTICULAR CURRICULUM. Candidates for a Bachelor's degree must comply with any requirements announced under a particular curriculum, in addition to meeting the general requirements listed here under requirements for graduation.

SENIOR EXAMINATIONS. Some departments and schools in the University require a senior comprehensive examination, as part of graduation requirements. This examination does not in any way replace the regular quarterly examinations except that departments adopting or using these senior examinations may excise their major students during the senior year from regular quarterly examinations in major department subjects. The examination is a written examination of at least three hours length, and in addition further oral or written examinations may be given. Examinations are given the last quarter of senior residence and are arranged for in each department at the convenience of the persons concerned. If the student does not pass this special examination, he shall be given another opportunity within the next 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. For details, check under the alphabetically listed curricula in the guidebook.

SENIOR EXAMINATIONS FOR HONORS. A student who wishes to be graduated with honors or high honors must meet the following requirements: (1) For honors, in the beginning of his last quarter he must have an index of at least 3.1 for all credits registered for in his entire record as well as in the major field; (2) For high honors, at the beginning of his last quarter he must have an index of at least 3.5 for all credits registered for in his entire record as well as in the major field. A student who transfers credits earned elsewhere to this university must meet the scholastic index indicated on grades earned at Montana State University as well as on his entire record; (3) The student must take an examination, oral or written or both, as determined by the major department or school; (4) He must pass the examination with a grade of "A" or "B"; (5) 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.

THE GRADUATE SCHOOL

Programs of graduate study leading to a Master's degree are offered in thirty-five departments, schools and special curricula within the University. The School of Education offers a program for the Doctor of Education degree.

Admission to the Graduate School is necessary to receive graduate credit applicable to a graduate degree and the graduate student must register his program of work with the Dean of the Graduate School at the time of registration for each quarter in residence.

Full graduate standing is in general based upon completion of an undergraduate degree in an accredited college or university, with the equivalent of an undergraduate major in the proposed field of graduate study. The candidate for admission to the Graduate School must show promise of academic competence to maintain the "B" average in the regular graduate courses. A more detailed statement of regulations for graduate study appears later in this Guidebook.

Graduate study is directed by qualified faculty in the schools and departments under general supervision by the Dean of the Graduate School. A faculty Committee on Graduate Work recommends graduate curricula and policies to the faculty and advises the Graduate Dean in the administration of graduate work.

A substantial number of graduate teaching and research assistantships and scholarships are available each year. Information regarding these grants may be obtained from the Dean of the Graduate School.

FINANCIAL OBLIGATIONS

STUDENT FEES. The following is a detailed schedule of quarterly fees authorized for the college year 1958-59 in all schools and departments except where otherwise specified. For the law school, which is on a semester plan, the semester fees will be 50% above the quarterly fees. Fees are subject to modification by action of the State Board of Education.

Registration is not complete until all fees are paid, or arrangements made, in the Office of the Controller, for extension of the date when due.

ALL STUDENTS REGISTERED FOR SEVEN OR MORE CREDITS:

Registration $10.00
Incidental (for laboratory supplies in all courses, locker fees, gymnasium towel service, diploma, etc.) 30.00

(Registration and Incidental fees are waived to holders of Montana high school and University honor scholarships.)

Building 10.00
Student Union Building 4.00
Student Activity 10.00

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

(Option to students who have a B.A. or B.S. degree and to students registered for less than seven credits.)

Health Service 10.00
(Required of all students enrolled for class work.)

General deposit (charges for loss, breakage, and fines deducted) 74.00
(Paid once and unused portion refunded.)

Total, first quarter in attendance $84.00

Refer to the Music section for information on additional music fees.

*Non-residents (out-of-state) pay additon (per quarter)

(If registered for less than seven credits $8.00 per credit, with minimum of $16.00 per quarter.)

*This includes a $7.50 non-resident building fee.
NON-RESIDENT FEES. Students who have not resided in the State of Montana for at least 12 months immediately prior to enrolling Montana State University and whose parents are not residents of the state are required to pay the non-resident fee (autumn, winter, spring quarters). For detailed statement of student entitled to exemption from this fee write to the Registrar.

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. Students must apply for these War Service Exemptions, at which time the Original or Certified Copy of Discharge must be submitted for identification purposes.

LIMITED REGISTRANTS (students registered for less than seven credits): Registration Fee $10.00; Incidental Fee $15.00; General Deposit, $5.00; Building Fee $5.00; Student Union Building $2.00; Health Service $10.00; Student Activity $10.00 (optional). Non-residents pay $9.20 per credit with minimum of $18.40. (This includes the non-resident building fee.) Students, who are enrolled as Regular Students, who wish to drop to Limited Registrants, see statement under regular refund schedule.

LISTENERS (students who enroll for courses without credit) pay the same fees as students enrolled for credit.

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. The Special Attendance privilege is not applicable to laboratory courses, such as Chemistry, Weaving, Swimming, Shorthand & Typing, Office Machines, etc. The regular fees are applicable if attendance is desired in these courses.

GRADUATE STUDENTS pay the same fees as undergraduate students except that graduate students whose programs require expensive equipment, laboratory supplies and additional books may be required to pay a graduate laboratory-incidental fee not to exceed $50.00 per quarter. The student activity fee is optional to students who have a B.S. or B.A. degree.

FEES FOR SPECIAL PURPOSES:

LATE REGISTRATION, payable by students who did not register during the designated period for registration, unless their late registration was due to the fault of the University. Also payable by students who registered during the prescribed period of registration but who failed to either pay their fees or to obtain a deferment. ($1.00 per day to a maximum of $5.00)

DEFERMENT. In case of an emergency, the Controller is authorized to grant a limited extension of time on payment of fees. If approved, there will be a charge of $1.00 for processing the deferment. Failure to meet payments as agreed, without an authorized extension of the deferment, will result in a penalty of $1.00 per day to a maximum of $5.00.

CHANGE OF ENROLLMENT, payable for each change of enrollment card filed after the first week of the quarter, $1.00; after the second week, $2.00.

SPECIAL EXAMINATION, for each special examination, $2.00; maximum, $5.00 for any one quarter.

REMOVAL OF INCOMPLETES (not due to illness or fault of institution) $2.00.

TRANSCRIPT OF RECORD (first transcript is free) $1.00. Transcripts ordered at one time in quantities are charged for at the rate of $1.00 for one plus 50¢ each for all additional.

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

CORRESPONDENCE AND SUMMER STUDY. Fees are listed in the Correspondence Study Catalog, the Summer College Bulletin and the Biological Station Bulletin, respectively.

REFUNDS. All fees are refunded to students who withdraw during the period of registration and before the beginning of classes, in which 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.

WEEK OF INSTRUCTION
First Second Third Fourth

REGULAR STUDENTS

Regular Students who drop to Limited Registrants
Registration None None None None
Incidental ($30.00) 75% 50% 50% 50%
Building ($10.00) 50% 40% 20% 20%
Student Union Building ($4.00) None None None None
Student Activity ($10.00) 50% 50% 50% 50%
Health Service ($10.00) 100% 50% 50% 50%
Non-Resident Tuition ($50.00) 80% 80% 40% 20%

School of Music Majors

Regular Students who drop to Limited Registrants
Registration None None None None
Incidental ($11.25) None None None None
Building $7.50 $7.50 $7.50 $7.50
Student Union Building None None None None
Student Activity 5.00 5.00 5.00 5.00
Health Service None None None None
Non-Resident Tuition None None None None

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.

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 carry satisfactorily 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.

BIOLOGICAL STATION

The University Biological Station is located at Yellow Bay on the east shore of Flathead Lake, 90 miles north of Butte. The University controls 160 acres, including four islands and also has permission to carry on investigation on Wild Horse Island which has an area of approximately 2000 acres.

Facilities include an administration-recreation building, a four-room laboratory, three one-room laboratories, a kitchen and dining hall, a bath house and thirty one-room cabins.

During the summer, field courses and research in Botany and Zoology are offered for upper division and graduate students. By virtue of the Station’s location, there is a great variety of opportunity for research.

For further information, write to the Director, Biological Station, Montana State University.
BUREAU OF GOVERNMENT RESEARCH
The Bureau of Government Research coordinates university facilities and resources for conduct of research in the field of governmental and local government, and for provisional services to government and private civic groups. The Bureau also cooperates with the academic departments in developing programs and activities that prepare and train students for careers in government.

BUREAU OF BUSINESS AND ECONOMIC RESEARCH
The objectives of the Bureau of Business and Economic Research are to provide Montana businessmen with the types of statistics useful to them in conducting their businesses; to disseminate information of general interest on the economic and social aspects of the state; and to engage in studies in the areas of economic and social sciences which show promise of making contributions to knowledge, or to the development of methods of analysis, regardless of whether such studies are directly related to the state.

Publications include the MONTANA BUSINESS REVIEW, issued monthly; THE MONTANA ALMANAC, issued periodically (in co-operation with the University departments); the MONTANA TRADE ASSOCIATION DIRECTORY, issued annually; and various monographs. Contributors include members of the Bureau staff, the faculty, and on occasion, the student body.

FOREST AND CONSERVATION EXPERIMENT STATION
Don D. Baldwin (Nursery and Experimental Forest Superintendent), Arnold W. Bolle (Forest Conservation), Robert F. Connolly (Research Associate), William H. Covey (Research Specialist), Dave S. Cox (Silviculture and Forest Soils), Earl McCombl (Lubrecht Forest Field Assistant), Melvin S. Morris (Range Management), Richard A. Skok (Forest Economics), Robert W. Steele (Forest Fire Control), Richard D. Faber (Wildlife Management), Ross A. Williams, Director (Watershed Management).

The Forest and Conservation Experiment Station, School of Forestry, Montana State University, operates under Acts of Congress (Section IV, Clarke-McNary Act, June 7th, 1934 as amended, 16-U.S.C.-567), and Chapter 141, Laws of Montana of 1937. The Dean of the School of Forestry was designated as director. The Act specifies that the purpose of the Station is:

"To study the growth and the utilization of timber. . . . To determine the relationship between the forest and water conservation and waterflow regulation; the forest and pasturage for domestic livestock and wild life; the forest and recreation and those other direct and indirect benefits that may be secured by the maintenance of or the establishment of forest or woodlands . . . To study and develop the establishment of windbreaks, shelterbelts, woodlots on the farms of the State . . . To study logging, lumbering, soil and milling operations and other operations dealing with the products of forest soils with special reference to their improvement . . ."

"To cooperate with the other departments of the University of Montana, the state forester and the state board of land commissioners, the state fish and game commission, the state livestock commission of the United States government and its branches as a land grant institution, or otherwise, in accordance with their regulations."

"To collect, to compile and to publish statistics relative to Montana forests, forest lands and the influence flowing therefrom: to prepare and publish bulletins and reports; to collect a library and bibliography of literature pertaining to or useful for the purpose of this act . . . to establish such field experiment stations . . . to accept for and in behalf of the State of Montana, such gifts of land or other donations as may be made."

The station is supported by funds appropriated by the Congress and the state of Montana, income from the sale of forest products, nursery products, grazing, mining and special leases, and by private grants. Some research is concentrated on the 22,000 acre Lubrecht Experimental Forest, and at appropriate locations throughout the State—much of it in cooperation with private, state and federal agencies.

Information derived from research conducted by the staff is made available to the people of the State in printed bulletins, leaflets, and circulars.

WILDLIFE RESEARCH UNIT
The Montana Cooperative Wildlife Research Unit was established at Montana State University in 1949. The Unit is staffed and supported cooperatively by the Montana Fish and Game Commission, the Fish and Wildlife Service of the U. S. Department of Interior, Wildlife Management Institute of Washington, D. C., and Montana State University.

The purpose of the Cooperative Wildlife Research Unit is stated in the Memorandum of Understanding signed jointly by representatives of the above cooperating agencies as follows: . . . "to provide full active cooperation in the advancement, organization, and operation of wildlife education, research, extension and demonstration programs . . ."

The Montana Unit through its graduate research fellowship program investigates wildlife problems approved by the Unit Coordinating Committee in order to make it possible for the student toward the degree of Master of Science in Wildlife Technology. Concentration in the area of wildlife management will ordinarily lead to the degree of Master of Science in Wildlife Management.

Graduate work in wildlife may be taken with the area of concentration either in wildlife management or in wildlife technology. It will ordinarily require two years work beyond the Bachelor's Degree to fulfill the requirement for a degree of Master of Science in Wildlife Technology. Concentration in the area of wildlife management will ordinarily lead to the degree of Master of Science in Wildlife Management.

The Cooperative Wildlife Research Unit allocates funds for four or more graduate research fellowships for students working toward the degree of Master of Science in Wildlife Technology, or Master of Science in Forestry with the area of concentration in wildlife management. Candidates for fellowships should submit formal applications with a transcript of college credits and letters of reference by March 1.

For further information with regard to curricula and requirements for graduate work in the wildlife field, write to the Unit Leader, Dean of the School of Forestry, or Chairman of the Department of Zoology.

TYPOGRAPHICAL LABORATORY AND PRESS
The Journalism Typographical Laboratory and University Press serves both as a laboratory operation for instruction in the School of Journalism and to take care of the printing of educational, research, and informational materials of Montana State University.

PUBLIC SERVICE DIVISION
The Public Service Division is the administrative agency through which the University carries on its off-campus activities and services. In it are the departments of Home Study and Adult Education, Alumni Relations, Radio Programming, Central Photo Facility, Sports News Bureau, and the Publications and News Service.

In addition, the division works directly with communities and groups in community historical pageant-dramas, community surveys, institutes, forums, etc. On campus, Public Service Division coordinates in staging conferences, institutes and short-courses. A lecture and concert bureau is maintained by the division for organizations desiring speakers and programs from the campus.

Within the division are maintained the campus offices of the MSU Alumni Association and the Endowment Foundation.

The division publishes a special bulletin of Home Study and Adult Education offerings, which may be obtained by request from Public Service Division, Montana State University, Missoula, Montana.

SUMMER COLLEGE
The Summer Session of ten-weeks is divided into two five-week terms. Students may attend the full ten-week term or the full ten-week session. The 1939 Summer Session will open June 15 and close August 21: the first five-week term, June 15 to July 17; the second five-week term, July 20 to August 21.

Courses will be offered in all departments and schools
except Law and Forestry, including graduate work as well as undergraduate work.

Special field work in Botany and Zoology is given at the University Biological Station at Flathead Lake. Regular courses in Botany and Zoology are given on the campus.

Three regular Summer Sessions, of ten weeks each, satisfy the residence requirements for the Master’s degree.

Courses required for Montana secondary and elementary teachers’ certificates will be offered. Graduate work will include courses for secondary teachers, elementary teachers, and for the administrator’s credentials.

Students in the Summer Session who are not registered as candidates for exams will, upon request to the Registrar, receive a certified transcript for courses completed.

Regular University students may accelerate their programs by taking Summer classes. A full quarter of regular classes is available in most departments and schools.

Full information regarding the Summer Session may be obtained from the Registrar or the Summer College office, in room 206, University Hall.

STUDENT SERVICES

At Montana State University, an integrated program of student services is coordinated through the Division of Student Personnel Services. Satisfaction, growth, socially, emotionally, and educationally, is the purpose of the program. Student services concerned with the welfare of students include the deans of students, the counseling center, health service, placement service, student union, student loans, and undergraduate scholarships.

OFFICE OF THE DEAN OF STUDENTS. The Office of Dean of Students has responsibility for the coordination of student personnel services and general supervision of all student welfare. Through personal counseling and group activities, the Deans assist in making opportunities available to students for personal-social success, academic achievement, and experiences in the processes of democratic living. The Associate Dean has specific responsibility for all questions of social and academic welfare of women students, and the Dean similar responsibility for men.

COUNSELING SERVICE. The University has substantially expanded the scope of this service in the past year, reflecting an awareness of the significance of an adequate Counseling Center. This expansion has taken the form of increased staff, expanded office space, facilities, and equipment.

The Counseling Service has a general function of giving guidance and assistance to students in the following areas: 1) the selection of appropriate area of major study; 2) the assessment of abilities and the most efficient, effective application of those abilities to allow for maximum learning in college; 3) diagnoses of difficulties leading to less than maximum performance academically, and the use of remedial procedures where indicated; 4) in dealing with personality adjustment problems through self understanding in relationship to the client’s friends, home, school, and the community as a whole, leading to more effective citizenship; 5) the selection of appropriate vocational area.

The Counseling Service has a further responsibility to: 1) administer, report, and aid in the interpretation of freshman placement tests and other standardized tests; 2) act as a consultant to University departments and high schools in the establishment of effective testing programs; 3) assist University personnel and welfare groups in their guidance function; 4) assist advisers, upon request, in working with students.

STUDENT HEALTH SERVICE. The Student Health Service, financed in part by a health service fee paid by students each quarter, provides medical care for students. The plan was developed by the University and the Western Montana Medical Society.

The services are comprehensive and are available at low cost possible by group participation and infirmity type facilities. Preventive care and early treatment of illness are stressed. The cost of an illness that might deprive a student of his education is minimized.

All new students are given a complete examination during registration week. Physicians and dentists carry out the examinations and chest x-rays are taken. This provides a medical record of each student.

The full-time student dispensary is staffed by physicians practicing in Missoula. Laboratory service, x-ray, and limited physical therapy are provided also. Polio and other preventive inoculations are provided at cost.

Consultations and house calls are covered by the health plan up to local scale fee schedules.

Infirmary beds are used for minor illness at no added charge. Hospitalization in Missoula hospitals is provided under the plan for major medical illness, surgical emergencies, and major illnesses of Montana students. Hospitalization at $13 per day, and $100 additional cost.

Obstetrical care and non-emergency surgery are not covered. Accidents arising from activities contrary to University regulations or due to use of alcohol are not covered. Dependents’ care is not provided.

Hospitalization as above authorized is covered outside Missoula, in connection with University activities at any place during school session. It is also covered similarly for 15 days after school closes.

A student is given free choice of local physicians participating in the plan by requesting authorization. Minor illnesses should be treated at the dispensary.

The Health Service building also houses the Mental Hygiene Clinic and the Speech Pathology and Audiology Clinic which are operated independently.

PLACEMENT SERVICE. Through the University Placement Service, Montana State University endeavors to assist its graduates in finding positions suited to their interests and training. The services are also extended to business and other organizations in search of University-trained personnel. The Placement Service also aids University graduates in later years respecting opportunities for which both a degree and experience are required.

Effective autumn quarter 1958 a registration fee of $5.00 will be charged.

Similar services are provided for persons interested in teaching in the public schools. School authorities in need of teachers, principals, and superintendents use this facility. The Placement Service also aids teachers, principals, and superintendents in filling positions for which they have become qualified by training, ability, and experience.

STUDENT HOUSING. Residence facilities include six residence halls, three housing areas for married students, a women’s cooperative house, eight fraternity and six sorority houses, and University-approved rooms in private homes.

Freshmen, both men and women, who do not live in their own homes while attending the University are required to live in the residence halls unless excused in special cases by the Deans of Students. Upperclass women under 21 years of age are also required to live in women’s residence halls or with approved student living groups; those over 21 may obtain permission to live in approved private homes or boarding houses but not in apartments.

RESIDENCE HALLS. Application forms for residence and detailed information may be obtained by writing the Registrar’s Office, Montana State University. A $10.00 deposit is required with each room application. If a room reservation is cancelled, notice in writing must be received by the Manager of Residence Halls on or before September 3 for fall quarter, December 9 for winter quarter, and March 15 for spring quarter. Students will be assigned to the residence halls on arrival. Students who live in the residence halls are required to board in the Lodge.

Rooms in the residence halls are furnished with single beds, chests or dressers, study table, chairs, and a waste basket. Each bed is supplied with a mattress, mattress pad, pillow, pillow case, sheets, and two woolen blankets. Window curtains are provided and maintained. Students should bring a bed spread, dresser scarf, towels, wash cloths, water glass and an extra blanket, if needed. A study lamp and a small rug are desirable. Students should not bring electric cooking equipment, electric irons, furniture, or curtains.
Social life in the halls is encouraged through residence hall clubs and numerous activities. Adult counselors cooperate with the students in making living in the halls enjoyable and beneficial. A fee of $2.00 per quarter is assessed to the residents in each hall. This fund is expended for social activities which are planned by the group.

Board is provided in the Lodge for the residents of all halls. Experienced dietitians provide appetizing and nutritionally adequate meals.

RATES: Board for the quarter is $141.00 to $160.00 depending upon the length of the quarter. Board rates are calculated at $1.90 per day. Room rates by the quarter, per person are: One in a room, $79; two in a room, $60; multiple, $48. Rates are subject to change.

All University food and housing operations are conducted on a self-sustaining basis. Land is acquired, buildings are built, and maintenance and operation are financed out of payments for such housing or meals. When costs go up, charges for these services must go up unless the services themselves are to be allowed to suffer unduly in quality or quantity. New or additional services, when demanded, also require additional charges. Such charges are fixed from time to time, effective upon the dates similarly specified.

FAMILY HOUSING. Married students may apply to the Family Housing Office for accommodations in low-cost, temporary housing or permanent apartment-type units. One, two and three bedroom units are available.

WOMEN’S COOPERATIVE HOUSE. A cooperative house provides an opportunity for women to gain experience in group living and to reduce expenses by sharing in the work of the house. This residence is under supervision of an approved housemother. Information may be obtained by writing to the President, Synadelphic House, 601 Daly Avenue, Missoula, Montana. This house provides an opportunity for women to gain experience in group living while reducing expenses by sharing in the work of the house.

FRATERNITY AND SORORITY HOUSES. Eight national fraternities and six national sororities maintain their own residences under University supervision. Membership in fraternities and sororities is by invitation, but eligibility for pledging is based on satisfactory scholarship accomplished during the first quarter in the University. Sorority houses are under the immediate supervision of residence housemothers, who are appointed with the approval of the Associate Dean of Students.

STUDENT ACTIVITIES CENTERS. The Lodge is the new extra-curricular center of student life. It is the home of student social and governmental activities. Every student registered at Montana State University is a member of this program and entitled to use the building. Here students may hold meetings, have parties, meet friends, and participate in activities. Facilities in the Lodge include a student organization center, conference rooms, social center, reading room, coffee shop, lounge, games room, and food service. Bowling alleys and a year-round skating rink are also maintained by the Lodge management.

The Student Arts and Crafts Building offers additional facilities for student crafts, arts, movies, assemblies, etc.

LOANS AND EMPLOYMENT. Limited loan funds are available to qualified upperclassmen in need of financial aid to complete their college work. Information about these may be obtained from the Office of the Dean of Students.

Many students meet costs of attending the University by part-time work and scholarships. For freshmen to try to earn all expenses is advisable. Students should plan to use their available funds during the first year and increase their earnings as they become familiar with University life and work. For unusually qualified freshman students a Work Scholarship Program is maintained. Students applying for Work Scholarships should have a high B or A average in high school.

SCHOLARSHIPS AND PRIZES. The University offers many rewards for outstanding academic achievement. Many are available through the generosity of friends and alumni of the University. Graduate scholarships are administered by the Graduate Deanship. Undergraduate scholarships are given by the Dean of Students. Prize awards related to specific departments are awarded by the department concerned. A list of scholarships and prizes may be secured by writing to the Dean of Students or to the Registrar.

STUDENT STANDARDS AND AFFAIRS. Consistent with its aims and purposes, the University requires all its students to conform to the usual standards of society and living-biding citizenry. Every organization affiliated with the University or using the name of the University is required to conduct all its affairs in a manner creditable to the University. Organizations and individuals will be held responsible to this principle. Gambling is not permitted in University buildings or in University-approved housing.

The possession or consumption of intoxicating liquor in the following circumstances or places is contrary to University standards:

1. By University students, visitors, or guests (a) when they are under 21 years of age or (b) with or in the company of such persons under age, or (c) in a drunken or disorderly manner, or with the appearance thereof; and

2. By anyone (a) on the campus, University property, or at University-approved quarters of students, except that University family dwellings are governed by separate rules, or (b) at University affairs including athletic events, or (c) at organized gatherings of students.

Persons who do not wish to abide by these standards, or for any reason not eligible, are strongly advised not to enroll at Montana State University.

ABSENCE INCURRED THROUGH ILLNESS. A student who is absent on account of illness should report the illness immediately to the Health Service and obtain a written excuse upon return.

ABSENCE INCURRED THROUGH PARTICIPATION IN DEPARTMENTAL OR EXTRA-CURRICULAR ACTIVITIES. Absences incurred when a student is on assigned departmental activity will be reported in advance to the Office of the Dean of the Faculty. When a student is representing the University in extra-curricular activities his absence will be reported in advance to the Dean of Students by those in charge of the activity. The offices will decide in each case whether notification to faculty members concerned shall be made by group notice or by individual leave of absence form. It is the student’s responsibility to make certain, prior to departure, that his instructors have been notified, and that they agree to the absence.

LEAVES OF ABSENCE. Students who are compelled for personal reasons to be absent from the University should obtain a leave of absence in advance from the Dean of Students Office and his instructors. In case of sudden emergency when it is not possible for the student to secure his instructors, the student should notify the Dean of Students Office or the Registrar’s Office of his intended absence.

In all cases, work which a student has missed through absence must be made up as his instructors direct.

OFFICIAL RECOGNITION OF STUDENT ORGANIZATIONS. Every student organization is required to register with and obtain recognition from the Dean of Students Office. Until such recognition has been granted, the organization is not entitled to the use of space in campus buildings, mention of its activities in campus publications, or the use of the name of the University.

FINANCIAL OBLIGATIONS OF STUDENT ORGANIZATIONS. The State Board of Education has made the following ruling: “No club or organization shall be entered into and no financial obligation assumed by any student organization without the approval of the President or some member of the faculty designated by him.”

FINANCIAL OBLIGATIONS OF INDIVIDUAL STUDENTS. 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 when 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.

SOCIAL FUNCTIONS. University social functions which are commenced or continued after 8:30 p.m. are to be held only on Friday and Saturday evenings, or the evening
preceding a holiday and are to close not later than midnight. Exceptions to these rules may be made by the Associate
Dean of Students.

All social functions of student organizations at which women are present are to be approved by and scheduled with the Associate Dean of Students.

STUDENT MARRIAGES. Any marriage, either party of which is a student of the University, must be publicly announced. For this purpose notice of the marriage must be filed promptly with the Registrar. All students on matriculation must indicate on the entrance blank whether married or single. Fabrication or willful suppression of any information called for on the form will be ground for cancellation of registration.

ACTIVITIES

The University encourages a full and well-rounded program of activities designed to stimulate students' intellectual, vocational, and social interests. Among the types of student extra-curricular activities are student government, societies and clubs of students engaged in particular studies, professional and honorary organizations, athletic clubs or teams for men or women, student publications, musical organizations, church groups, and residence hall clubs.

The new Auditorium-Field House occupies a ground area approximately the size of a standard city block. Moveable seats, stages, floors, and other equipment make it usable as an auditorium, arena, practice field, etc. There is seating for over 6,000 for basketball, 4,000 for shows or concerts. Two large lobbies serve for displays and smaller meetings. It is to be used for convocations, commencement exercises, alumni reunions, pageants, horse shows, military drill and formations, dances, basketball games, and indoor athletic practice or exhibitions.

ATHLETICS. Athletics, including intercollegiate athletics are a useful and valuable part of the University program for the development and growth of interested students. Facilities are provided for participation in some form of athletics by every member of the student body. Montana State University is a member of the Mountain States Athletic Conference (Skyline 8) and adheres to all regulations of the Conference regarding eligibility. Aid to students participating in athletics may be given only in conformity with the regulations of the Mountain States Athletic Conference.

ANNUAL INTERSCHOLASTIC. For more than fifty years Montana State University has held an annual high school 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 and foreign 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 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, since its inception in 1906. It is published weekly, except for the summer months, and is distributed free to all students and faculty members of the University. 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.

VENTURE, a literary publication, is also sponsored by the Associated Students.

ORGANIZATIONS

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 many general activities, such as athletics, oratory, debate, and entertainment.

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 Student Judicial Council is a student elected and appointed board to which authority has been delegated by the University to act on violations of certain types of social standards. Its prime responsibility, however, is that of developing high social standards among the members of the student body.

The Student Christian Council and Campus Religious Council, 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 Choir, Choir Union, Choral Ensembles, Jubileers, University Symphony Orchestra, University Symphonette, the University Symphony Band and the Marching Band. These organizations provide music for university events during the year, and furnish an opportunity for all students who have musical talent to cultivate it as well as to participate in the social pleasures pertaining to such organizations.

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

The Montana Masquers is the University dramatic organization, open to students who have distinguished themselves in dramas 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 is an honorary for sophomore men who have evidenced loyalty and a desire to serve the University.

Alpha Phi Omega is a national service fraternity composed of college and university men who are or have previously affiliated with the Boy Scouts.

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.

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

Phi Kappa Phi is a national scholarship honorary for men and women who evidence high scholarship and character.

The Association of United States Army Company is a national military organization for advanced Army ROTC students devoted to increasing interest in military activities, establishing standards of leadership and devotion to duty, and the development of those qualities essential to the efficient officers of the Armed Services.

Arnold Air Society is a National Honorary Society for selected Advanced AFROTC students. The Society fosters interest in Air power and development of Air Force Leadership.

Pershing Rifles is a national honorary for Basic ROTC students who demonstrate a high military aptitude. Selection of members is based upon a consideration of leadership qualities, military proficiency and academic ability.

Angel Air Flight is a local women's Air Force honorary society, organized to add color to military ceremonies and be of service to the campus.

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

For administrative purposes, various courses are organized in Departments, Schools, or Colleges as shown immediately following. The detailed listing of curricula and courses later in the guide is alphabetical, and includes combined curricula.

COLLEGE OF ARTS AND SCIENCES

Bacteriology
Biological Sciences
Botany
Chemistry
Economics
English
Foreign Languages
French
German
Greek
Italian
Latin
Russian
Spanish
Geography
Geology
Health and Physical Education
History and Political Science
Home Economics

Liberal Arts
Library Service
Mathematics
Medical Technology
Philosophy
Physical Sciences
Physics
Pre-Medical Sciences
Psychology
Radio and Television
Reserve Officers Training
Air Science
Military Science (Army)
Secretarial-Home Arts
Sociology, Anthropology, Social Work
Speech
Wildlife Technology
Zoology

GRADUATE SCHOOL

SCHOOL OF BUSINESS ADMINISTRATION

Accounting
Banking and Finance
Business Teaching
General Business
Industrial Organization and Management

SCHOOL OF EDUCATION

Administration and Supervision
Elementary Education
Guidance and Counseling
Secondary Education

THE COLLEGE OF FINE ARTS

Art
Ballet
Drama

The School of Music
Music Education
Elementary Teacher Training
Secondary Teacher Training
Applied Music
Organ
Piano
String Instruments
Voice
Wind Instruments
Theory and Composition

SCHOOL OF FORESTRY

Forestry
Forest Management
Forest Engineering
Wood Utilization
Range Management
Wildlife Management

Conservation
Watershed Management
Soil and Water Conservation
Wildlife Conservation
Range Conservation
Forest Recreation

SCHOOL OF JOURNALISM

Advertising Training
Community Journalism
Magazine Training

News-Editorial
Radio-Television

SCHOOL OF LAW

SCHOOL OF PHARMACY

AFFILIATED SCHOOL OF RELIGION

COURSE NUMBERING SYSTEM

Effective starting with the summer of 1957, all courses are numbered as follows:

001-099 Courses below college level, No college credit given.
100-199 Freshman courses
200-299 Sophomore courses
300-399 Junior courses
400-499 Senior courses
500-699 Graduate courses (masters level)
700-799 Graduate courses (doctoral level)

In the School of Pharmacy, senior courses (5th year) are numbered 500 to 599.

KEY TO COURSE DESCRIPTIONS

In describing courses, abbreviations and symbols are used as follows:

1. Indicates a one quarter course The first number, 106 is the new number. The number in parenthesis is the one used before the summer of 1957.

2. Two quarter course, Unless otherwise stated the first quarter is required before the second quarter may be taken.

3. Three quarter course, Unless otherwise stated, 101 is prerequisite to 102 and 102 is prerequisite to 103.

4. Indicates the length of the course in quarters. These courses would be 1 quarter, 2 quarters, 3 quarters in length respectively.

A, W. S. Su,

5. Indicates quarters in which the course is offered: Autumn, Winter, Spring and Summer respectively.

Such numbers appearing after the quarters offered indicate the number of credits per quarter allowed for the course. This illustrates one quarter, two quarter and three quarter courses. If figures are not given, the number of credits will be determined on an individual basis by the student’s adviser and the school or department concerned.

Such numbers appear only in descriptions of laboratory sciences and Psychology. The first number indicates the number of class hours per week and the second number shows the number of hours of laboratory each week.

A laboratory course in which the student does 3 hours laboratory per week for each credit earned.

Before a student may register for courses requiring prerequisites, he must take the courses listed after “Prerequisites” or otherwise satisfy the instructor of his ability to take the course. Instructors must file a waiver of prerequisite form with the Registrar for any student allowed to take a course without meeting the prerequisites as stated for the course.

Unless otherwise indicated, numbers appearing after “prerequisites” are courses within the particular department or school.

Courses are listed under headings, FOR UNDERGRADUATES, FOR UNDERGRADUATES AND GRADUATES, or FOR GRADUATES. Courses listed under the first heading may not be taken for graduate credit even if the numbers are in the 300 or 400 series. Courses under the second heading may be taken for graduate credit if the student secures proper authorization from the Dean of the Graduate School. Courses under the last heading may be taken by graduate students only.

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 specific cases and with written approval of the President.
ANTHROPOLOGY is a field in social science concerned with the behavior of people in groups, particularly societies and cultures, and the institutional arrangement under which people live. It deals with pre-literate or primitive societies.

Four years are required for the Bachelor of Arts degree, which may be earned in either Anthropology or a combination of Sociology and Anthropology. The Master of Arts degree is also offered. (See Graduate studies.) Anthropology courses stress both archaeology and ethnology and several involve laboratory and field work.

Graduates may engage in teaching, research, or government service. There are many opportunities for scholarships or fellowships in graduate work.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE. In addition to the general requirements for graduation listed earlier in the guidebook, fifty credits in departments are required for the Bachelor of Arts degree major in Anthropology. A classical or modern foreign language, 5 quarters (23-25 credits) in one language, one year in each of two foreign languages, or a reading knowledge at the level of attainment expected of a student who has passed five quarters in a language course, is required.

At least 30 of the 50 major credits must be in anthropology courses. Sociology 101, 205, and 363 and Social Welfare 181 must be completed. Remaining courses for the major may be selected from any courses in the department. Psychology 304, Geography 380 and Speech 318 may be counted toward a major in Anthropology.

FOR UNDERGRADUATES


183 (14) SOCIAL ANTHROPOLOGY. 1 Q. W. S. Su. 5. Institutions as exemplified in primitive religion, economics, political structures, art and music.

251 (19) RACE AND MINORITIES. 1 Q. A. 3. Problems of assimilation of racial and cultural minorities.

FOR UNDERGRADUATES AND GRADUATES

351 (128) PREHISTORIC CULTURES. 1 Q. W. 3. Prerequisite: Anthropology 182 or 183 or equivalent. Prehistoric man and his cultures, up to the Neolithic in Europe and the Near East. Offered odd numbered years.

352 (129) ARCHAEOLOGY OF MONTANA. 1 Q. A. 3. Prerequisites: Anthropology 122 or 123 or equivalent, and consent of instructor. The origins and distribution of aboriginal cultures in Montana and surrounding regions of the United States are required to attend a minimum of three field trips in which actual archaeological sites will be excavated, and techniques demonstrated. Offered even numbered years.

353 (180) ARCHAEOLOGICAL SURVEY. 1 Q. 3-9. Any quarter in which field parties are organized. Prerequisite: Anthropology 122 or 123 or equivalent. A field course in Montana archaeology. Total credit allowed: 18.

354 (140) OLD WORLD ARCHAEOLOGY. 1 Q. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The development of culture in Europe from the Neolithic Age to the dawn of written history. Offered even numbered years.

355 (141) ARCHAEOLOGY OF NORTH AMERICA. 1 Q. W. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The origins, backgrounds and development of pre-Columbian North American peoples and cultures. Offered odd numbered years.

358 PHYSICAL ANTHROPOLOGY. 1 Q. W. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The history, evolution, and present nature of man's bodily structure. Emphasis will be placed on identification, determination of age and sex, of human osteological materials. Offered even numbered years.

360 INDIANS OF THE SOUTHWESTERN UNITED STATES. 1 Q. S. 3. Prerequisite: Anthropology 122 or 123 or equivalent. A survey of the Indian cultures in the southwestern United States beginning with the most ancient evidences of prehistoric and historic cultures up to, and including, modern tribes. Offered odd numbered years.

361 (145) INDIANS OF NORTH AMERICA. 1 Q. A. 4. Su. 3. Prerequisite: Anthropology 122 or 123 or equivalent. The native cultures of North America, north of the Rio Grande.

362 (144) INDIANS OF SOUTH AMERICA. 1 Q. W. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The cultures of the Indians of South America. Offered even numbered years.

363 (146) PEOPLES OF AFRICA. 1 Q. S. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The aboriginal cultures of Africa. Offered odd numbered years.

364 (147) PEOPLES OF ASIA. 1 Q. S. 4. Prerequisite: Anthropology 122 or 123 or equivalent. The aboriginal cultures of Asia, China, Japan, Siberia, and the Near East. Offered odd numbered years.

365 (151) INDIANS OF MONTANA. 1 Q. W. Su. 3. Prerequisites: Anthropology 122 or 123 or equivalent, in Social Sciences, and consent of instructor. The history and culture of the Indian tribes of Montana.
Bacteriology Laboratory Class

BACTERIOLOGY is the study of the microorganisms known as bacteria. In this department, however, in addition to bacteria, the molds, yeasts, rickettsiae and viruses are also studied. The field includes industrial bacteriology, medical bacteriology, sanitary bacteriology, sewage and water bacteriology, food bacteriology, immunology and serology, and some aspects of agricultural bacteriology. The emphasis is towards a general knowledge of microbiology or medical technology. Students preparing to enter dental or medical schools as well as those majoring in Pharmacy and various phases of the biological sciences have the opportunity to take Bacteriology courses.

In order to obtain the Bachelor of Arts degree in Bacteriology a normal 4-year curriculum is required. The first two years are devoted to the development of a sound foundation in mathematics, physics, chemistry, biology and social sciences. The last two years are spent, for the most part, taking courses in bacteriology and related subjects. Senior students who have shown a great deal of ability during their undergraduate work are given the opportunity to work for advanced degrees in the department. During the graduate work the students receive intensive training in advanced microbiology and are required to conduct a research project in order to receive the graduate degree (See Graduate School). Bacteriology graduates find innumerable opportunities for employment in universities, governments, or industry. Many take advanced work for higher degrees which enables them to conduct or direct research in various institutions.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the students need algebra and geometry. It is also recommended that high school preparation include trigonometry, chemistry, physics and a foreign language.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN BACTERIOLOGY. In addition to the general requirements for graduation listed earlier in the guidebook, the following special requirements must be completed for the Bachelor of Arts degree with a major in Bacteriology: Bacteriology 300, 302, 305, 340, 405-406-407; Chemistry 245, 261-262-263, 384; Physics 111-112-113, or 221-222-223; Zoology 281, 282, 283, 284.

The Foreign Language requirement listed earlier in the guidebook must be satisfied.

Electives in Bacteriology may be chosen from 320, 321, 323, 402, 404, 410, 420 and 430 to make a minimum total of 45 credits in Bacteriology. Zoology 281, 282, 283, 284-285 shall also be applied in certain cases to the major instead of the elective courses in Bacteriology.
200 (117) GENERAL BACTERIOLOGY. 1 Q. A. 5 (3-4). Prerequisite: Chemistry 263 and Physics 223 or equivalent. Fundamental bacteriology with emphasis on bacterial taxonomy, classification, morphology, physiology; effect of environmental factors on bacteria; microbiology of soil, water, milk and foods; and industrial microbiology.

210 (126) PUBLIC HEALTH. 1 Q. S. 2 (2-0). Prerequisite: Bacteriology 100. Survey of sanitation problems as they involve health and disease.

202 (119, 121) MEDICAL MICROBIOLOGY. 1 Q. A. 5 (3-4). Prerequisite: Bacteriology 200. Pathogenic microorganisms including bacteria, fungi, viruses and rickettsia. The didactic work includes properties of pathogens and their relation to disease, symptomatology, epidemiology, and chemotherapy. Laboratory work emphasizes the standard diagnostic procedures used in hospitals and public health laboratories.

303-304 (16ab) PHARMACEUTICAL BACTERIOLOGY. 2 Q. A. W. 5, 5 (3-4). Prerequisite: Chemistry 263; Physics 113 or 223. Principles and techniques of basic bacteriology; (304) Pathogenic bacteriology, immunology and chemotherapy as it applies to the field of Pharmacy.

305 (132) MEDIA PREPARATION. 1 Q. Any quarter. 2 (1-3). Prerequisite: Bacteriology 300. Preparation, sterilization and storage of culture media; differential media, function of ingredients, and general nutritional requirements of bacteria.

310 (118) IMMUNOLOGY AND SEROLOGY. 1 Q. W. 5 (3-4) Prerequisite: Bacteriology 302. General principles of immunity and extensive laboratory work in serology, animal experimentation, and clinical diagnosis.

312 (122) BACTERIOLOGY OF WATER AND SEWAGE. 1 Q. W. On demand. 5 (3-4). Prerequisite: Bacteriology 200. Microorganisms found in water, sewage; sewage treatment and disposal, and water purification.

330 (122) FOOD BACTERIOLOGY. 1 Q. A. On demand. 3 (3-0). Prerequisite: Food Science 200. Microorganisms of foods with emphasis on preservation and spoilage of foods.

331 (122) FOOD BACTERIOLOGY LABORATORY. 1 Q. A. On demand. 2 (2-0). Prerequisite: Bacteriology 330. Techniques for the investigation of food microbiology.

401 (191) ADVANCED IMMUNOLOGY. 1 Q. On demand. 3 (3-0). Prerequisite: Bacteriology 410. Advanced theory of immunity and recent immunological technics.

402 (125) HEMATOLOGY. 1 Q. A. 4 (2-4). Prerequisite: Bacteriology 302. Blood elements and blood chemistry in health and disease as applied to hospital laboratories.

403 (193) MICROBIAL PHYSIOLOGY. 1 Q. S. 5 (3-4) Prerequisite: Chemistry 384 or an equivalent course in Biochemistry. Physiology of bacteria, actinomycetes and microorganisms, the metabolism of microbes, and a study of enzymes of bacteria.

404 MICROBIAL GENETICS. 1 Q. S. 2 (2-0). Given on demand. Prerequisites: senior standing in one of the biological sciences and consent of instructor. Mutation, adaptation and genetic recombination in bacteria and other microorganisms.

406-407 SEMINAR. 3 Q. A. W. S. 1, 1 (1-0). Recent literature survey in the fields of bacteriology, virology, immunology, parasitology and public health.

408 (121) BACTERIAL CYTOLOGY. 1 Q. W. 3-5 (3-4). Prerequisite: Bacteriology 302. Anatomy of microorganisms.

410 (121) CLINICAL DIAGNOSIS. 1 Q. W. 4, (2-4). Prerequisite: Bacteriology 302. Clinical diagnostic methods used for the analysis of diseases of the mouth and skin and systems other than bacteria and other microorganisms.

412 (192) VIROLOGY. 1 Q. S. On demand. 3 (3-0). A survey of bacterial, viral, fungal and other microorganisms.

430 SPECIAL PROBLEMS IN MICROBIOLOGY. 1 Q. Any quarter. 1-5. Prerequisite: Consent of instructor. Independent research.

FOR GRADUATES

500 ADVANCED TOPICS IN MICROBIOLOGY. 1 Q. On demand. 2 (2-0). Critical analysis of research papers in certain areas of microbiology and presentation of this material. Occasionally, a graduate student will be asked to present experimental data from his own research.

505 MICROBIOLOGY LITERATURE. 3 Q. A.W.S. 1,1,1. (1-0). Reading and reporting of microbiological literature.

510 PHYSIOLOGY OF PROTOZOA. On demand. 2. Nutrition and metabolism of protozoa and to protozoal infections.

520 ALLERGY AND HYPERSENSITIVITY. On demand. 2. Recent advances in the field.

600 (200) RESEARCH. Any Q. Credit variable. Original investigational projects and research proposals under the guidance of a staff member. Total credit allowed: 25.

699 (200) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

BALLET offers training in the traditional techniques of the classic ballet. It teaches the student appreciation and emphasis on the through lecture, instruction, and participaing performance. Students in Ballet Theater perform throughout the year in scheduled University productions. No major is given in ballet.

101 (1) BASIC TECHNIQUE OF BALLET. 3 Q. A. W. S. 1-3 cr. each quarter. Fundamentals of body rhythms and coordination.

150 (4) BALLET THEATER. 3 Q. A. W. S. 1-4 cr. each quarter. Prerequisite: consent of instructor. Production of ballet.

203 (3) ADVANCED BALLET. 3 Q. A. W. S. 1-3 cr. each quarter. Prerequisite: consent of instructor. Advanced ballet technique.

BIOLOGICAL SCIENCES deal with living things. The several specific sciences are Bacteriology, the study of microorganisms; Botany or the study of plants, and Zoology or the study of animals. Thus the structure, function, and interrelations of all living organisms are stressed in these studies.

Four years are required for the degree of Bachelor of Arts. Course work includes the elementary courses in each of the three fields and more advanced work in Plant Physiology, Human Physiology, and the Conservation of Natural and Human Resources.

This program provides an extensive training in the Biological Sciences. It is designed for the student interested in teaching Biology in high schools as well as for the student who wishes general education with emphasis on the plant and animal world. This curriculum is recommended for students interested in the more general aspects of the Biological Sciences rather than for those who wish to make a specialized or intensive study of any of them.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry. It is also recommended that the high school preparation include a foreign language.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN BIOLOGICAL SCIENCES. The requirements in this major are designed to enable the student for advanced study in either botany or zoology. In addition to the general requirements for graduation listed earlier in the guidebook the following special requirements must be completed for the Bachelor of Arts degree with a major in Biological Sciences: 37 or more credits in Biological Science including Botany 121-122 (General Botany), Botany 123 (Spring Flora) or Botany 124 (Summer Flora), Botany 225 (Plant Physiology), Botany 226 (Plant Zoology), Botany 228 (Evolution), Zoology 104-105 (Elementary Zoology), Zoology 106 (Field Zoology), Zoology 201 (Comparative Vertebrate Zoology), Zoology 202 (Human Physiology), Bacteriology 100 (Elementary Bacteriology), General 300 (Conservation of Natural and Human Resources).

The following courses in allied sciences must be completed: Chemistry 101-102-103 or 121-122-123 (students who plan to do advanced work should take the Chemistry 121-122-123; 2 quarters (3 recommended in order to fulfill the requirements for teaching minor in the physical sciences) of Physics 111-112-113 or 221-222-223.

The foreign language requirement listed earlier in the guidebook must be satisfied.

Students who plan to fulfill the requirements for a Secondary School Teaching Certificate should check with the Dean of the School of Education or the Registrar.
BOTANY is the study of plant life, from the microscopic to such forms as the giant redwoods. Since green plants synthesize the basic food supply for all living things, many applied fields have been split off from botany, such as agriculture, forestry and horticulture.

Studies leading to the Bachelor of Arts degree can be completed in four years. The Master of Arts (or Master of Science) degree is also offered (see Graduate Studies) for those requiring a substantial amount of laboratory work along with regular scheduled lectures and discussions. Some of the laboratory work is carried on in the field when the weather is favorable. Field trips are used in all courses, and the more advanced courses require collateral reading.

The professional field of Botany is specialized. Since Botany is seldom taught as such in high schools, a teaching major in Biology, rather than a major in Botany, is advisable for those contemplating such teaching. There are some positions available in 1, 2 or 3 government for which a bachelor's degree in Botany is considered to be a sufficient educational experience. For those who plan to make a life work in one of the several fields of specialization in Botany, skills and additional knowledge are developed by graduate work. But for the top position in graduate Botany, a doctor's degree is a must.

Also required are Zoology 101-103, 106 and Chemistry 101-102-103 or 121-122. Recommended electives: Geography 400, 430, 460; Geology 101-102; Physiological Botany 226. The foreign language requirement listed earlier in the guidebook must be satisfied.

Courses 124, 250, 341, 355, 365, 369 and 370 may require field trips extending some miles from the campus. Students are required to pay their pro rata share of transportation and insurance costs for such trips.

All majors and graduate students are expected to attend a seminar in the Botany staff one month for the discussion of Botany, its history and problems. Field trips will be taken.

FOR UNDERGRADUATES

100 (S15) FIELD BOTANY. 1 Q. Su. Given only at Biological Station. 3 (0-12). The collection, preservation, and identification of plants and consideration of where they grow.

111-122 (10ab) FORESTY BOTANY. 2 Q. A. W. S. 5, 5. (3-4)

111 (11ab) An introduction to the anatomy and physiology of the higher plants. 3 (0-12). Given only at Biological Station. Students must enter either quarter. The general principles of the anatomy and physiology of flowering plants; (122) a broad outline of the classification of the plant kingdom; (123) successional stages in the evolution and development of the vegetative and reproductive structures of vascular plants.

123 (12) SPRING FLORA. 1 Q. S. 3 (9-6). Prerequisite: Botany 111 or 121. A laboratory and field course in the use of a manual for the identification of the flowering plants of the local area.

124 (14) QUIMBY'S FLORA. 1 Q. S. 4 (2-4). Prerequisite: Botany 111 or 121. A laboratory and field course in the use of a manual for the identification of the flowering plants. Methods of collecting, pressing, and mounting plants.


225 (22) PLANT PHYSIOLOGY. 1 Q. A. W. S. 5, 5. (3-4). Prerequisites: Botany 111 or 121-122, and Chemistry 101-102-103 or 121-122-123. The various processes of plants under controlled conditions in the laboratory and greenhouse.

230 (37) ELEMENTS OF PLANT ECOLOGY. 1 Q. S. 3, 3. (3-4). Prerequisites: Botany 112 or 123, and 225. An introduction to ecological principles, including interpretations of environmental factors, primary and secondary succession, plant indicators and vegetation units.

238 (129) EVOLUTION. 1 Q. W. 3 (3-0). Prerequisites: Botany 121-122 or Zoology 106, and knowledge of evolution from the historical point of view; the nature of evolutionary process, theory of evolution, and the factors of evolution. Credit not allowed for this course and the identical course, Botany 284.

239 (170) PROBLEMS IN PLANT PHYSIOLOGY. 1 Q. Any quarter. 2-6 (3-3/3). Prerequisites: Botany 335, or 337 and consent of instructor. Individual or group work (consisting of research problems, special papers, discussion, etc.) dealing with aspects of plant physiology not taken up in regular courses. Total credit allowed: 6.

320 (320) PROBLEMS IN PLANT ANATOMY AND CYTOLOGY. 1 Q. Any quarter. 2-6 (3-3/3). Prerequisites: Botany 335 or 337 and consent of instructor. Individual or group work (consisting of research problems, special readings, discussions, etc.) dealing with aspects of plant morphology not taken up in regular courses. Total credit allowed: 6.

324 (170) III PROBLEMS IN MORPHOLOGY. 1 Q. Any quarter. 2-6 (3-3/3). Prerequisites: Botany 341 or 342 or 343 and consent of instructor. Individual or group work (consisting of research problems, special readings, discussions, etc.) dealing with aspects of plant morphology not taken up in regular courses. Total credit allowed: 6.

379 (379) PROBLEMS IN MYCOLOGY AND PHYTOPATHOLOGY. 1 Q. Any quarter. 2-6 (3-3/3). Prerequisites: Botany 341 or 370 or 372 and consent of instructor. Individual or group work (consisting of research problems, special readings, discussions, etc.) dealing with aspects of plant taxonomy not taken up in regular courses. Total credit allowed: 6.

FOR UNDERGRADUATES AND GRADUATES

232 PLANT BIOCHEMISTRY. 1 Q. A. 3. 3 (3-0). Prerequisites: Botany 121-122 or Zoology 106 and Physics 113 or 223. The chemical aspects of plant physiology—enzymes, carbohydrates, lipids, and protein metabolism; hormones, by-products of plant metabolism.

233 (168) MICROTECHNIQUE. 1 Q. Any quarter, but preferably in the spring. 2-3 (3-3). Prerequisite: 15 credits in botany. Modern techniques, (e.g., ultramicroscopy, special techniques, special readings, etc.) dealing with aspects of plant physiology not taken up in regular courses, with emphasis on the paraffin method. Total credit allowed: 5.

234 (121) PLANT ANATOMY. 1 Q. A. 5. (0-10). Prerequisites: Botany 121, 122, 123 or equivalents. The origin of organs and tissues and the anatomy of the vascular plants. Given only numbered years.

237 CYTOLOGY. 1 Q. W. 5 (3-4). Prerequisites: Botany 121, 122, and Chemistry 163 or equivalents. The finer structures of the plant cell in relation to its functions. Given only numbered years.

241 (141) MORPHOLOGY OF THE THALLOPHYTES. 1 Q. A. 5. (0-10). Prerequisites: Botany 121, 122, 123 or equivalents. The morphology and life histories of the algae and fungi. Given even numbered years.

243 (143) MORPHOLOGY OF THE BRYOPHYTES AND PTTEROPHYTES. 1 Q. W. 5 (4-3). Prerequisites: Botany 121, 122, 123 or equivalents. The morphology and life histories of the Bryophytes and Pteridophytes. Given odd numbered years.

345 (144) MORPHOLOGY OF THE SPERMATOPHYTES. 1 Q. S. 4 (9-6). Prerequisites: Botany 121, 122, or equivalents. The morphology and life histories of the gymnosperms and angiosperms. Given odd numbered years.

355 (121) PLANT ECOLOGY. 1 Q. S. 5. 5 (3-4). Prerequisites: Botany 112, 123 or equivalents. An analysis of the environmental factors, emphasizing inter-relationships of habitat and vegetation; the closer study of plant adaptations to specific ecological factors, such as climax vegetation; and the distribution of vegetation in North America.

361 (174) FRESH WATER ALGAE. 1 Q. Su. Given only at the Biological Station. 3 (0-7). Prerequisites: Botany 121, 122, 123 or equivalents. Identification, distribution, life histories, and limnological and morphological relationships of the algae of the Northern Rocky Mountains.

363 (3176) BRYOPHYTES. 1 Q. Su. 3 (0-7). Given only at the Biological Station. Prerequisites: Botany 121, 122, 123 or equivalents. The taxonomic classification, life history, and ecology of the Bryophytes of the Northern Rocky Mountains.

365 (160) GENERAL SYSTEMATICS BOTANY. 1 Q. S. 5. 5 (3-4). Prerequisites: Botany 112, 123, or equivalents. Given only numbered years. Prerequisites: Botany 121, 122, or equivalents. The classification and identification of plants; principles of nomenclature; ecological distribution; methods of collecting, mounting, and preserving plants.

366 (154) AGROBOTANY. 1 Q. W. 5 (0-3). Given in summer at Biological Station. Prerequisites: Botany 121, 122, 123 or equivalents. Classification and ecological relationships of grasses, sedges, and rushes.

368 (343) AQUATIC PHYTOLOGY. 1 Q. W. 5 (3-3). Prerequisite: Botany 121, 122, 123 or equivalents. Given only at Biological Station. Prerequisites: Botany 365 and classification and ecological distribution of the higher aquatic plants.

370 (125) FOREST PATHOLOGY. 1 Q. S. 5 (4-3). Prerequisites: Botany 121, 122, 123, and 360. The agencies of disease and decay of trees and structural timber.
BUSINESS ADMINISTRATION—21

SUCCESSFUL COMPLETION of a normal four-year course leads to the degree Bachelor of Arts with a major in Business Administration or Bachelor of Science in Business Administration; those who specialize in accounting may wish, after securing business experience, to take examinations for the certificate of Certified Public Accountant. During the first two years the student takes courses in English, Mathematics, Psychology, Government, Economics, Elementary Accounting, etc. Instruction includes studies of texts, lectures, written work as in accounting, and practice in or the examination of business methods, procedure and equipment. The student should be aware that business experience may be required in any one way or another, the range of permissible courses for the degree is broad.

The fields of specialization mentioned above indicate the general commercial pursuits which graduates may follow. They secure positions in banks, investment houses, sales, finance companies, insurance and credit agencies and wholesale or retail establishments. Many graduates have turned to production and personnel work. Women graduates who have specialized in secretarial science or commercial teaching are in constant demand. Alumni are to be found in executive or managerial positions in all manner of business enterprises. Others obtain positions as executives in businesses of their own after service and experience as employees.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra, trigonometry, plane geometry, and 4 years of English.

THE PROGRAM IN THE SCHOOL OF BUSINESS ADMINISTRATION. Upon entering the University, a student indicating his or her desire for major in Business Administration is registered as a Pre-Business Administration major and a Business Administration School staff member is assigned as advisor.

1. During the first two years of enrollment, completing the general university requirements and prerequisite course work for courses to be taken subsequently in the School of Business Administration.

2. The University's requirements for the Bachelor of Science in Business Administration requirements include the following: English 104-105 or 101-102-103, 9 or 10 cr.; Health and Physical Education 101-102, 9 cr.; Mathematics and Science, 12-15 credits including Math 112: Economics 201-203, 12 cr.; History and Political Science (302 recommended), 4 cr.; Junior Year, Group III, 12-16 cr.; Speech 111, 5 cr.; Bus. Ad. 201-202, 10 cr.; ROTC (men), 10 cr.; Bus. Ad. 181 or have a typing proficiency of 25 words a minute as determined by a test. (Secretarial and business teaching positions during the summer are determined by the Biomedical School. To be offered at the Biological Station.

FORE GRADUATES

The department is prepared to offer individual or group work dealing with advanced aspects of botany, not taken up in regular courses, in the following:

351 RADIATION-BOTANY. 1 Q. A. 5 (3-4). Prerequisites: Botany 341 for Botany majors; Botany 270 for Forestry majors. The classification and relationships of the fungi, with training in their collection, preservation, and culture.

353 (Zoo. 122) GENETICS. 1 Q. A. 5 (3-4). Prerequisite: Zoology 201 or Botany 225. The mechanics of heredity, including consideration of mendelian factors, chromosome inheritance, and their relationship to structure and function.

429 (129) BIOLOGICAL LITERATURE. 2 Q. A. W. 1, 1. (2-0). Prerequisites: Graduate credits in Botany or Zoology. Students report recent literature of investigation and experimentation in the biological fields. Credit not allowed for this course and the identical course, Zoology 429.

464 CYTOTAXONOMY. 1 Q. A. 5 (3-4). Prerequisites: Botany 233, 235, 236, and 237. Modern concepts in taxonomy with emphasis upon cytological techniques used in chromosomal studies related to problems of taxonomy.


529 ADVANCED PHYSIOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

599 ADVANCED ANATOMY AND CYTOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

511 GENERAL ECOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Bachelor's degree: major preparation in Physics, Chemistry or Biology with 3 credits of college work in each of the other two fields. Introductory nuclear physics and the influence of nuclear radiation on biological systems. To be offered at the Biological Station.

529 ADVANCED PHYSIOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

559 ADVANCED MORPHOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisites: consent of instructor.

551 GENERAL ECOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Bachelor's degree: major preparation in Biology, Botany or Zoology. A study of energy concepts including succession, stratification, periodicity and energy relationships; introduction to population problems. To be offered at the Biological Station.

599 ADVANCED ECOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

599 ADVANCED ANATOMY AND CYTOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

579 ADVANCED MYCOLOGY AND PATHOLOGY. Any quarter. 2-6 (0-3 cr.). Prerequisite: consent of instructor.

699 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

COURSES OFFERED AT THE BIOLOGICAL STATION

100, 124, 349, 391, 363, 365, 366, 368, 389, 369, 549, 559, 600, 699.
ACCOUNTING

Advisers, Kempner, Wiseman, and McAllister

Students majoring in accounting will elect the accounting curriculum designed for industrial and commercial accounting or the public accounting profession.

(a) Those students desiring to enter the industrial accounting field must complete the following requirements in addition to the basic requirements of the School of Business Administration.

1. Take the following courses in addition to the basic requirements of the School of Business Administration.
   (1) Bus. Ad. 203-204—Intermediate Accounting 8 cr.
   Bus. Ad. 301-302—Advanced Accounting 8 cr.
   Bus. Ad. 303-304—Cost Accounting 8 cr.
   Bus. Ad. 401—Income Tax 4 cr.
   Bus. Ad. 322—Business Finance 5 cr.

2. A minimum of 12 credits chosen from:
   (1) Bus. Ad. 301—Advanced Accounting 4 cr.
   Bus. Ad. 305—Municipal Accounting 3 cr.
   Bus. Ad. 405—Accounting Systems 4 cr.
   Bus. Ad. 406—Managerial Accounting 4 cr.
   (2) Students planning to prepare themselves for the uniform C.P.A. examination may find it necessary to spend additional time at the University in order to include the following recommended courses:
   Bus. Ad. 305—Municipal Accounting 3 cr.
   Bus. Ad. 409—Accounting Systems 4 cr.

BANKING AND FINANCE

Adviser, Chambers

This program is designed to give a major in this area a broad understanding of the role of finance in our economy including the private and public financial institutions, money and credit, and security markets, and the technical training necessary in preparation for managerial positions in financial work in large and small scale businesses.

Requirements for a major in Banking and Finance should include:

1. Take the following courses in addition to the basic requirements of the School of Business Administration:
   (1) Bus. Ad. 205—Administrative Accounting 4 cr.
   (2) Bus. Ad. 322—Business Finance 4 cr.
   (3) Bus. Ad. 332—Real Estate 3 cr.
   (4) Bus. Ad. 324—Business Finance 6 cr.
   (6) Bus. Ad. 421—Business Cycles and Forecasting 4 cr.
   (7) Bus. Ad. 403—Mortgage Banking 4 cr.

MANAGEMENT

(Production, Personnel and Statistics)

Advisers, Helbing, Marcus and Peters

Three optional areas of concentration are offered in the field of Management:

Option A. Industrial Organization and Management (Production)

   Bus. Ad. 441—Personnel Management 4 cr.
   Bus. Ad. 442—Personnel Management 4 cr.
   Bus. Ad. 441—Regulation of Industry 4 cr.

Option B. Personnel Management and Human Relations.

   Bus. Ad. 445—Regulation of Industry 4 cr.
   Psych. 351—Psychological Testing 4 cr.
   Econ. 421—Labor Economics 4 cr.

Option C. Managerial Analysis and Control.

   Bus. Ad. 332—Business Finance 4 cr.
   Bus. Ad. 441—Personnel Management 4 cr.
   Bus. Ad. 404—Cost Accounting 3 cr.
   Bus. Ad. 337—Managerial Economics 4 cr.
   Math. 302—303—Statistical Methods 4 cr.

GENERAL BUSINESS

Advisers, Helbing, Peters, Harris

This curriculum has been designed for students desiring a broad rather than a specialized field of business training.

   Bus. Ad. 332—Business Finance 4 cr.
   Bus. Ad. 441—Personnel Management 4 cr.
   Bus. Ad. 303-304—Cost Accounting 8 cr.
   Bus. Ad. 337—Managerial Economics 4 cr.
   Bus. Ad. 441—Personnel Management 4 cr.
   Bus. Ad. 444—Regulation of Industry 4 cr.

COMBINED COURSE IN BUSINESS ADMINISTRATION AND LAW

Adviser, T. H. Smith

The University offers a combined curriculum which leads to the degree of Bachelor of Science in Business Administration at the end of four academic years and the degree of Bachelor of Laws at the end of six academic years. In this program a student must satisfy fully the University and School of Business Administration curriculum requirements in addition to the completion of 99 credits towards the B.S. degree in the School of Business Administration and the completion of 75 credits towards the B.A. degree in the College of Liberal Arts. It is recommended that the student majoring in accounting elect accountancy as the concentration of major study.

The curriculum includes 36 credits towards the School of Business Administration major, 40 credits towards the School of Law major, 10 credits towards the College of Liberal Arts major, 2 credits towards the College of Arts and Sciences major, and 4 credits towards the College of Education major. The combined program is approved by the University and School of Business Administration.

Students planning to work toward a Certified Public Accounting Certificate as well as the J.D. or the LL.B. Degree, and who hope to complete this in six years, should take Elementary Accounting their first year and should plan to take at least ten quarters of pre-law (this involves one summer session) to take the accounting courses which are preparatory for the Certified Public Accounting examination.

Upon completion of the foregoing program with at least a 2.0 index of grade points earned in courses undertaken, the student may be admitted to the School of Law. If so admitted, the student will receive the degree of Bachelor of Science in Business Administration at the end of the first academic year in the School of Law, provided the student is certified as having completed the work of the first year of law to the satisfaction of the School of Law.

MARKETING

Adviser, Wright

The curriculum in marketing is designed to prepare students in retailing, wholesaling, advertising, sales, and sales administration, and market research.

In addition to other courses listed under marketing, the following courses may be taken for credit toward major requirements in marketing:

Bus. Ad. 421—Business Cycles and Forecasting 4 cr.
Bus. Ad. 439—Advertising Layout and Copy 3 cr.
Bus. Ad. 406—Retail Store Advertising 3 cr.
Bus. Ad. 407—Retail Store Design 3 cr.
Bus. Ad. 408—Retail Store Construction 3 cr.
Bus. Ad. 409—Retail Store Organization 3 cr.
Bus. Ad. 410—Retail Store Management 3 cr.
Bus. Ad. 411—Retail Store Purchasing 3 cr.
Bus. Ad. 412—Retail Store Personnel Management 3 cr.
Bus. Ad. 413—Retail Store Finance 3 cr.
SECRETARIAL SCIENCE
Advisors: Martinson and Swanson
Candidates for the degree of Bachelor of Science in Business Administration concentrating in Secretarial Science are required to take the following courses in addition to the core courses in Business Administration:

- Bus. Ad. 183—Advanced Typewriting
- Bus. Ad. 184—185—186—Shorthand
- Bus. Ad. 187—188—Advanced Shorthand
- Bus. Ad. 192—Office Machines Practice
- Bus. Ad. 193—Beginning Secretarial Practice
- Bus. Ad. 194—Records Management
- Bus. Ad. 380—Methods of Teaching Shorthand, Typewriting
- English 304—Letter and Report Writing

BUSINESS TEACHING MAJORS
Advisor, Wilson
A student planning to prepare for high school teaching may secure his or her degree from the School of Business Administration or the School of Education.

To secure the degree of Bachelor of Science in Business Administration with a teaching certificate a student must meet the requirements of the School of Education and include the following Secretarial Science courses:

- Bus. Ad. 183—Advanced Typewriting
- Bus. Ad. 184—185—186—Shorthand
- Bus. Ad. 192—Office Machines Practice
- Bus. Ad. 193—Beginning Secretarial Practice
- Bus. Ad. 194—Records Management
- Bus. Ad. 380—Methods of Teaching Shorthand, Typewriting
- English 304—Letter and Report Writing

ACCOUNTING
For Undergraduates

201-202 (11ab) ELEMENTARY ACCOUNTING. 2 Q. A, W, Su. 5, 5. A student may exempt from 201 upon passing a placement examination if he possesses accounting principles underlying the course; including the techniques of recording simple transactions and preparing financial statements. Application of the above principles are developed as they apply to individual proprietorships, partnerships, and corporations.

203-204 (12ab) INTERMEDIATE ACCOUNTING. 2 Q. 203, A, S. 204, A, W, 4, 4. Prerequisites: Bus. Ad. 202. Financial statement preparation and analysis; the fundamental accounting principles of valuation as applied to the balance sheet, and income determination as related to the operating statement. Special consideration is given to problems involving the application of the above theories.


208-209 (124ab) COST ACCOUNTING. 2 Q. 208 A, W. 209 S. 3, 3. Prerequisite: Bus. Ad. 202. The fundamental principles of cost determination. The methods of accumulating material, labor and manufacturing costs; the development of specific cost systems applicable to various types of production situations, e.g., job order, process and standard cost systems. Cost analysis and interpretation of financial statements, internal control and its significance; cost control methods, cost accounting reports to administrative control. Credit not allowed for this course and 203-204.

301-302 (113ab) ADVANCED ACCOUNTING. 2 Q. 301, W, S. 302 S. 3. 3. Prerequisite: Bus. Ad. 207. Accounting for large businesses and corporations. Emphasis is given to the theory and preparation of consolidated statements in the second quarter.

303-304 (123ab) COST ACCOUNTING. 2 Q. 303 A, W. 304 S. 3, 3. Prerequisite: Bus. Ad. 202. The fundamental principles of cost determination. The methods of accumulating material, labor and manufacturing costs; the development of specific cost systems applicable to various types of production situations, e.g., job order, process and standard cost systems. Cost analysis and interpretation of financial statements, internal control and its significance; cost control methods, cost accounting reports to administrative control. Credit not allowed for this course and 203-204.

305 (14) MUNICIPAL ACCOUNTING. 1 Q. A. 3. Prerequisite: Bus. Ad. 202. Accounting principles and procedures forming the basis for the cost applied to state and local governmental units and certain public institutions.


403-404 (15ab) AUDITING. 2 Q. A, W. 4, 4. Prerequisite: Bus. 302. The general principles of auditing, encompassing the auditing standards and procedures, the audit techniques and their application along with the preparation of the financial statements, and the preparation of the auditor's report. Emphasis is placed on the application of auditing principles to specific problems and to the solution of a continuous practice set.

405 (146) ACCOUNTING SYSTEMS. 1 Q. W. 4. Prerequisites: Bus. Ad. 302 and 403. The principles underlying the design and installation of accounting systems. The accounting systems of particular businesses will be emphasized such as savings and loan associations, commercial banks, department stores, building contractors, and motor transport companies, automobile dealers, and lumber companies.

406 (148) MANAGERIAL ACCOUNTING. 1 Q. S. 4. Prerequisites: Bus. Ad. 202 or 302. For accounting majors who expect to prepare and interpret accounting reports specifically designed to aid management. The controller's role in financial planning and control, and the use and interpretation of cost data; other accounting control devices.


419 (191) ACCOUNTING SEMINAR. 1 Q. Any quarter 2.

FOR GRADUATES

502 (210) CONTROLLERSHIP PRINCIPLES AND PRACTICE. 1 Q. A. 3. Prerequisites: Bus. Ad. 302 and approval of the graduate committee. The implementation of accounting principles and their application to the organization of the controller's department. The controller's place in the management team and the role he plays in the solution of management problems.

503 (211) CONTEMPORARY ACCOUNTING THOUGHT AND PRACTICE. 1 Q. W. 3. Prerequisites: Bus. Ad. 302 and approval of the graduate committee. The theories underlying the accounting calculation and disposal of periodic net income. Economic, legal and tax concepts of income.

BANKING AND FINANCE
FOR UNDERGRADUATES

301 (101) MONEY AND BANKING. (See Economics).


322 (133) BUSINESS FINANCE. 1 Q. A. S. 3. Prerequisite: non-Banking and Finance major. Bus. Ad. 320. The life cycle of a business enterprise. The corporation as a form of business organization; financial principles of profit maximization and risk management with respect to the instruments of long term funds; the working capital position; the significance of financial ratios; and the role of the capital markets in the financial structure of the corporation.

323 (135) COMMERCIAL BANKING. 1 Q. 4. Prerequisite: Bus. Ad. 320 or 321. The principles controlling the execution of commercial banks—liquidity, loan and investment policy, credit analysis, loan administration, interbank borrowing, and asset control. A survey course for non-Banking and Finance majors.

324 (131) REAL ESTATE. 1 Q. S. 4. Prerequisite: Econ. 203. Factors that affect value of real estate; markets, titles and real estate transfers.

S183 PERSONAL INVESTMENTS. 1 Q. S. 2 (Suward). 1 Savings accounts, purchasing a home, purchasing insurance, security stocks and bonds, installment buying. Participation in the domestic and international capital markets, the investment planning and decision for the layman should be acquainted.

330 (123) PRINCIPLES OF INSURANCE. 1 Q. A. W, S. 3. Prerequisite: Econ. 203. The basic principles of risk, basic insurance principles, and practices in the important branches of the insurance business.

331 (124) LIFE, ACCIDENT AND HEALTH INSURANCE. 1 Q. A. W, S. 3. Prerequisite: Bus. Ad. 330. The principles and practices of life, accident, and health insurance, including underwriting, rating, settlement options, reserves and surplus, and government regulation.


409 (154) INVESTMENTS. 1 Q. S. 4. Prerequisite: Bus. Ad. 320 or 321. Theory and investment principles and their application to investment policies for individuals and institutions. Problems, risks and returns. Emphasis is placed upon the proper allocation of funds for the security of the capital investment.

423 MORTGAGE BANKING. 1 Q. W. 2. Prerequisite: Bus. Ad. 324 or 320. The organization of credit and auxiliary agencies, private and governmental, in the urban and rural mortgage market, including the organization and functions of specialized financial institutions, and the changing needs and instruments of corporation finance. Designed to develop in the student an ability to analyze and appraise current money market developments.

BUSINESS ADMINISTRATION—23
FOR GRADUATES

520 (211) THEORY AND MANAGEMENT OF CENTRAL BANKING. 1 Q. A. 3. The functions, influence, and organization of central banking in the commercial banking system. The influence of central banking on the rates of interest in the money market and on the general level of business activity.

521 (222) PROBLEMS OF CORPORATE FINANCIAL MANAGEMENT. 1 Q. W. 2. Prerequisite: Bus. Ad. 322. Problems associated with corporate financing of current assets and long-term capital, the nature of securities and money markets and their relationship to corporate financial practices; personal property, including sales and insurance, credit, credit transactions, real property; negotiable instruments, labor law, business torts, regulation of social effects and promotion of competition. Students taking the combined 6-year curriculum in Business Administration and Law are not eligible to take this course.

BUSINESS LAW

FOR UNDERGRADUATES

357-359-359 (146) BUSINESS LAW, L. Q. 3, 3, 3. 337: A. W. 354: W. S. 350: S. (357) Companies, personal property, including sales and insurance, credit, credit transactions, and regulatory agencies; personal property, labor law, business torts, regulation of social effects and promotion of competition. Students taking the combined 6-year curriculum in Business Administration and Law are not eligible to take this course.

360 (129) INDUSTRIAL ORGANIZATION AND MANAGEMENT. 1 Q. W. 3. Prerequisite: Econ. 202. The principles of administration and applied psychology of manufacturing. The basic production management course dealing with such major concepts as: production; material handling; layout; materials procurement and handling; production planning and control; personnel relations; wage administration and other employee relations aspects of supervision.

361 (131) INDUSTRIAL PURCHASING AND TRAFFIC MANAGEMENT. 1 Q. W. 3. Course designed to familiarize students with purchasing and traffic management problems in the industrial production areas of: materials procurement, inventory controls, warehousing, materials handling and traffic management.

351 (130) MANAGEMENT OF BUSINESS LAW. 1 Q. W. 3. Prerequisite: Bus. Ad. 330. Economic problems and technological processes of selected manufacturing and communications industries. Location factors, company structures, mergers and competition and national policy relating to oligopoly.

377 (131) MANAGERIAL ECONOMICS. 1 Q. A. 4. Prerequisite: Econ. 202. The application of economic analysis to the operation of a business. Demand and supply analysis; consumer demand; the theories of the firm; the industry; impact of governmental regulation; and the measurement of cycles, index number construction and use, and regression analysis of business data.

362 (141) REGULATION OF INDUSTRY. 1 Q. A. 4. Su. 4. Prerequisite: Econ. 202. Theories and regulations relating to labor and industry; the measurement of cycles and index number construction and use, and regression analysis of business data.

363 (140) ADMINISTRATION AND BUSINESS POLICIES. 1 Q. A. W. 4. Required of all seniors in the School of Business Administration. Integration of the build worn in on financing, finance, marketing, and management.

450 (221) MANAGEMENT SEMINAR. 1 Q. Any quarter. 2.

FOR GRADUATES

520 (222) PROBLEMS OF CORPORATE FINANCIAL MANAGEMENT. 1 Q. W. 2. Prerequisite: Bus. Ad. 322. Problems associated with corporate financing of current assets and long-term capital, the nature of securities and money markets and their relationship to corporate financial practices; personal property, including sales and insurance, credit, credit transactions, real property; negotiable instruments, labor law, business torts, regulation of social effects and promotion of competition. Students taking the combined 6-year curriculum in Business Administration and Law are not eligible to take this course.

FOR GRADUATES

541-542-543 (201) ECONOMICS OF BUSINES S MANAGEMENT. 1 Q. W. 2, 2, 2. The use of economic analysis in formulating business strategies and relative decisions. The role of profit, business fluctuations, problems of competition and monopoly, and the government’s role in relation to labor, consumers and government. Required of all graduate students.

695 (229) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

MARKETING

FOR UNDERGRADUATES

338 (109) ECONOMICS OF CONSUMPTION. (See Economics).

399 (151) MARKETING PRINCIPLES. 1 Q. A. W. 5. Prerequisite: Econ. 203. The prevailing methods of marketing as they apply to consumer goods and producer goods. Material and marketing institutions, marketing functions, merchandising, price policies, and government regulations.

361 (131) INDUSTRIAL AND COMMODITY MARKETING. 1 Q. W. 4. Prerequisite: Bus. Ad. 360. Methods and problems in the marketing of raw materials, equipment, parts, and supplies. Emphasis on the marketing of industrial products and industrial goods of special importance in Montana.

362 (130) RETAILING PRINCIPLES. 1 Q. A. W. 5. Prerequisite: Bus. Ad. 360. Fundamentals of retailing as they apply to the principles of advertising in the technique of planning and directing advertising campaigns.

363 (131) PRICES AND SALES ADMINISTRATION. 1 Q. W. 5. Prerequisite: Bus. Ad. 360. Important principles of advertising as they relate to advertising practice in personal selling; Investigation by case studies of the methods and the factors that affect the sales executive, including product planning, market research and market analysis, sales promotion and the recruitment, training, promotion, and the control of sales personnel.

368 SALESMANSHIP. 1 Q. Su. 3. An examination of the fundamentals and techniques of the selling process, including the approach, presentation, demonstration, handling of objections, and the close.

369-370 (102) TRANSPORTATION (See Economics).


465 (132) CREDIT AND CREDIT ADMINISTRATION. 1 Q. W. 3. Prerequisite: Bus. Ad. 360 or Econ. 301. The general nature and function of credit, credit instruments, the credit department, sources of credit information, acceptance of credit risk, establishment of credit limits and collections.

466 (153) MARKETING RESEARCH. 1 Q. A. 3. Prerequisite: Bus. Ad. 360 and 365. Principles of research, planning, research, and analysis as an aid in solving product development, promotional, and distribution problems. Practical applications are emphasized through class projects and case problems.


479 (191) MARKETING SEMINAR. 1 Q. Any quarter. 2.

FOR GRADUATES

569 (211) MARKETING THEORY. 1 Q. A. 3. A critical review of marketing literature: advertising, distribution, consumption, consumer credit, retailing, price, price theory, market structure, competition, and marketing policy. Topics covered include: market structure and pricing, pricing theory, perfect and imperfect competition, costs and efficiency, public and private regulation, and other problems.

599 (222) MARKET RESEARCH, MARKET ANALYSIS AND SALES PLANNING. 1 Q. W. 3. Prerequisite: Bus. Ad. 569. Specific consumer and industrial case studies in planning the marketing of different types of products. Adaptation and utilization of statistical procedures and techniques of analysis and projecting ratios as guides to profitable operations, short and long term sales planning.

533 (233) MARKETING PROBLEMS. 1 Q. W. 3. Prerequisite: Bus. Ad. 569. Case studies of problems facing the marketing executive. Identification of the problem, procedure to be adopted to find satisfactory solutions. Cases will encompass market research, distribution, merchandising, sales management and other problems.

STATISTICS

350 INTRODUCTORY BUSINESS STATISTICS. 1 Q. W. 3. Prerequisite: Math. 100 and 112. Basic problems in planning, executing, and interpreting business statistical research. Emphasis on the use of statistics in social sciences. Statistical techniques such as tabular and graphical presentation, measures of central tendency and dispersion. Introduction to concepts of sampling error and association.

351 (185) APPLIED BUSINESS STATISTICS. 1 Q. W. 3. Prerequisite: Bus. Ad. 350. Probability, sampling theories, and their application to quality control and business surveys. Introduction to regression, correlation, and time series analysis.
SECRETARIAL AND BUSINESS TEACHER TRAINING

Not more than 19 credits earned in Business Administration 180-181-182, 183, 184-185-186, 187-188-189, and 190-191 may be applied toward graduation by students not majoring in Business Administra-
tion, Secretarial-Home Arts, or earning a teaching major or minor in Business Administration.

180 (22abc) ELEMENTARY TYPEWRITING. 3 Q. A, W, S. 2, 2, 2. Prerequisites: (180) none; (181) 190 or 195 words a minute in a 5-minute test; (182) 181 or 25 words a minute in a 5-minute test. Keyboard drills, composition, single-word dictation. Application of basic skill. Students who present one entrance unit of typewriting may not receive credit in 181; with two units, no credit in 185.

183 (21) ADVANCED TYPEWRITING. 1 Q. A, W, S. 2. Prerequisite: Bus. Ad. 182 or a minimum of 33 words a minute in a 10-minute test. Speed and control drills, composition, and timed production typing.

184-185-186 (22abc) STENOGRAPHY. 3 Q. A, W, S. 5, 5, 5. Combined shorthand and transcription practice; theory and dictation. Students who present entrance units of stenography may not receive credit in 184; with two units, no credit in 185.

187-188-189 (23abc) ADVANCED STENOGRAPHY. 3 Q. A, W, S. 5, 5, 5. Preparation for dictation and stenography in a 10-minute test; (188) 181 or 100 words a minute; (189) 186 and 190 or 120 words a minute in shorthand. Concurrent registration in 186-189 is required with 187-188.

190-191 (24ab) ADVANCED SHORTHAND TRANSCRIPTION. 2 Q. W, S. 1, 1. Prerequisite: minimum typing speed of 45 net words a minute on an official test. Transcription of two- or three-minute dictation.


195 (S50) ADVANCED TYPEWRITING. 1 Q. Su. only. 1. Prerequisite: Bus. Ad. 181 or 183. Improvement of skill through the use of electric typewriters.

390 (22a) METHODS OF TEACHING SHORTHAND, TYPEWRITING, AND TRANSCRIPTION. 3 Q. Prerequisite: 180. Preceptory: Bus. Ad. 183, 186, or teaching experience in business subjects, or consent of instructor. Required of teaching majors in Business Administration. Methods, materials, objectives, standards, and testing and grading techniques. Lecture and demonstration.

391 (22b) METHODS OF TEACHING BOOKKEEPING AND BUSINESS Machines. 3 Q. Prerequisite: 180. Preceptory: Bus. Ad. 183, 186, or teaching experience in business subjects or consent of instructor. Required of teaching majors in Business Administration. Methods, materials, objectives, standards, and testing and grading techniques.

392 (100) ADVANCED SECRETARIAL PRACTICE. 1 Q. S. Alternate years. 5. Prerequisites: Bus. Ad. 183, 187, 190, 192, 193, 194, English 304, or consent of instructor. Review and application of office skills acquired in professional secretarial activities. Preparation for State Merit and Civil Service Tests. Required of seniors in Business Education.

393 (105) OFFICE MANAGEMENT. 1 Q. A, W. Su. 3. An analysis of principles and methods of scientific office management and the effective handling of office procedure.

394 (106) SHORTHAND THEORY FOR TEACHERS. 1 Q. W, S. Su. 3. Prerequisites: Bus. Ad. 186 or teaching experience and consent of instructor. Required of teaching majors in Business Administration unless student can pass a satisfactory test on theory.

399 (S106) IMPROVEMENT OF INSTRUCTION IN OFFICE MACHINES PRACTICE. 1 Q. Su. only. 3. Prerequisite: 45 words a minute typing speed or Bus. Ad. 183, teaching experience, or consent of instructor. Lecture, demonstration and laboratory. Rotation plan of teaching and actual practice on newest office machines.

591 (S107) IMPROVEMENT OF INSTRUCTION IN SECRETARIAL PRACTICE. 1 Q. S. Su. only. 4. Prerequisite: 45 words a minute typing speed or Bus. Ad. 183, teaching experience, or consent of instructor. Lecture, demonstration, and laboratory. Rotation plan of teaching and actual practice on newest office machines. Emphasis on duplication processes in producing the high school newspaper.

592 (S139) PROBLEMS IN TEACHING BOOKKEEPING. 1 Q. Su. only. 3. Prerequisites: Bus. Ad. 202 and 391 or teaching experience in bookkeeping and consent of instructor. Methods and materials, testing, grading, standards, and trends in the teaching of bookkeeping.

593 (S142) PROBLEMS IN TEACHING GREGG SHORTHAND. 1 Q. Su. only. 3. Prerequisites: Bus. Ad. 186, 380, or teaching experience in shorthand and consent of instructor. Methods of presentation and evaluation of shorthand tests. Students presenting entrance units of shorthand may not receive credit in 593; with two units, no credit in 595.

594 (S144) PROBLEMS IN TEACHING TYPEWRITING. 1 Q. Su. only. 3. Prerequisites: Bus. Ad. 183, 380, or teaching experience in typewriting and consent of instructor. Methods of development of keyboard, development of course of study, testing, grading, standards and trends in the teaching of typewriting.

595 (S149) UNIT COURSES IN BUSINESS EDUCATION. 1 Q. Su. only. Credit variable. Prerequisites: a major or minor in Business Administration, teaching experience in commercial subjects or consent of instructor. Several units may be taken in one or more summers, but the total credit in 595 may not exceed 10. Each unit will carry a specific designation of topic covered.

CHEMISTRY is the study of those processes in which substances disappear with the simultaneous appearance of new substances. Such changes include the transformation of raw materials and waste products into useful and valuable products. Chemistry is also concerned with the energy accompanying these transformations, such as the production of heat and electricity.

The normal four-year course leads to the degree of Bachelor of Arts. Most courses in Chemistry involve considerable laboratory work. Many graduates enter directly into the chemical profession upon securing the bachelor's degree. Students who are ambitious to qualify for the higher degrees are encouraged to plan for additional graduate work leading to the master's and doctor's degrees. The Master of Arts (or Master of Science) degree is offered at Montana State University (see Graduate Studies). Graduates who have obtained the master's degree may obtain assistantships and scholarships at other universities to enable them to earn doctor's degrees.

Fields open to the chemist are almost without number. Graduates are engaged in making nylon, rayon, viscoses, steel, rubber, organic and heavy chemicals, petroleum products, paper, soaps and detergents, vegetables, food products, and woods products. All industries are benefited by smelters and mining companies, hospitals and public health institutes, meat packers, pharmaceutical firms, and electronic manufacturers. There is an increasing demand for salesmen with chemical training. Many government bureaus employ chemists for work on insects, water supply, sewage disposal, atomic plants, naval research, foods and drugs, customs, and highway testing and control. Chemists in demand for high school teaching and administration. University teaching calls many chemists; graduates are heading or have headed chemistry departments at Columbia University, Cornell University, University of Illinois, Montana School of Mines, and the University of Texas.

CHEMISTRY—25

CAMPUS PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry, or college equivalents.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN CHEMISTRY. In addition to the general requirements for graduation listed earlier in the guidebook the following special requirements must be completed for the Bachelor of Arts degree with a major in Chemistry: Chemistry: 121-122-123-124, 245, 261-262-263, 344, 345, 346, 371-372, 431-432-433, and 10 credits selected from Chemistry 345, 346, 347, 348, 352, 356, 357, 364, 464, 465, 471, 475, 476, 490. 10 credits in upper division courses in allied fields may be substituted for the option in chemistry. In addition, students must pass a senior examination at the time of graduation. At the time of graduation, a major in Chemistry must have acquired a reading knowledge of German or five quarters of German. College physics and calculus are required. Every student is required to pass a senior comprehensive examination.

CURRICULUM IN CHEMISTRY

Freshman Year

Eng. 104-105—Freshman Composition
Math 151, 152, 153—Freshman Mathematics I, II, III
Chem. 121-122-123—College Chemistry
Elective, Group II or III
H & P. E. 201-202-203—Physical Education
R O T C 101-102-103—Military or Air Science

Sophomore Year

H. & P. E. 101-102-103—Physical Education
Chem. 211-212-213—College Chemistry
Elective, Group II or III
R O T C 201-202-203—Military or Air Science

Junior Year

Physics 221-222-223—General Physics
Math 251-252-253—Calculus I, II, III
Chem. 245—Quantitative Analysis
Electives, Groups I or II

Senior Year

Chem. 371-372—Physical Chemistry
Chem. 431-432-433—Chemical Literature
Advanced Courses in Chemistry (see above)
Electives

Graduate Year

Electives
SPECIAL REQUIREMENTS FOR UNDERGRADUATE DEGREE IN DRAMA. In addition to the general requirements listed earlier, the following special requirements must be completed for the Bachelor of Arts degree with a major in Drama: 223, 231, 232, 241-242-243 (2 qtrs.), 301-303-305, 321 or 341, 401-403-405 (3 qtrs.), plus a minimum of 9 additional credits in the drama department.

The following courses outside the drama department are required: Speech 110, 261 and English 342 or 343.

For undergraduate candidates, the foreign language requirement listed earlier in the guidebook must be satisfied.

Speech 261 radio-television speech may be counted as part of drama requirements.

Senior comprehensive examinations are required only for honors candidates.

Students must submit for graduation an original play, or a prompt book for the production of a full-length play and also must direct a one-act play.

FOR UNDERGRADUATES

101 (20) REHEARSAL AND PERFORMANCE, 3 Q. A. W. S. 1, 1. Students may enroll for credit as a participant of instructor. Students engaged in any aspect of production including stagecraft, stage lighting, stagecraft, makeup, costumes, properties, stage business and publicity, etc. are eligible for registration. Total credit allowed: 6.

NOTE: 3 credits of Drama 101 may be applied to the Drama major.

121 (23) INTRODUCTION TO THE THEATER, 1 Q. A. S. A survey course covering the history and the art of play production. Consideration of the principles underlying the arts of acting, directing, stagecraft, stage lighting, scenic design and painting, costume and makeup, and the technical and business aspects of producing a show.

223 (41) ELEMENTARY DIRECTION, 1 Q. S. 3. Prerequisite: Drama 212. Principles and techniques of stage direction and rehearsal. The production of the one-act play form will be considered and used in this course.

231 (50) STAGE STAGGERCRAFT, 1 Q. A. 2. Principles and practice in the construction of stage sets. Students will work on the construction crews of major productions.

241-242-243 (177abc) THE D R A M A , see English.


313 (10) THEATER IN THE COMMUNITY, 1 Q. S. 2. Prerequisite: consent of instructor. Review of the place of the society in the children's theater, the high school theater and the community and little theater. Recommended for teachers. Given even numbered years.

341 (126) STAGE COSTUMING, 1 Q. A. 2. Prerequisites: Drama 210 or considerable previous experience and consent of the instructor. History of costume and production techniques. Students will work on makeup for major productions.

FOR UNDERGRADUATES AND GRADUATES

232 (125) ADVANCED STAGECRAFT, 1 Q. W. 3. Prerequisite: Drama 221. Types of stage scenery. Principles of and practice in scenic painting and the solving of problems in scene construction and painting. Students will work in sets and painting crews for major productions.

241-242-243 (177abc) THE D R A M A , see English.


313 (10) THEATER IN THE COMMUNITY, 1 Q. S. 2. Prerequisite: consent of instructor. Review of the place of the society in the children's theater, the high school theater and the community and little theater. Recommended for teachers. Given even numbered years.

341 (126) STAGE COSTUMING, 1 Q. A. 2. Prerequisites: Drama 210 or considerable previous experience and consent of the instructor. History of costume and production techniques. Students will work on makeup for major productions.

FOR UNDERGRADUATES AND GRADUATES

232 (125) ADVANCED STAGECRAFT, 1 Q. W. 3. Prerequisite: Drama 221. Types of stage scenery. Principles of and practice in scenic painting and the solving of problems in scene construction and painting. Students will work in sets and painting crews for major productions.

241-242-243 (177abc) THE D R A M A , see English.


313 (10) THEATER IN THE COMMUNITY, 1 Q. S. 2. Prerequisite: consent of instructor. Review of the place of the society in the children's theater, the high school theater and the community and little theater. Recommended for teachers. Given even numbered years.

341 (126) STAGE COSTUMING, 1 Q. A. 2. Prerequisites: Drama 210 or considerable previous experience and consent of the instructor. History of costume and production techniques. Students will work on makeup for major productions.

FOR UNDERGRADUATES AND GRADUATES

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241-242-243 (177abc) THE D R A M A , see English.


313 (10) THEATER IN THE COMMUNITY, 1 Q. S. 2. Prerequisite: consent of instructor. Review of the place of the society in the children's theater, the high school theater and the community and little theater. Recommended for teachers. Given even numbered years.

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ECONOMICS—27

ECONOMICS-LAW COMBINATION PROGRAM. In addition to the general requirements for graduation listed earlier in the guidebook, a minimum of 50 credits in Economics and 30 credits in Law will complete requirements for Bachelor of Arts degree with a major in economics. Students should take from 316 (110) Economics 301. The one year of Latin satisfies the foreign language requirement.

FOR UNDERGRADUATES

101 (110) CULTURAL ECONOMICS. 1 Q. A, S. 3. Prerequisite: Economics 203. The role of government as a participant in the market economy, government policies and and its effects on the market economy, with special emphasis on the relationship between government policies and the market economy.

203-204 (118ab) PRINCIPLES OF ECONOMICS. 3 Q. Any quarter. 1, 2, 3. (301) Nature of American economic, capitalistic production, money and its role, economic instability (205) Markets. (206) Functional distribution of income and selected economic topics

FOR UNDERGRADUATES AND GRADUATES

301 (100) MONEY AND BANKING. 1 Q. A, S. Su. 4. Prerequisite: Economics 203. The role of government as a participant in the market economy, with special emphasis on the relationship between government policies and the market economy.

311 (111) INTERMEDIATE ECONOMIC ANALYSIS. 1 Q. W. 4. Prerequisite: Economics 203. Methods and concepts of economics, cost and price relationships.


324 (114) INDUSTRIAL RELATIONS. 1 Q. W. 3. Prerequisite: Economics 203. The analysis of labor relations and the effects of labor laws.

329 (119b) SOCIAL INSURANCE. 1 Q. A, W. 3. Prerequisite: Economics 203. Legal, economic, and social aspects of the relationship of social insurance to collective bargaining and industrial unions.


338 (109) ECONOMICS OF CONSUMPTION. 1 Q. A. 3. Prerequisite: Economics 203. The analysis of consumer behavior and the effects of price and income changes on consumer expenditures.

339 (119b) ECONOMICS OF AGRICULTURAL COMMERCE. 1 Q. A. 3. Prerequisite: Economics 203. (339) The analysis of consumer behavior and the effects of price and income changes on consumer expenditures.


341 (301-302-303) ECONOMICS OF TRANSPORTATION. 2 Q. A. 3. 3. Prerequisite: Economics 203. (341) The analysis of consumer behavior and the effects of price and income changes on consumer expenditures.

342 (107) CONTEMPORARY ECONOMIC PROBLEMS. 1 Q. A. 3. Prerequisite: Economics 203 or equivalent. Current economic problems on a case-by-case basis.

346 (301-302) SPECIAL CONTEMPORARY PROBLEMS. 2 Q. A. 3. 3. Prerequisite: Economics 203. Special contemporary economic problems.

347 (107) MONETARY THEORY. 1 Q. A. 4. Prerequisite: Economics 203. (347) The relationship between money, credit and economic activity.

ECONOMICS

ECONOMICS is that branch of the social sciences which deals with man's efforts to satisfy his wants by utilizing the scarce means provided by nature. The department considers its teaching goals to be threefold:

1. To present, to students from all parts of the University the basic theoretical tools of economic analysis, plus relevant facts and institutional material, with which they may carry on economic and social activities and take civic responsibilities.

2. To introduce students majoring in economics to the various special fields of study within economics. This course of study will enable them to fulfill the requirements of a major in economics.

3. To instill, through advanced training, the intellectual and ethical concepts of the leading economic scientists of the 20th century, in order to prepare them for responsible economic roles in society.

Graduates take positions in industry, government, and education. Some concentrate on labor economics and under-
EDUCATION

A May 17, 1954, U. S. Supreme Court decision included this statement: "... Today, education is perhaps the most important function of state and local governments ... it is a principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him adjust normally to his environment. The introduction of youth into a complex culture has become a major task of the schools and a challenge to all teachers. Seven million more children will be in our elementary schools in 1960. A corresponding increase of pupils will occur in the high schools of America. To meet successfully this growing need for teachers, many school districts will demand over half of the college graduates between today and 1960.

Developing teaching competence involves securing a liberal education with special study in the field in which the student is to teach, and study and practice in the art of teaching. In addition, the teacher must develop appreciation of people as individuals and as members of society because systematic application of teaching knowledge involves human relations in their most varied and vital aspects.

Education at Montana State University prepares for teaching in any of the two principal fields. Prospective and secondary teachers must have earned a Bachelor's degree, have satisfactorily completed certain specified courses, and have demonstrated competence in student teaching before they become eligible for recommendation by Montana State University for state certification to teach. Patterns of courses to be completed are planned in terms of the particular field of teaching the student expects to do.

Many University graduates will wish to remain in Montana, but teaching is a stimulating career that knows no geographical boundaries and Montana State University graduates are prepared to teach throughout continental United States and its territories. In increasing numbers, American teachers find teaching available in foreign lands.

After they have been granted a Bachelor's degree and have been certified to teach, persons in Education may take additional courses at the graduate level which will prepare them for specialized positions such as school administrator, supervisor, counselor, curriculum coordinator, and research director; or it may be used to build up their backgrounds in the field or fields which they teach. Montana State University offers graduate work leading to the Master's and Doctor's degrees.

General certification requirements for Montana's elementary, junior and senior high schools are set forth below. Additional information may be secured from the Dean of the School of Education.

Other Departments and Schools which offer courses acceptable for Education credit include Art, Business Administration, English, Foreign Languages, Geology, Economics, Journalism, Mathematics, Music, and Physical Education.

GENERAL INFORMATION. The School of Education at Montana State University is fully accredited by the National Council for the Accreditation of Teacher Education and by the Northwest Association of Secondary and Higher Schools.

It prepares students for teaching, supervising, or administering in the public schools; or for carrying on educational research.

Students preparing to teach in the elementary grades should major in Education; those preparing for work in secondary education, whether in junior or senior high schools, major in the principal subject to be taught; or, in Education, those preparing for counseling, supervising, or research work usually major in Education.

Students taking Education courses for purposes of meeting certification requirements will be given a series of tests for the purpose of obtaining additions to the student's individual aptitudes for teaching.

To enroll in courses in Education, a student must have at least a C average in all course work for which credit has been received.
RECOMMENDATIONS FOR MONTANA TEACHING CERTIFICATES. Montana State University recommends its graduates who meet state certification requirements to the State Department of Public Instruction for the issuance of a state teaching certificate. Certification must be approved by the Dean of the School of Education. Students who expect to teach in states other than Montana should investigate specific requirements because they differ in various states.

Academic and professional requirements for University recommendation for certification 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. Two-four or more quarter credits in Education designated by the Dean of the School of Education (see Preparation for Certification). If not taken at Montana State, must be approved by the Dean.
3. A teaching major (45 or more credits) and a teaching minor (30 or more credits) in fields commonly taught in high schools (see Course Requirements in Teaching Major and Minor Fields below).

Academic and professional requirements for University recommendation for certification to teach in the elementary schools of Montana are as follows:

1. A Bachelor's degree from Montana State University or other approved institution of higher education that the holder has completed a four (4) year course of elementary education.
2. Specific requirements in general education that have particular reference to teaching areas in the elementary grades.

Students who expect to teach in the elementary grades are required to make up the required quarter credits with the School of Education at least two quarters preceding the quarter of practice teaching a statement of their intentions should be submitted to the Dean. Only students who have completed a course in the required teaching area will be admitted to the elementary education program. Each candidate for a certificate who has not already received credit in Student Teaching (Educ. 404 or 405) will be assigned definite quarters in which he must register for the following courses of the School of Education.

SEQUENCE OF CERTIFICATION COURSES IN SECONDARY EDUCATION TO BE TAKEN BY STUDENTS NOT MAJORING IN EDUCATION

Freshman or Sophomore year.—Psych 110 (not counted among the 24 credits required for secondary certification)

Sophomore or Junior year.—Educ. 200, 4 credits; Educ. 205, 4 credits

Senior year.—Educ. 405, a minimum of 5 credits

In addition to the 18 credits of Education courses listed above for students seeking a secondary teaching certificate, the student must make a choice of methods course in one of the student's teaching fields. Only students who have been approved by the Dean of the School of Education are required to make up the required total of at least 24 credits. A special methods course in one of the student's teaching fields is recommended for all students who expect to teach in one of the elementary grades. Only students who have completed a course in the required teaching area will be admitted to the elementary education program. Each candidate for a certificate who has not already received credit in Student Teaching (Educ. 404 or 405) will be assigned definite quarters in which he must register for the following courses of the School of Education.

SEQUENCE OF CERTIFICATION COURSES IN SECONDARY EDUCATION

Since certification for teaching in the elementary school is based solely upon the Bachelor's Degree in Elementary Education, see the preceding section on preparation for teaching in the elementary grades for requirements. Variation from these patterns of required courses for elementary and secondary teaching certification is permissible only with the approval of the Dean of the School of Education.

PREPARATION FOR SCHOOL LIBRARIANS. The library service program is designed to train school and teacher-librarians to meet the requirements of the Northwest Association of Secondary Schools, and the Montana Department of Education. The minimum requirement for schools of 100 enrolled includes Education 343, 344, and 345. The student planning a more extended program should consult the library service instructor for advice on additional courses.
organization of instruction, integration with other areas, and use of community resources.

316 (175) SUPERVISION AND TEACHING OF ARITHMETIC. 1 Q. Su. only. 3. Prerequisite: teaching experience. Analysis of children's mental trends, skills, research, and supervisory techniques relevant to a modern elementary school arithmetic program.

317 (180) SUPERVISION AND TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL. 1 Q. Su. only. 3. Prerequisite: teaching experience and consent of instructor. Problems of curriculum planning, teaching methods, physical education, evaluation of instructional materials, and use of effective techniques in the science program in the elementary school.

324 (118) TEACHING OF CONSERVATION. 1 Q. S. Su. 3. Prerequisites: 12 credits in Education or teaching experience, general 360 or equivalent registration therein, and consent of instructor. Analysis of current conservation practices and materials used in teaching conservation in elementary and secondary schools. A workshop with general committee sessions and individual projects.

325 (129) PROBLEMS IN CONSERVATION EDUCATION. 1 Q. Su. only. 3. Prerequisite: 3 credits in Education or concurrent registration in 324 or for 6 credits if Education 324 and 350 have been taken. General 300 or Education 324 or concurrent registration therein, and consent of instructor. The designing, selection, and evaluation of materials for the teaching of conservation in the elementary grades.

330 (171) EARLY CHILDHOOD EDUCATION. 1 Q. S. Su. 3. Prerequisites: 12 credits in Elementary Education or extensive teaching experience. Psychological theory and techniques of kindergarten and primary teaching. The role of the teacher and the development of a unified kindergarten-primary program.

334 (135) REMEDIAL READING. 1 Q. S. Su. 3. Prerequisites: a bachelor's degree and teaching experience or consent of instructor. Diagnosis and treatment of reading difficulties in children. Reading aptitude tests, teaching techniques, and materials designed for classroom teachers, remedial specialists, and for principals who wish to set up a remedial program.

340 (126) CHILDREN AND CULTURE. 1 Q. W. or S. Su. 3. A critical survey of children's literature. The role of selected reference for children in the elementary grades.

345 (186) THE SCHOOL LIBRARY IN TEACHING. 1 Q. A. Su. 3. Prerequisite: Education 310 or 334. Methods of using the library as a teaching tool and the principles of selecting, cataloging, and using reference materials. Practic in working with materials in school libraries. Emphasis on the use of reference books, preparation of request cards, and creating effective use of reference procedures.

353 (141) ORGANIZATION AND ADMINISTRATION OF THE SCHOOL LIBRARY. 1 Q. A. 4. Su. 3. Objectives of school library service, simple library routines and procedures, integrated library and instruction, development of a library system, and use of basic reference materials. Designed for part-time teacher-librarians without library training.


346 (186) LIBRARY REFERENCE MATERIALS. 1 Q. S. Su. 4. Prerequisite: Education 310 or 314. Reference library practices and use of basic reference books and bibliographies. 441-450 and 455 library work, with special attention to reference methods, citation, and bibliographic forms.

347 (145) AUDIO-VISUAL AIDS. 1 Q. W. Su. 3. Instructional use of a variety of visual and hearing aids, such as models, pictures, exhibits, strip films, slides, motion pictures, etc. Operation of film projectors and other equipment. Primary emphasis on classroom, use rather than the technical aspects of the OP. Credit not allowed for this course and Music 363.

350 (156) EDUCATIONAL SOCIOLOGY. 1 Q. S. Su. 3. 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.

370 (120) THE TEACHER AND SCHOOL ORGANIZATION. 1 Q. Su. only. 3. Prerequisite: teaching experience or consent of instructor. The teacher's relationship to the school organization, the development, and financing of American public education with special emphasis on student organizations, community relations, and organizational structure of schools.

410 (177) METHODS OF TEACHING SECONDARY SCIENCE. 1 Q. W. Su. 3. Prerequisite: teaching experience or consent of instructor. The teaching relationship of educational psychology, teaching methods, and the role of the teacher in the development of adequate teaching materials and laboratory procedures.

425 (181) SAFETY EDUCATION AND DRIVER TRAINING. 1 Q. S. Su. 3. Prerequisite: consent of instructor. Supervised experience in planning, and teaching, and evaluating secondary school classes in safety education and driver training. Offered in cooperation with the American Automobile Association and the Montana Highway Patrol.

426 (182) ADVANCED SAFETY EDUCATION AND DRIVER TRAINING. 1 Q. W. Su. 3. Prerequisite: Education 425. Supervised experience in planning, and teaching, and evaluating secondary school classes in safety education and driver training. Offered in cooperation with the American Automobile Association and the Montana Highway Patrol.

428 (173) METHODS OF TEACHING SECONDARY SCHOOLS. 1 Q. W. Su. 3. Prerequisite: 12 credits in Secondary Education. Systematic analysis of problems involved in the teaching of the social studies in junior and senior high schools; curriculum planning, development and presentation of units of instruction, selection, and use of instructional materials. Of particular value to the school administrator without formal teaching experience. Credit not allowed for any other course.

531 (271) ELEMENTARY CURRICULUM. 1 Q. S. 4. Su. 3. Prerequisite: teaching experience or consent of instructor. Survey of the elementary school curriculum: major trends in course content, grade placement, organization, and evaluation of instructional outcomes. Of particular value to the school administrator without formal teaching experience. Credit not allowed for any other course.

532 (277) SECONDARY CURRICULUM. 1 Q. A. 4. Su. 3. Prerequisite: teaching experience or consent of instructor. Survey of the elementary school curriculum: major trends in course content, grade placement, organization, and evaluation of instructional outcomes. Of particular value to the school administrator without formal teaching experience. Credit not allowed for any other course.

531 (271) CURRICULUM WORKSHOP. 1 Q. Su. only. Credit variable. Prerequisite: 12 credits in Education and consent of instructor. Group analysis and discussion of selected projects. Application to specific teaching situations where possible. Total credit allowed: 10.

FOR GRADUATES

531 (271) ELEMENTARY CURRICULUM. 1 Q. S. 4. Su. 3. Prerequisite: teaching experience or consent of instructor. Survey of the elementary school curriculum: major trends in course content, grade placement, organization, and evaluation of instructional outcomes. Of particular value to the school administrator without formal teaching experience. Credit not allowed for any other course.

532 (277) SECONDARY CURRICULUM. 1 Q. A. 4. Su. 3. Prerequisite: teaching experience or consent of instructor. Survey of the elementary school curriculum: major trends in course content, grade placement, organization, and evaluation of instructional outcomes. Of particular value to the school administrator without formal teaching experience. Credit not allowed for any other course.
FOREIGN LANGUAGES

Languages taken in high school will be recognized by the University in fulfilling the equivalent for a teaching major or minor in a language. High school work will be evaluated on the basis of a placement examination certified by the Department of Foreign Languages.

Modern Languages (French, German or Spanish)

Teaching Major: Teaching Minor
45 credits (30 credits or equivalent) or equivalent
32 credits as follows:

Required Courses:
- F. L. 101-102-103—Elementary
- F. L. 213—Intermediate
- F. L. 215—Advanced
- F. L. 217—Review of Grammar and Composition
- F. L. 301-302-303—Survey of Literature

Elections:
Any course numbered 300 or above

Classical Languages (Latin)

Teaching Major: Teaching Minor
45 credits (30 credits or equivalent) or equivalent

Required Courses:
- F. L. 101-102-103—Elementary
- F. L. 213—Intermediate
- F. L. 215—Advanced
- F. L. 217—Latin Readings

Elections:
- F. L. 401—Seminar

HEALTH AND PHYSICAL EDUCATION FOR MEN

Teaching Major Teaching Minor
48 credits (33 credits)

Required Courses:
- H & P E 188—Intro. to Physical Education
- H & P E 199—First Aid
- H & P E 210, 310, 211-222—Coaching—Football, Basketball, Track
- H & P E 211-212, 311-312—Officiating—Football, Basketball
- H & P E 304—Care & Prev. of Athletic Injury
- H & P E 323—Dance Methods & Materials
- H & P E 335—Methods of Teaching Physics
- H & P E 363—Organization & Administration
- H & P E 373—School Health Problems
- H & P E 389—Applied Anatomy

Elections: Other courses in the department

Notes: 1. Majors and Minors substitute courses 115-116-117, 118-119-120 for courses 101-102-103, 201-202-203 required of other lower division students.
2. Students planning to major or minor in this field must report to the chairman of the department by the first quarter of the junior year.

HEALTH AND PHYSICAL EDUCATION FOR WOMEN

Teaching Major Teaching Minor
48 credits (33 credits)

Required Courses:
- H & P E 188—Intro. to Physical Education
- H & P E 199—First Aid
- H & P E 231-232—Coaching—Volleyball, Basketball
- H & P E 301-202—Teaching of Team Sports for Women; Teaching of Individual Sports for Women
- H & P E 324-325-326—Dance Methods and Materials
- H & P E 335—Methods of Teaching Phys. Ed.
- H & P E 365—Organization and Administration
- H & P E 373—School Health Problems
- H & P E 375—Personal Health Problems (Women)
- H & P E 389—Applied Anatomy
- H & P E 400—Seminar

Elections: Other courses in the department

2. Students planning to major or minor in this field must report to the Chairman of the Department by the first quarter of the junior year.

HISTORY AND POLITICAL SCIENCE

Teaching Major Teaching Minor
40 credits (33 credits)

Required Courses:
- Hist. 101-102—Dev. of Western Civ.
- Hist. 291-292—U. S. History
- Poli. S. 202-203—American Government
- Poli. S. 211—International Relations

Electives: Must include 9 credits of upper division courses.

HOME ECONOMICS

Teaching Major Teaching Minor
40 credits (33 credits)

Required Courses:
- H. E. 102—Introduction to Personal and Family Living
- H. E. 104—Introduction to Home Management
- H. E. 111—Intro. to Foods
- H. E. 113—Textile Selection
- H. E. 219—Household Equipment
- H. E. 222—Meal Management
- H. E. 236—Nutrition
- H. E. 245—Clothing Construction
- H. E. 238—Clothing for the Family
- H. E. 239—Household Furnishings
- H. E. 295—Home Living Center
- H. E. 311—Home Management
- H. E. 321—Methods of Teaching Home Ec.
- H. E. 314—Food Conservation
- H. E. 366—Human Development

JOURNALISM (Minor Only)

Teaching Minor
(31 credits)

Required Courses:
- Journ. 100—Introduction to Journalism
- Journ. 110—Elementary Photography
- Journ. 150—Introduction to Radio and Television
- Journ. 156—Current Affairs
- Journ. 270—Reporting
- Journ. 290—History and Principles of Journalism
- Journ. 315—School Publications
- Journ. 335—Principles of Advertising
- Journ. 365—Advertising Layout and Copy
- Journ. 390—News Editing
- Journ. 405—Editorial Writing

LIBRARY SERVICE (Minor Only)

(30 credits)

Required Courses:
- Ed. 343—The School Library in Teaching
- Ed. 344—Org. and Admin. of the School Library
- Ed. 345—Cataloging and Classification
- Ed. 346—Bibliography and Book Selection
- Ed. 347—Library Reference Materials
- Ed. 348—Audio-Visual Aids
- Eng. 301—Literature for the High School Teacher

Electives: 5 credits from the following:
- Ed. 340—Children’s Literature
- Ed. 440—Selection and Processing of Non-Book Library Materials
- Ed. 441—Evaluation of School Library Services and Materials
- Ed. 442—Library Work for Children

MATHEMATICS

Teaching Major Teaching Minor
45 credits (30 credits)

Required Courses:
- Math 151—Freshman Math I
- Math 152—Freshman Math II
- Math 153—Freshman Math III
- Math 251—Sophomore Math I
- Math 252—Sophomore Math II

Other Electives: Additional courses in mathematics may be selected to complete 30 credits for teaching major and the 30 credits for the teaching minor.

Students who have started on the Math 100, 113, 116, 121, 222, 223, sequence may not substitute courses listed above without permission of the department chairman.

Upon satisfactory performance on a placement examination in mathematics, Math 151 and 152 may be waived.
**MUSIC**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>30 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 111, 112, 113—Theory I</td>
<td></td>
</tr>
<tr>
<td>Music 241, 242—Theory II</td>
<td></td>
</tr>
<tr>
<td>Music 155, 156, 157—Intro to Music Lit.</td>
<td></td>
</tr>
<tr>
<td>Music 221, 222 or 223—Conducting</td>
<td></td>
</tr>
<tr>
<td>Music 323, 324, 325—School Music</td>
<td></td>
</tr>
<tr>
<td>Applied Music—Major Field</td>
<td>12 credits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective Courses</th>
<th>6 credits from the following</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 114, 115, 116—Piano in class</td>
<td>3 credits</td>
</tr>
<tr>
<td><em>Teaching Major</em></td>
<td></td>
</tr>
<tr>
<td><em>Teaching Minor</em></td>
<td></td>
</tr>
</tbody>
</table>


**BRANCHES OF majors**

- Teaching Major
- Teaching Minor

**SCIENCE**

A student planning to qualify for a secondary certificate based on either a teaching major or minor in science must, before the completion of his sophomore year, secure approval of his course offerings in science by the science education advisor in the School of Education.

**BIOLOGICAL SCIENCE**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>33 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bact. 100—Elementary Bacteriology</td>
<td>3 credits</td>
</tr>
<tr>
<td>Bot. 121—Botany</td>
<td>3 credits</td>
</tr>
<tr>
<td>Bot. 123—Spring or Sum. Flora</td>
<td>3 credits</td>
</tr>
<tr>
<td>Bot. 225 or 241—Plant or Morph. of the Thallophytes</td>
<td>3 credits</td>
</tr>
<tr>
<td>Gen. 300—Conservation of Natural and Human Resources</td>
<td>3 credits</td>
</tr>
<tr>
<td>Zool. 101—Elementary Zoology</td>
<td>3 credits</td>
</tr>
<tr>
<td>Zool. 102—Elementary Zoology</td>
<td>3 credits</td>
</tr>
<tr>
<td>Zool. 201—Vertebrate Anatomy</td>
<td>3 credits</td>
</tr>
<tr>
<td>Zool. 302—Human Physiology</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

**PHYSICAL SCIENCE**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>33 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 101—General Chemistry</td>
<td>15 credits</td>
</tr>
<tr>
<td>Chem. 121—College Chemistry</td>
<td>15 credits</td>
</tr>
<tr>
<td>Phys. 111—General Physics</td>
<td>15 credits</td>
</tr>
<tr>
<td>or 221—222—223—General Physics</td>
<td></td>
</tr>
</tbody>
</table>

| Electives: Selected from Chemistry 200, 370, 384 for Chemistry 101-102-103 are taken; from other Chemistry courses if Chemistry 121-122-123 are taken; and/or courses over 200 in Physics. | |

**GENERAL SCIENCE (Major Only)**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>64 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bot. 121—122—General Botany</td>
<td>10 credits</td>
</tr>
<tr>
<td>Bot. 123—Spring Flora</td>
<td>3 credits</td>
</tr>
<tr>
<td>Chem. 101—102—103—General Chemistry or 121-122-123—College Chemistry</td>
<td></td>
</tr>
<tr>
<td>or 221—222—223—General Physics</td>
<td></td>
</tr>
</tbody>
</table>

**SOCIAL SCIENCES (Major Only)**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>65 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 201—202—203—Principles of Economics</td>
<td>49 credits</td>
</tr>
<tr>
<td>Hist. 101—102—103—Development of Western Civilization</td>
<td></td>
</tr>
<tr>
<td>Hist. 201—202—203—U. S. History</td>
<td></td>
</tr>
<tr>
<td>Pol. S. 202—203—American Government</td>
<td></td>
</tr>
<tr>
<td>Soc. 101—Introductory Sociology</td>
<td></td>
</tr>
</tbody>
</table>

| Electives: Limited to upper division courses approved by the advisor; must include one upper division course in Sociology | 16 credits |

**SPEECH (Minor Only)**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>30 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech 111—Principles of Speech</td>
<td></td>
</tr>
<tr>
<td>Speech 117—Voice and Diction</td>
<td></td>
</tr>
<tr>
<td>Speech 214—Discussion Techniques</td>
<td></td>
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<tr>
<td>Speech 241—Radio-Television Speech</td>
<td></td>
</tr>
<tr>
<td>Speech 251—Beginning Oral Interpretation</td>
<td></td>
</tr>
<tr>
<td>Speech 237—Debate</td>
<td></td>
</tr>
<tr>
<td>Speech 339—Introduction to Speech Pathology</td>
<td></td>
</tr>
</tbody>
</table>

**ENGLISH—33**

**ENGLISH writing courses are designed to help the student in everyday use of English as well as in the creative use of the language. The study of literature aims to cultivate the sense and palate of the great currents of thought expressed in the writings of the centuries, and thereby to inculcate understanding of the cultural heritage and environment in which Americans live.**

Normally four years at the University are required to complete the work for the Bachelor of Arts Degree. The Master of Arts degree is also offered (see Graduate Studies).

There are three schedules of studies for undergraduate majors—a course for those desiring a general literary education and possibly planning to pursue graduate studies, for those planning to be high school teachers, and for those who wish to develop skill in writing. Courses include, in addition to the usual types of classroom work, practice in the several special fields. Those who wish to develop their writing abilities may, under the skilled counsel of instructors, undertake verse, stories, novels, and dramas. The study of literature proceeds under similar auspices through reading and discussion.

Graduates teach or enter many occupations and professions including bookstores, publishing houses, newspapers, writing stories or articles, secretariats or assistantships where such skills are highly valued, public relations and advertising offices, radio and other fields of entertainment, and professional or community theater.

There are three schedules of studies for undergraduates:

- **SCIENCE (Major Only)**
- **SOCIAL SCIENCES (Major Only)**
- **ENGLISH (Major Only)**

**SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN ENGLISH.** In addition to the general requirements for graduation listed earlier in the guidebook, the student seeking to complete the degree of Bachelor of Arts with a major in English must complete a minimum of 50 but not more than 68 credits in the department. The required courses in English are listed in the three schedules given below, one for students primarily interested in preparing for advanced work in literature, one for students seeking experience and guidance in writing, and one for students planning to teach in the secondary schools. By the beginning of his junior year, the student should have decided definitely which of the schedules he is to follow.

Special comprehensive examinations must be taken and a paper submitted by all students working for honors in English. Any student who has a university senior who has a university senior in his studies of at least 3.00 may become a candidate for honors.

Seniors in Schedules A and C should present for graduation a paper, critical or scholarly, prepared in English 498-499. Students in Schedule B may substitute for this a body of creative writing.

All students majoring or minoring in English, whether their degree is taken in the department of English or the School of Education, will be required to take the basic core curriculum in English studies. Schedule A, B, and C (see below) presume such a core curriculum and build from that.

I. All prospective English majors are expected to take English 101-102, 201; in addition, they are expected to take, at least, in their freshman year, the introduction to Humanities (General 151-152-153), 5 credits of which will be counted toward the English major.

II. All students are expected to take, in addition, English 201; English 342 or 343 and two quarters in one sequence and one in the other from English 211-212-213, and 221-222-233.

III. Students who are hoping to go on to do graduate study in English should supplement the above courses with the following required minimums.

**SCHEDULE A: LITERATURE**

English 353 (Chaucer); 3 credits from 400-420-423; 498-499. The remaining credits required for the completion of the minimum 50 may be selected from courses in English, American, or General Literature numbered above 300. The maximum of courses up to 60 credits may include 305 and 401-402-403.

**SCHEDULE B: CREATIVE WRITING**

Students whose major interest is in writing of fiction and poetry should supplement the core courses with the following minimum. This schedule is aimed at helping the student toward the creative expression by giving him guided practice in writing, a working knowledge of modern techniques, and a foundation in critical self-appraisal.

**REQUIREMENTS.** In addition to the basic departmental requirements:

**SOPHOMORE YEAR**

English 211-212-213 and 231-232-233; 3 credits may be taken from one sequence and 3 from the other; 202-203.

**JUNIOR AND SENIOR YEARS**

English 301-302-303, 395; 3 credits from 231-232-333, 341-342-343, 491-492-493; 401-402-403, 498. The 5 credits allowed beyond the 60 credits above may be taken from the courses in English Literature numbered above 300.

**SCHEDULE C: TEACHING**

Students planning to teach English in high school should supplement the core courses with the following required minimum:

English 211-212, 233-233, Speech 111 or 211. English 342 or 313, 373, 481, 480, 489.
Electives: 10 credits in the related fields below. Other electives may be chosen from courses offered by the Department of English, courses in General Literature numbered above 200, and from the related fields. At least 12 credits must be in American Literature and one British Literature.

Related Fields: Drama 101, 201, 212, 231, 243, 251; Journalism 127, 270; Sociology 106, 121, 122, 123, 124, 125, 126; Psychology 240. Students may enter any quarter. Prerequisite: 9 credits of American literature and one British literature. At least 12 credits of study in sociology and history (especially 241-242-243) are strongly recommended.

COMPOSITION, LANGUAGE, AND LITERATURE FOR UNDERGRADUATES


302 (A-B-C). FRESHMAN COMPOSITION: 3 Q. A, W, S. Su. 3,3,3. Students may enter any quarter. Prerequisite: one quarter of English 201-202-203 (19 credits) is required of all students. Majors in the department complete the 101-102-103 sequence. A student must complete the sequence he begins, i.e., he may not begin with English 101 and change to 102 etc. (See departmental or school curriculum.)


106 (13) CREATIVE COMPOSITION: 1 Q. A, W, S. 5. Prerequisite: 201-202-203 (19 credits). An introduction to the study of writing and the development of short and long forms. Credit in this course fulfills the general education requirement in creative writing, but is optional, with consent of the instructor, sophomore entrance into English 101-102-103.


211-212-213 (35abc) INTRODUCTION TO MAJOR BRITISH WRITERS: 3 Q. A, W, S. Su. 2,2,2. Students may enter any quarter. A student with 6 credits of American literature may enter any quarter. A student with 6 credits of American literature may not take this course. (211) Shakespeare through Milton. (212) Dryden through Yeats. (213) Dryden through Yeats.


301-302-303 (103abc) CREATIVE WRITING: 3 Q. A, W, S. 2,2,2. Students may enter any quarter. Prerequisites: English 107 and 202. A more intensive course of instruction (as compared to 101-102-103) in writing fiction and poetry. Structure, form, and variations of the English sentence and paragraph.

304 (161) LETTER AND REPORT WRITING: 1 Q. A, W, S. 3. Types of professional correspondence written with emphasis upon tone, content, and form; organizing and writing factorials. Prerequisite: 201-202-203 (19 credits).

306 (109) THE WRITING OF DRAMA: 1 Q. A, W, S. 2,2. Prerequisite: 6 credits from Drama 201, 212, 223, 231, 243. Techniques of dramatic writing, with emphasis on the written script. Experimental performances of plays. Total credit allowed: 3 Q.

310 (150) LITERATURE FOR THE HIGH SCHOOL TEACHER: 1 Q. A, W, S. 2,2. Students in grades 7 through 12 with intensive study of a few selections.

FOR UNDERGRADUATES AND GRADUATES

350 (156) TECHNIQUES OF THE MODERN NOVEL: 1 Q. A, 2,3 The intentions and methods of such innovators as Conrad and Faulkner. Author content variable. Primarily for advanced students in the creative writing program. Students may complete a credit in the awareness of advanced students in the literary and teaching schedules.

314-315-316 (174abc) BRITISH LITERATURE: 1500-1830 3 Q. A, W, S. Students may enter any quarter. Prerequisites: 9 credits of literature. (314) 1600-1660; (315) 1660-1780; (316) 1780-1830.


FOR GRADUATES

300-501-502 SEMINAR: PROBLEMS IN LITERATURE: Students may enter any quarter. Studies in British and American Literature offered from various fields in an irregular period: (501) a person; (502) a genre. Total credit allowed: 18.


699 (200) THESIS. Any quarter. Credit variable. Total credit allowed: 15.
FOREIGN LANGUAGES provide instruction and practice in speaking, reading, and writing the tongues of other peoples for commercial, governmental, or cultural purposes. Intercommunication among the nations of the world depends upon knowledge of modern languages, and such understanding is particularly necessary as the importance of the United States increases in global affairs. Educated men and women find language skills not only important for social reasons, but as equipment for research in many fields of humanitarian and scientific inquiry. Knowledge of a foreign language is also recognized as contributing greatly to the student’s ability to use his own tongue. Such is particularly true of the classical languages, Latin and Greek, which are useful for studies of the literature and the thought of ancient times. These classical languages, as well as modern French, German, Italian, Russian, and Spanish, are offered at the University. For centuries French has been the great diplomatic and cultural language of the world, and has produced one of the world’s greatest literatures. German, closely related to English, is an important language of science. Spanish, important in literature and commerce, is spoken in Spain and much of the western hemisphere.

The time needed to meet requirements for a major in one of the languages depends on language study prior to college entry, and concentration of studies in college. The department offers a Master of Arts degree as well as an undergraduate major in all the above listed languages except Greek, Italian and Russian. Grammar, speaking, reading, and writing are taught simultaneously to undergraduate beginners; advanced students concentrate on literature.

Language majors may find employment as teachers, interpreters, translators, air line hostesses, in commercial and scientific fields, and in various branches of the government.

HIGH SCHOOL PREPARATION. Languages taken in high school may be recognized as fulfilling some foreign language requirements in and fulfilling the requirements for a major in languages. High school work will be evaluated on the basis of a placement examination certified by the Department of Foreign Languages.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN LANGUAGES. Not more than 90 credits in all foreign languages may be counted to toward the Bachelor of Arts degree. Placement examinations are required of all entering students who continue languages in which credit is presented. Students who have one high school unit in a modern language should enter course 101, those who have two units, course 215; those who have three units, courses numbered over 300. The total number of credits for a major in a foreign language varies with the student’s high school preparation. Requirements are set forth below in connection with each language.

FRENCH

MAJOR REQUIREMENTS: Candidates for the degree of Bachelor of Arts with a major in French must meet the following requirements in addition to the general requirements for graduation listed earlier in the guidebook.

1. French 101 to 217 inclusive, or equivalent.
2. At least 19 credits from courses numbered 300 or over.
3. Four quarters, or equivalent, of another language.
4. Two quarters in history of Europe, chosen from the following: History 207 or 208, 210, 211, 215-216, 314, 318 and 328.

FOR UNDERGRADUATES

101 (11a) ELEMENTARY FRENCH. 1 Q. A. W. Su. 5.
102 (11b) ELEMENTARY FRENCH. 1 Q. W. Su. 5. Prerequisite: French 101 or equivalent.
103 (11c) ELEMENTARY FRENCH. 1 Q. W. Su. 5. Prerequisite: French 101 or equivalent.
105 (13) INTERMEDIATE FRENCH. 1 Q. A. W. Su. 4. Prerequisite: French 103 or equivalent.
215 (15) ADVANCED FRENCH. 1 Q. W. Su. 4. Prerequisite: French 215 or equivalent.
217 (17) FRENCH GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: French 215 or equivalent.

FOR UNDERGRADUATES AND GRADUATES

300 (101) FRENCH CONVERSATION. 1 Q. Any quarter. 1. Prerequisite: French 217.
301-302-303 (103abc) SURVEY OF FRENCH LITERATURE. 3 Q. A. W. Su. 2.2.2. Prerequisite: French 217.
311 (105) MEDIEVAL FRENCH LITERATURE. 1 Q. A. 2. Prerequisite: French 217. Given odd numbered years.
321 (107) FRENCH RENAISSANCE. 1 Q. W. 3. Prerequisite: French 217. Given even numbered years.
331 (109) 17TH CENTURY FRENCH LITERATURE. 1 Q. S. 3. Prerequisite: French 217. Given even numbered years.
341 (111) 18TH CENTURY FRENCH LITERATURE. 1 Q. A. 3. Prerequisite: French 217. Given even numbered years.
351 (113) 19TH CENTURY FRENCH LITERATURE. 1 Q. W. 3. Prerequisite: French 217. Given odd numbered years.
361 (115) CONTEMPORARY FRENCH LITERATURE. 1 Q. S. 3. Prerequisite: French 217. Given odd numbered years.
491 (125) SEMINAR. 1 Q. Any quarter. 2-3. Prerequisite: French 217. Note: Studies of works of outstanding writers. Total credit allowed: 15.

FOR GRADUATES

699 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

GENERAL LITERATURE

161 (51) CLASSICAL MYTHOLOGY. 1 Q. Any quarter. 2. Open to all students. The principal deities and myths of the Greeks and Romans in special relation to those which have been important in the history of Western literature, art, and music.
221 (151) FOREIGN LITERATURES IN TRANSLATION. 1 Q. A. W. S. Su. 2. Exploration of the works of foreign authors in translation. The works of a single author or of a group of authors may be treated. Periods and literatures will vary from quarter to quarter. Total credit allowed: 6.
440 (153) STUDIES IN COMPARATIVE LITERATURE. 1 Q. Any quarter. 3. The origin of literary ideas and the dissemination of these ideas, with a comparative study of the way in which they have been changed or modified in passing from author to author in different countries.

GERMAN

MAJOR REQUIREMENTS. Candidates for the degree of Bachelor of Arts with a major in German must meet the following requirements in addition to the general requirements for graduation listed earlier in the guidebook.

1. German 101 inclusive, or equivalent.
2. At least 19 credits from courses numbered 200 or over.
3. Four quarters, or equivalent, of another language.
4. Two quarters in history of Europe, chosen from the following: History 207 or 300, 210, 211, 218-219, 314, 321 or 322.

FOR UNDERGRADUATES

101 (11a) ELEMENTARY GERMAN. 1 Q. A. W. Su. 5.
102 (11b) ELEMENTARY GERMAN. 1 Q. W. Su. 5. Prerequisite: German 101 or equivalent.
103 (11c) ELEMENTARY GERMAN. 1 Q. A. Su. 5. Prerequisite: German 102 or equivalent.
213 (13) INTERMEDIATE GERMAN. 1 Q. A. W. Su. 4. Prerequisite: German 103 or equivalent.
215 (15) ADVANCED GERMAN. 1 Q. W. Su. 4. Prerequisite: German 213 or equivalent.
217 (17) GERMAN GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: German 215 or equivalent.

FOR UNDERGRADUATES AND GRADUATES

300 (101) GERMAN CONVERSATION. 1 Q. Any quarter. 1. Prerequisite: German 217. Total credit allowed: 3.
301-302-303 (103abc) SURVEY OF GERMAN LITERATURE. 3 Q. A. W. Su. 2.2.2. Prerequisite: German 217.
341 (105) 18TH CENTURY GERMAN LITERATURE. 1 Q. A. 3. Prerequisite: German 217. Given odd numbered years.
351 (107) 19TH CENTURY GERMAN LITERATURE. 1 Q. A. 3. Prerequisite: German 217. Given even numbered years.
491 (125) SEMINAR. 1 Q. Any quarter. 2-3. Prerequisite: German 217. Works of outstanding writers. Total credit allowed: 25.

FOR GRADUATES

699 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

GREEK

No major is given in Greek.

101 (11a) ELEMENTARY GREEK. 1 Q. W. Su. 5.
102 (11b) ELEMENTARY GREEK. 1 Q. 5. Prerequisite: Greek 101.
103 (11c) ELEMENTARY GREEK. 1 Q. A. Su. 3. Prerequisite: Greek 102.
213 (13) INTERMEDIATE GREEK. 1 Q. W. 3. Prerequisite: Greek 103.
215 (15) ADVANCED GREEK. 1 Q. S. 3. Prerequisite: Greek 213.

ITALIAN

No major is given in Italian.

101 (11a) ELEMENTARY ITALIAN. 1 Q. A. 5.
102 (11b) ELEMENTARY ITALIAN. 1 Q. W. 5. Prerequisite: Italian 101 inclusive or equivalent.
103 (11c) ELEMENTARY ITALIAN. 1 Q. S. 5. Prerequisite: Italian 102.
213 (13) INTERMEDIATE ITALIAN. 1 Q. A. 4. Prerequisite: Italian 103.
215 (15) ADVANCED ITALIAN. 1 Q. W. 4. Prerequisite: Italian 213.
LATIN

MAJOR REQUIREMENTS. Candidates for the degree of Bachelor of Arts with a major in Latin must meet the following requirements in addition to the general requirements for graduation listed earlier in the guidebook.

1. Latin 101 to 217 inclusive, or equivalent.
2. At least 18 credits from Latin Seminar (Latin 491).
3. The Ancient World, History 203-204.
4. Greek 101-102 may be substituted for a Latin course above 217.

FOR UNDERGRADUATES

101 (11a) ELEMENTARY LATIN. 1 Q. A. Su. 5.
102 (11b) ELEMENTARY LATIN. 1 Q. W. 5. Prerequisite: Latin 101 or equivalent.
103 (11c) ELEMENTARY LATIN. 1 Q. S. 5. Prerequisite: Latin 102 or equivalent.
215 (15) ADVANCED LATIN. 1 Q. W. 4. Prerequisite: Latin 213 or equivalent.
217 (17) LATIN READINGS. 1 Q. Any quarter. 2-5. Prerequisite: Latin 215, or equivalent. Advanced readings from outstanding Latin writers.

FOR GRADUATES

699 (299) THESIS. Any quarter. Credits variable. Total credit allowed: 15.

ROMANCE PHILOLOGY

375 INTRODUCTION TO ROMANCE PHILOLOGY. 1 Q. S. 3. Prerequisite: 101 or equivalent.
101 (1a) ELEMENTARY RUSSIAN. 1 Q. A. 5.
102 (1b) ELEMENTARY RUSSIAN. 1 Q. W. 5. Prerequisite: Russian 101 or equivalent.
103 (1c) ELEMENTARY RUSSIAN. 1 Q. S. 5. Prerequisite: Russian 102 or equivalent.
215 (15) INTERMEDIATE RUSSIAN. 1 Q. A. 4. Prerequisite: Russian 213 or equivalent.
217 (17) ADVANCED RUSSIAN. 1 Q. W. 4. Prerequisite: Russian 215 or equivalent.

SPANISH

MAJOR REQUIREMENTS. Candidates for the degree of Bachelor of Arts with a major in Spanish must meet the following requirements in addition to the general requirements for graduation listed earlier in the guidebook.

1. Spanish 101 to 217 inclusive, or equivalent.
2. At least 19 credits from courses numbered 300 or over.
3. Four quarters, or equivalent, of another language.
4. History 285-286-287 or two quarters of this course and History 328.

FOR UNDERGRADUATES

101 (11a) ELEMENTARY SPANISH. 1 Q. A. W. Su. 5.
102 (11b) ELEMENTARY SPANISH. 1 Q. W. S. Su. 5. Prerequisite: Spanish 101 or equivalent.
103 (11c) ELEMENTARY SPANISH. 1 Q. A. S. Su. 5. Prerequisite: Spanish 102 or equivalent.
215 (15) INTERMEDIATE SPANISH. 1 Q. A. W. Su. 4. Prerequisite: Spanish 103 or equivalent.
217 (17) ADVANCED SPANISH. 1 Q. W. S. Su. 4. Prerequisite: Spanish 215 or equivalent.
218 (18) SPANISH GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: Spanish 215 or equivalent.
219 (19) COMMERCIAL SPANISH. 1 Q. S. 3. Prerequisite: Spanish 102 or equivalent. Writing of Spanish commercial letters and a study of commercial practices in Spanish America. Given in even numbered years.

FOR GRADUATES

699 (299) THESIS. Any quarter. Credits variable. Total credit allowed: 15.

THE TEACHING OF FOREIGN LANGUAGES

391 (102) METHODS OF TEACHING FOREIGN LANGUAGES. 1 Q. S. 3. Prerequisite: 217 or equivalent, or concurrent registration. Fundamental principles, concepts, objectives, and methods involved in teaching of a foreign language. Required of teaching majors and minors.
401 (S104) FOREIGN LANGUAGE WORKSHOP. 1 Q. Su. only. 3. Prerequisite: consent of instructor. New methods and techniques in foreign language instruction. Credit not allowed for this course and identical course, Education 401.

FORESTRY is the scientific management of timber resources for continuous production, including the processing of wood products, and embraces as well the related fields of range, wildlife, watershed, and soil management.

The four-year and five-year curricula lead to the degree of Bachelor of Science in Forestry. The degrees of Master of Science in Forestry, Master of Science in Wildlife Management, and Graduate Certificate in Forestry are also offered (see Graduate School). Within the general forestry curriculum the student may specialize at the undergraduate level in Forest, Range or Wildlife Management, and Wood Utilization. A five-year curriculum is offered for students interested in laboratory and field work are distinguishing characteristics of forestry training, affording opportunities for putting into practice the theoretical knowledge emphasized in the classroom. A summer camp is not required. In lieu of this, however, all students who select Forest Management and Forest Engineering as their field of specialization will spend their sophomore spring quarter in camp on the Lubrecht Forest and their senior spring quarter on a field trip to the western states and in camp near Thompson Lakes. Those selecting Range and Wildlife Management will spend the spring quarter of their sophomore year in camp on the Lubrecht Forest, and their senior spring quarter on extended field trips through the western states.

Graduates find positions in state and federal government service for work in public forests or in conservation or wildlife organizations. Others are employed by private logging, lumber, and forest products industries. Those who pursue graduate studies in forestry may secure positions in research, as teachers in universities and colleges, or as consultants in special phases of forestry. The School of Forestry is accredited by the Society of American Foresters. The courses and curricula described below prepare the student for United States Civil Service positions and professional positions with individual states, some of which offer civil service examinations.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN FORESTRY. A minimum of 3 credits of work, not including credits obtained by required work in Military Science and Physical Education.

To continue as majors in the School of Forestry during the second, third and fourth years, students must have and maintain a grade point average of 2.0 or all credits for which registered and for which a final grade is recorded. Each student is required to spend not less than two summers of vacation employment in the processing and utilization of forest products.

FIELD COURSE EXPENSE DEPOTOS. The following field course expense deposits will be charged for advanced courses in the School of Forestry: 200, $5.00; 201, $5.00; 202, $25.00; 250, $5.00; 251, $9.00; 253, $5.00; 290, $5.00; 291, $5.00; 311, $6.00; 315, $3.00; 322, $10.00; 370, $5.00; 401, $50.00; 411, $6.00; 443, $50.00; 452, $10.00; 453, $10.00; 455, $15.00.
THIRD YEAR


FOURTH YEAR


WILDLIFE MANAGEMENT

SECOND YEAR


THIRD YEAR


FOURTH YEAR


FOREST CONSERVATION

CONSERVATION is the scientific management of natural resources. The term management as used here pertains more specifically to the "wise use" of our renewable natural resources and includes in many instances the multiple and coordinated use of several resources existing on the same, adjacent or associated area. Forests and forestry play an important part in the solution of many conservation problems, however, the foresters' training is neither specialized to meet the demands of the profession and the accreditation agency. Many conservation problems demand a broader training than that called for in the professional fields of Forestry, Agriculture, Geology, Ecology, Hydrology and others. On the other hand, it is generally conceded that there is a limited field of employment for the Conservation Generalist.

For that reason, it is desirable for the student to specialize in one of the many fields that normally fall under Forestry, but with a broader background of basic courses. The four and five-year curricula lead to the degree of Bachelor of Science in Forest Conservation. The Master of Science in Forest Conservation is also offered. (See Graduate School).

This training prepares the graduate for employment with Federal and State Conservation agencies and positions which usually require the applicant to qualify under a civil service examination. A limited number of positions are available with private companies.

High School preparation and special requirements for the degree in Forest Conservation are the same as for Forestry.

All professional courses are listed under Forestry.

CURRICULA LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN FORESTRY

(Requirement are not listed here.)

With few exceptions the first year is the same for all students enrolled for this degree. With the assistance of their advisors, students are expected to select a specific course of study before they begin the autumn quarter of their second year.

FIRST YEAR

For. 190-1-2—Survey of Forestry

Bot. 111—Forest Botany

Bot. 123—Spring Flora

Chem. 101-2—General Chemistry

Eng. 104—Freshman Composition

Math. 151—Freshman Mathematics

Sp. 111—Principles of Speech

H&APE 101-2—Physical Education

ROTC 101-3—Military or Air Science

A W S

Cr Cr

5

5

First Year


SECOND YEAR


Spring: For. 311*, 312*; Bot. 290*; Electives; H&PE 203*; Speech 111*.

First Year

Winter: For. 421*, 441*, 453*; Econ. 202; Elective. Winter: For. 400*, 421*, 420*, 423*, 424*, 425*, 426; Spring: For. 401*, 410*, 455*. Students who are interested in special areas of forest management may, with the advisor's consent, substitute from the following courses pertaining to these areas: Silviculture, For. 411, 412, 441; Fire Control, For. 331, 499; Forest Recreation: For. 285, 385, 386; Conservation: For. 290, 480, 481, 482; Watershed Management: For. 450, 484; Policy and Administration: 422 and 423.

FOREST ENGINEERING

FIRST YEAR


SECOND YEAR


FOURTH YEAR


POTENT YEAR


WOOD UTILIZATION

SECOND YEAR


THIRD YEAR


FOURTH YEAR


RANGE MANAGEMENT

SECOND YEAR


THIRD YEAR


FOURTH YEAR


FOURTH YEAR


FOURTH YEAR

ment of forest properties; determination of allowable cut and regeneration of the growing stock. (401) Emphasis on field work necessary to the examination and mapping of forest soils, land use classes, and forest site classes.

421 (146) ADVANCED FOREST ECONOMICS. 1 Q. S. 2 (4-4). Prerequisites: Economics 201 and Forestry 420. Economic problems and principles involved in the management of the forest resource and in the distribution of forest products.

422 (150) LAND USE POLICY. 1 Q. A. 4 (4-4). Prerequisites: junior standing in the field of Forestry. History, social structure, legal instruments, and valuation of the agricultural and forest land properties.

423 (186) FOREST ADMINISTRATION. 1 Q. S. 2 (2-0). Principles and problems of organizing and dealing with personnel in executing private and public forest policies. Emphasis on the theory and process of forming and applying forest policies; determination of allowable cut and related methods to the principal commercial forest species, types, and regions of the United States.

424 (122) SAWMILLING AND LUMBERING. 1 Q. A. 3 (2-4). Prerequisites: Forestry 201 and 310. Description and identification of the cutting, grading, and related operations of sawmills and planer operations.

425 (129) UTILIZATION FIELD. 1 Q. S. Credit variable. Prerequisites: junior standing, utilization majors, or candidates for related majors. Study of land use, products and problems. Field survey of land use and crops.

426 (120) SEASONING AND PRESERVATION. 1 Q. W. 2 (3-6). Prerequisites: junior standing in the School of Forestry. Principles involved in seasoning and preserving treatments of woods, and in the preservation of forest products. Emphasis on the related wood anatomy. An introduction to seasoning processes and lumber yard practices.


445-455 (138abc) FOREST ENGINEERING. 3 Q. A. W. 4 (4-4). Prerequisites: Forestry 301 and 310. Survey of land use and road design and logging practices.

450-460 (195) HYDRAULICS. 1 Q. W. 2 (2-0). Prerequisites: junior standing on consent of instructor. Elementary study of the physical properties of water.

451 (131) MECHANICAL PROPERTIES OF WOOD. 1 Q. A. 3 (2-2). Prerequisites: Forestry 310, Mechanical factors related to strength of wood; elementary graphic statics; timber estimating.

452 (133) LOGGING. 1 Q. A. 3 (2-4). Prerequisites: Forestry 310, 311. Equipment and methods of logging in the United States; calculation of logging costs; the effect of logging on other forest values; fundamental elements of modern logging. Field trips.


454-455 (138abc) FOREST ENGINEERING. 3 Q. A. W. 4 (4-4). Prerequisites: Forestry 301 and 310. Survey of land use and road design and logging practices.

456 (180) WATER SHED MANAGEMENT. 1 Q. W. 5 (5-0). Prerequisites: Environmental design, or equivalent, and Journalism majors.

457 (189) ADVANCED WILDLIFE MANAGEMENT. 1 Q. A. 5 (2-2)-field (weekends). Prerequisites: Zoology 208, 390, 350, Botany 355 and consent of instructor. Advanced work in the application of population dynamics, ecology, and behavior of birds and mammals to management.

471 (167) WILDLIFE HABITAT MANAGEMENT. 1 Q. S. 5 (4-field weekends). Prerequisite: Forestry 470 and consent of instructor. May be taken concurrently with Forestry 453. Principles and techniques involved in wildlife habitat manipulation, the effects of forest and land management practices on wildlife populations, the integration of overall land and wildlife management and the assessment of management success.


473 (169) FIELD WILDLIFE MANAGEMENT. 1 Q. S. 6. Prerequisite: Forestry 471 (may be taken concurrently) and consent of instructor. Field study of land and wildlife management practices on wildlife populations.

480-491 (117ab) RESOURCE MANAGEMENT AND CONSERVA TION PLANNING. 2 Q. W. 4 (3-4), S. 5 (3-8). Prerequisites: Economics 201-202-203, Forestry 310, 360, 482 and consent of instructor. (480) Methods of analyzing and planning the multiple use management of renewable resources: the physical, economic, social, and political problems involved in integrating resource development. Problem analysis will lead to consideration of the possible alternative uses of resources as a basis of choice in conservation planning. (481) Emphasis on field work in working out problems of integrated resource management and developing conservation plans for selected land areas involving several land uses.

482 (170) SOIL AND WATER CONSERVATION. 1 Q. A. 4 (3-4). Prerequisite: Forestry 411 and consent of instructor. Principles and methods of soil and water conservation related to soil type, condition and land use. Field techniques in land use planning and application for soil and water conservation.

483 (171) LAND USE POLICY. 1 Q. W. 3 (3-6). Prerequisites: junior standing in the field of Forestry. Principles involved in the determination and implementation of land use policies.

484 (172) PERMANENT WILDLIFE MANAGEMENT. 1 Q. W. 3 (2-4). Prerequisite: junior or senior standing and consent of instructor. A study of the controlling factors necessary for the intelligent application of sound management practices to watershed management. It involves the movement and measurement of water, snow surveys, the analysis of the problems of range, forest, and wildlife management to watersheds and their relationships to the control of soil erosion and water conservation.

490 (116) FOREST METEOROLOGY. 1 Q. W. 4, (4-9). Prerequisites: Physics 111-112, junior standing in the School of Forestry and consent of instructor. A general review of the newer developments in the various fields of meteorology. Application of weather information to forest management.

491 (133) SENIOR SEMINAR. 2 Q. A. W. Credit variable. Prerequisite: senior standing. A general review of the newer developments in the various fields of forestry.

492 (191) FOREST PROBLEMS, 3 Q. Any quarter. Credit variable. Prerequisites: completion of basic undergraduate work and consent of instructor. The basic meteorological factors influencing forest growth. The effects of climate on forest growth and productivity. The economic problems involved in the management of forest and wildlife resources.

600 (209) THESIS. Any quarter. Credit variable. Independent graduate research. The type of problem will be identified for forest majors as follows: Management, Silviculture, Soils, Economics, Protection, Engineering, Range Management, Wildlife Management, Conservation and Recreation, General.

520 (195) PUBLIC ADMINISTRATION. Extension course. W. Credit variable. Prerequisite: undergraduate degree from a college or university of recognized standing or consent of the Dean of the School of Forestry based on applicants' experience and competence. Intensive instruction in the fundamentals of sociology, psychology, speech, public speaking, and public relations. Field trips.

521 (196) RESEARCH METHODS. 2 Q. A. W. 3. Students may enter any quarter. Prerequisites: at least one course in statistical methods and one in either social science or natural science. Scientific method, application of statistical methods to the design of experiments, research techniques, organization of research findings, and formulation of research results.

522 (197) RESEARCH. Any quarter. Credit variable. Independent graduate research. The type of problem will be identified for forest majors as follows: Management, Silviculture, Soils, Economics, Protection, Engineering, Range Management, Wildlife Management, Conservation and Protection or General.

523 (198) THESIS. Any quarter. Credit variable. Independent graduate research. The type of problem will be identified for forest majors as follows: Management, Silviculture, Soils, Economics, Protection, Engineering, Range Management, Wildlife Management, Conservation and Protection or General.

524 (199) THESIS. Any quarter. Credit variable. Independent graduate research. The type of problem will be identified for forest majors as follows: Management, Silviculture, Soils, Economics, Protection, Engineering, Range Management, Wildlife Management, Conservation and Protection or General.
GENERAL COURSES are offered as surveys or introductions to broad fields of learning, but there is no "general course" in which a degree is offered. Any University student is encouraged to study in many fields as a matter of general education; and specialization in one curriculum, although required in order to graduate, is strictly limited (see Graduation Requirements). It has also been found advisable to provide certain degree-curricula which overlap in other pages of the guidebook and in which the specialized instruction is drawn from several fields. The curricula in Biological Sciences, Liberal Arts, Physical Sciences, Secretaryial—Home Arts, Pre-Medical Science and Wildlife Technology are examples. It has also been found desirable to provide particular courses which overlap two or more fields; these are described below.

135 (25) PHYSICAL SCIENCE FOR TEACHERS. 1 Q. W. Su. 5. Open only to majors in Elementary Education. A survey of the physical aspects of the universe. Three broad areas form the basis of the course: the structure of matter, the processes which affect matter, and the laws which govern matter.

136 BIOLOGICAL SCIENCE FOR TEACHERS. 1 Q. S. Su. 5. Open only to majors in Elementary Education. A survey of plant and animal kingdoms with special reference to the laws governing living things.


151-152-153 (15abc) INTRODUCTION TO THE HUMANITIES. 3 Q. A. W. S. S. 3. Students may enter any quarter. Those who have completed it or more college work in literature may not receive credit in this course. A general survey of the field of the Humanities. Emphasis on the art and literature through the centuries from the Greeks to Americans, with the primary aim of understanding and appreciation. Given by the departments of English and Foreign Languages.

390 (100) CONSERVATION OF NATURAL AND HUMAN RESOURCES. 2 Q. A. S. 3. Prerequisite: consent of instructor. The essential need for improved conservation practices. A critical survey of climate, vegetation, soils and water, as related to animal and human welfare, and the development of principles underlying improved management of natural resources. Survey of human and cultural resources. The methods of social implementation of desired practices. Primarily a teacher training course. Does not satisfy requirements for degrees in Ecology or Zoology or the group requirements in science.

430 (150a) WILDLIFE SEMINAR. 1 Q. A. 2. Prerequisite: senior standing in Wildlife Technology or Forestry. Legal problems, policy and administrative problems.

GENERAL LITERATURE

These courses may be applied toward a major in the Department of English, except for Electives 161, 241, 242, 401, and 401-421-492 and 492-493 will be allowed toward a major in foreign languages.

161 (51) CLASICAL MYTHOLOGY. (See Foreign Languages.)

221 (151) FOREIGN LITERATURES IN TRANSLATION. (See Foreign Languages.)

241-242-243 (17abc) THE DRAMA. (See English.)

344-345 THEORIES OF DRAMA. (See English.)

440 (153) STUDIES IN COMPARATIVE LITERATURE. (See Foreign Languages.)

451-452-453 (171a) RENAISSANCE LITERATURE. (See English.)

461-462-463 (180abc) THE LITERATURE OF ROMANTICISM. (See English.)

491-492-493 (169abc) LITERARY CRITICISM. (See English.)

GEOGRAPHY is the science of the earth's surface by means of which geographers attempt to describe systematically the distribution of both physical and cultural elements and to interpret this distribution in relation to physical law and human motivation. The significance of this distribution is of prime importance in human affairs.

Physical geography includes an analysis of climate, natural vegetation, soils and water resources, while cultural geography interprets the distribution of population, settlements, and the location of economic activities and political features. These features exist on the earth's surface in contrasting associations and patterns. The regional method, as well as the function, use, and construction of maps, is essential for the student of geography.

Geography is basic to an understanding of the world in which we live and of the events which take place around us. Employment opportunities for those trained in geography exist in government, business and industry, and in the teaching profession.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN GEOGRAPHY. In addition to the general requirements for graduation listed earlier, the student must complete 12 credits in Geography including Geography 101, 211, 212, 213, 300, 301, 302, 303, and two of four Geography courses 301, 303, 410 and 345; Economics 201-202-203; Geography 110-120; Political Science 203-204; and Sociology 101 or Anthropology 152.

The foreign language requirement listed earlier in the guidebook may be satisfied; French or German are strongly recommended. Some students may wish to specialize in a part of the world where the use of some other language prevails.

CURRICULUM IN GEOGRAPHY

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<th>Course</th>
<th>Freshman Year</th>
<th>Sophomore Year</th>
<th>Junior Year</th>
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<tbody>
<tr>
<td>Eng. 101-102-103—Foreign Composition</td>
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<td>4 Cr</td>
<td>2 Cr</td>
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<td>Geog. 110—General Geography</td>
<td>5 Cr</td>
<td>5 Cr</td>
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<td>Elective—Group I or III</td>
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<tr>
<td>H&amp;PE 101-102-103—Foreign Physical Education</td>
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<td>1 Cr</td>
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<td>ROTC 101-102-103—Military or Air Science</td>
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<td>GEOGRAPHY 101—Intermediate French or German</td>
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<td>5 Cr</td>
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<tr>
<td>H&amp;PE 201-202-203—Military Physical Education</td>
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<td>Elective—Group I or III</td>
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<tr>
<td>Elective—Geography 301, 303</td>
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<td>Elective—Geography 345</td>
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<td>Geog. 450—Seminar in Geography</td>
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</table>

FOR UNDERGRADUATES

101 (11) ELEMENTS OF GEOGRAPHY. 1 Q. A. W. S. 3. The field, content and methodology of geography, with emphasis on the earth and planetary relations, maps, weather and climate, landforms and their effect upon population distribution. 211-212-213 (Econ. 171ab) ECONOMIC GEOGRAPHY. 3 Q. A. W. 3. 3. 3. (211) The industries producing food and raw materials: (212) the major service industries and the factors which influence the location of industries; (213) service industries with an emphasis on trade and transportation. A review of economic regions.

300 CARTOGRAPHY. 1 Q. A. 3. An introduction, construction, and uses of important map projections. Cartographic techniques utilized in the presentation of data.

300 GEOGRAPHY OF NORTH AMERICA. 1 Q. W. 3. Prerequisite: Geography 101 or equivalent. The geographic regions of the United States and Canada and the relations of the environmental factors to economic and social development.
Mining company staffs and the teaching professions include most of the remaining professional geologists. Railroads, large construction companies, and state highway departments employ geologists in increasing numbers. Some experienced geologists serve as professional instructors. Graduates have been successful in all of these fields of professional geology.

**CURRICULUM IN GEOLOGY**

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<tr>
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<td>101-105</td>
<td>English—101-105 (or 101-102-103)</td>
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<td>106-123</td>
<td>Chemistry—106-123</td>
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<td>130</td>
<td>Geology—130</td>
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<td>or</td>
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<td>18</td>
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</table>

**FOR GRADUATES**

500 MODERN GEOGRAPHIC THOUGHT. 1 Q. S. 3. The analysis of geographical concepts, approaches, and techniques developed in the twentieth century.

590 RESEARCH METHODS AND MATERIALS. 1 Q. A. 3. The collection and preparation of geographical research, including field techniques, interviewing, library sources, and the cartographic presentation of data.

690 THESIS. Any quarter. Cr. Variable. Total cr. allowed: 15.

**GEOLOGY**

is the study of the materials of which the earth is made, the processes by which it is changed, and the history of its development. The science aids in location and exploitation of minerals and fuels, and it assists in more efficient utilization of soils, building materials, water, and other natural resources.

The Bachelor of Arts degree requires a total of 16 credits in Geography including current depth, and 4 credits in Geography including current breadth.

**FOR UNDERGRADUATES**

101-102 (11ab) INTRODUCTION TO GEOLOGY. 2 Q. A. W. (Summer). 10 credits. A, B. This course is designed to acquaint students with the geology of the earth and its development through geologic time, with emphasis on changes of land and sea and their relation to the evolution of life. Not open to geology majors.

110 GENERAL GEOLOGY. 1 Q. A. 5 (3-4). Open to non-majors with consent of instructor. Minerals, rocks, and structure of the earth's crust and the dynamic processes, volcanism, diastrophism, and gradation which shape the earth's surface; 10 credits.

2. G. S. 3.Ordinarily the student is certificated as having completed the work of the first year of Law to the satisfaction of the School of Law.

FIELD TRIP EXPENSES. Students enrolled in Geology 130, 201-202, 230, 305, 330, 331-332, and other courses which include field trips share equitably the cost of transportation and insurance. Students should consult with the Geology Business Office for a statement of expenses connected with Geology 320 Field Geology.

**FOR GRADUATES**

2. G. S. 3. 58 credits.

**HIGH SCHOOL PREPARATION**

In addition to the general requirements for admission to the University, the student needs algebra. It is also recommended that high school preparation include advanced courses in science, languages, and English.

**SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN GEOLOGY**

In addition to the general requirements for graduation listed above, all students must complete the following special requirements. All requirements must be completed for the Bachelor of Arts degree with a major in Geography.

1. University requirements, (English, 10 credits; Group II, 12 credits; Group III, 12 credits, Foreign Language, 23 credits, of which can be applied toward Group III—...

2. Geology course requirements (24 credits).

3. Other requirements (Mathematics, 15 credits; Chemistry, 15 credits; Physics, 15 credits; Zoology, 15 credits; English, 4 credits).

4. Military Science

5. Health and Physical Education

6. Electives

Total 186 credits.

**FOR GRADUATES**

2. G. S. 3. 58 credits.

**SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN GEOLOGY**

In addition to the general requirements for graduation listed above, all students must complete the following special requirements. All requirements must be completed for the Bachelor of Arts degree with a major in Geography.

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2. Geology course requirements (24 credits).

3. Other requirements (Mathematics, 15 credits; Chemistry, 15 credits; Physics, 15 credits; Zoology, 15 credits; English, 4 credits).

4. Military Science

5. Health and Physical Education

6. Electives

Total 186 credits.
**PHYSICS AND MATHEMATICS REQUIREMENTS**

- **Physics 113, or 223**
- **Mathematics 153** or concurrent registration

**Special Equipment**
- **Polarizing Microscope**
- **Similarly treats metamorphic and sedimentary rocks**

**Course Descriptions**

**410 (3) FIELD METHODS.** Q. S. 3 (1-3)

- **Prerequisite:** Geology 110, 120
- Applied geologic map and aerial photo interpretation. Emphasis on identification of geologic and topographic maps. Familiarization with the Brunton compass, alidade, Jacob staff, and chaining; the measurement and description of stratigraphic sections. Some all day field trips on Saturdays chiefly in May.

**411 (1) SEMINAR.** Q. W. 1 (2-0)

- **Prerequisite:** senior standing in Geology.

**420 (2) GEOCHEMISTRY.** 1 Q. S. 3 (2-0)

- **Prerequisite:** Geology 203, 220
- The application of physical chemistry in the study of the origin, internal structure and composition of the earth. Offered odd numbered years.

**421 (2) GEOPHYSICS.** 1 Q. S. 3 (2-0)

- **Prerequisite:** Geology 203, Physics 113 or 223; Geology 420
- The application of physical geology.

**430 (3) INTRODUCTION TO GEOPHYSICS.** 1 Q. S. 4 (2-3)

- **Prerequisite:** Geology 110, 120, Zoology 106-109 recommended
- The crystal structure and composition of clay minerals; ion exchange reaction, clay-water chemistry; chemistry of formation of clay minerals.

**540 (132) METALLIC MINERAL DEPOSITS.** 2 Q. W. S. 4, 4 (2-3)

- **Prerequisite:** Geology 331
- The classification of mineral deposits according to their structural environment and features, with special reference to origin as related to tectonic control. Offered even numbered years.

**550 (999) THESIS.** Any quarter. Credit variable. Total credit allowed: 15.

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**GRADUATE SCHOOL.**

The following advanced degrees are conferred by the University:

- **Master of Arts—Major in Anthropology, Art, Botany, Chemistry, Geology, Health & Physical Education, Home Economics, Mathematics, Physics, and Zoology.
- Master of Business Administration.
- Master of Science in Forestry.
- Master of Science in Pharmacy.
- Master of Science (combined major in Botany and Forestry).
- Master of Arts in Education.
- Master of Arts in Journalism.
- Master of Science in Wildlife Management.
- Master of Science in Wildlife Technology.
- Master of Education.
- Master of Forestry.
- Master of Music—Major in Applied Music, Composition, Music Education.
- Doctor of Education.

**GENERAL REQUIREMENTS**

**ADMISSION.** A student who is a graduate of an accredited college or university may apply for admission to the Graduate School. To apply, a student must submit a properly completed application blank and two official transcripts from all university work. Letters of recommendation may be requested of applicants in certain areas, and applications for graduate assistantships and fellowships must
be supported by at least two letters of recommendation. Application blanks may be secured from the Dean of the Graduate School or from the Registrar.

Full graduate standing is granted to students working toward advanced degrees whose qualifications and attainments are satisfactory. Provisional graduate standing is granted to students whose records are under question until probationary standing has been established by the Dean of the School at which they are enrolled. Students who have scholastic deficiencies at the time of admission, or who have substantial deficiencies at any later time, or who have who have completed other work after one or more quarters of satisfactory work, be advanced to full graduate standing upon placement by the student's advisor and by the Dean of the Graduate School.

The applicant must have completed the minimum requirements for graduation at Montana State University before being eligible for admission to graduate study. A minimum of 54 graduate credits must be earned for a Master's degree at Montana State University.

Students who hold a Bachelor's degree and who have completed 24 credits in a major field of study in graduate study in the School of Education, The Master of Arts in Education and the Master of Education are not required. Students who hold a Bachelor's degree at Montana State University may be admitted as students on the basis of their performance in the College of Arts and Sciences and for the Master of Arts with a major in Education. This is required for candidates for the Master of Science degree in the College of Arts and Sciences and for the Master of Science degree in Language and Literature. A minimum of 15 graduate credits is required for the Bachelor's degree. The language requirement may be met in one of the ways outlined in the Guidebook under LANGUAGE REQUIREMENTS FOR GRADUATION.

ADMISSION TO CANDIDACY. For the Master's degree, the applicant's record is carefully considered before admission. A candidate for the Master of Arts degree in the field of study must have an average of 85 or better for the first quarter of residence, he may be admitted to candidacy for the degree at the beginning of his second quarter. At the end of the second quarter, the candidate must have completed 60 credits or more of satisfactory work, at least 15 of which must be in the major field of study, the student must file in the Graduate School an application for admission to candidacy and submit a tentative title for his thesis or professional paper.

THESIS. Not over 15 credits in course 999 may be applied toward the Master's degree.

The subject of the thesis must be approved by the major professor and by the Dean of the Graduate School. By the end of the fifth week of the quarter in which the degree is to be conferred the candidate must submit to the office of the Graduate School an unabridged committee draft of the thesis as approved by his adviser. This copy is to be read by the examining committee and by any other person called upon, in order to support his title by oral or written argument. This copy, subject to the approval of the committee, this committee is appointed by the Dean of the Graduate School and consists of two members, and must include at least two faculty members in the major field.

Three bound copies of the approved thesis must be submitted to the Dean of the Graduate School.

ABSTRACT. Each candidate for a degree is required to prepare an abstract of the thesis or project approved by the examining committee and submitted to the Dean of the Graduate School.

EXAMINATIONS. Each candidate for a degree must pass examinations which may be oral or written. He will also be examined on his thesis or professional paper. The examination must be approved by the examining committee and submitted to the Dean of the Graduate School.

SPECIAL REQUIREMENTS

MASTER OF ARTS AND MASTER OF SCIENCE DEGREES. No student will be considered for admission to candidacy for the Master of Arts degree at Montana State University unless that student has presented evidence of intensive study and investigation in his field of specialization.

A minimum of two-thirds of the 45 credits required for the Master's degree must be in the major field. The remainder of the work must be made up of courses approved by the department head.

A maximum of 15 graduate credits in Education taken as undergraduate and graduate credit shall not be less than 5 credits.

Two programs leading to the Master of Education degree are available:

1. Master of Education With Professional Paper. Candidates for this degree must complete 45 credits of graduate work, including credit in Methods of Educational Research and 15 graduate credits of cognate work based upon a minimum of three courses. (See requirements for Master of Arts in Education.)

The candidate must prepare a professional paper which represents the equivalent of a three-credit course. This paper should involve research or constructive teaching experience and should comply in mechanical and typographical features with the requirements prescribed for a thesis. A copy of the paper must be bound and submitted to the Dean of the School of Education.

2. Master of Education Without Professional Paper. Candidates who have completed an equivalent of 45 graduate credits, including Methods of Educational Research (Education 693 or equivalent) and not less than 15 credits in cognate work, may take examinations covering the field of education such as to be arranged by the Dean of the School of Education.

Courses taken by students entering the program leading to the Master of Education degree must be approved by the candidate's department head. The examination will be made by the Dean of the School of Education.

A. Master of Education Without Professional Paper. Candidates will be required to take examinations covering a total of 54 graduate credits, including Methods of Educational Research (Education 693 or equivalent) and not less than 15 credits of cognate work. These examinations will cover the field of education such as to be arranged by the Dean of the School of Education.

Courses taken by students entering the program leading to the Master of Education degree must be approved by the candidate's department head. The examination will be made by the Dean of the School of Education.

B. Master of Education Without Professional Paper. Candidates who have completed an equivalent of 45 graduate credits, including Methods of Educational Research (Education 693 or equivalent) and not less than 15 credits in cognate work, may take examinations covering the field of education such as to be arranged by the Dean of the School of Education.

Courses taken by students entering the program leading to the Master of Education degree must be approved by the candidate's department head. The examination will be made by the Dean of the School of Education.
HEALTH AND PHYSICAL EDUCATION

45—HEALTH AND PHYSICAL EDUCATION

MASTER OF ARTS OR MASTER OF SCIENCE IN TEACHING.

The degree of Master of Arts or Master of Science in Teaching, or Master of Science in Teaching, according to the major field of work and to the candidate. For the Bachelor of Arts or Bachelor of Science degree, the candidate must have 120 quarter credits of approved course work beyond the Master of Arts or Master of Science degree. For the Bachelor of Science degree, the candidate must have 150 quarter credits of approved course work beyond the Master of Arts or Master of Science degree. The courses must be in the major field of study and must be accepted by the Graduate School. The courses must be assigned to the Graduate School, the following special requirements must be met:

1. A teaching certificate and an undergraduate major or teaching major in the major field of study for admission to the Graduate School, the following special requirements must be met:
2. Approval of the student by a committee composed of two staff members from the major field and one staff member from the School of Education.

Specific requirements for the degree with a major in the Biological Sciences:

OPTION I
A. 45 graduate credits with a maximum of 17 outside the Biological Sciences.
B. A minimum of 10 of the 17 credits in allied sciences.
C. Research and thesis, 6-9 credits.
D. Final oral examination required (written examination may be required).

OPTION II
A. 54 graduate credits divided as follows:
1. 33 in the Biological Sciences
2. 10 in allied sciences
3. 9 credits elective
4. Final oral and written comprehensive examinations required.
5. A committee of three is appointed by the Dean of the Graduate School, to develop and recommend the program of study: one member from Botany, one from Zoology, and one from the School of Education.

MASTER OF FORESTRY.
Candidates must have 45 credits in graduate course work in the major field of study. A minimum of 25 graduate credits in Forestry is required. The remainder of the work may be in other fields acceptable to the Dean of the Graduate School.

A professional paper must be prepared under the direction of the major professor. The subject matter of the paper must be approved by the Dean of the School of Forestry and by the Dean of the Graduate School.

A copy of the professional paper must be submitted to the Dean of the Graduate School.

Examinations must be taken during the final month of the quarter in which the degree is to be conferred.

MASTER OF MUSIC.
Candidates for this degree must present 45 credits in courses offered for graduate credit, including credit for work on the professional paper, which must be prepared under the direction of the major professor. A minimum of 33 credits will be in the specific required courses in the areas of Applied Music, Musicology, Aesthetic, and Music Education majors, Music Education. Subject matter of the major professor must be approved by the Dean of the School of Music and by the Dean of the Graduate School. Three copies of this professional paper must be submitted to the Dean of the School of Music.

A theory placement test will be taken by all candidates for this degree.

Candidates for this degree with a major in Music Education must have completed one year of satisfactory teaching experience before the degree is conferred.

Candidates for the degree with a major in Applied Music must pass satisfactorily an audition of their major instrument prior to admission to candidacy. They will be required to perform a full solo recital and to submit a professional paper before the degree is conferred.

Candidates for this degree with a major in Composition will submit a professional paper consisting of music written by the candidate and arranged or composed by the candidate.

All candidates will take an oral examination covering the major field of study and the content of the professional paper. The Dean of the Graduate School will be the advisor of the candidate. The candidate will submit his program to the Dean of the Graduate School, and must be completed at least one week before the degree is conferred.

THE DOCTOR'S DEGREE

The degree of Doctor of Education is offered in the School of Education. The degree of Doctor of Philosophy may also be offered in the School of Education and in various fields within the University. Programs will be announced as they are developed.

THE DEGREE OF DOCTOR OF EDUCATION

The doctor's degree is conferred in recognition of breadth of scholarly experience and demonstrated ability to investigate problems independently and to present results in a comprehensive and coherent form. The program is designed to provide advanced training in teaching, administrative, or supervisory positions in Elementary or Secondary Education, for those preparing to teach in Colleges and Schools of Education, and for those interested in doctoral research in Education or with special interest in the field. Students enrolled in this program are expected to participate in activities that are more than a lecture and will provide both breadth of viewpoint and technical experience.

ADMISSION.

The student must receive full admission to the Graduate School. In no case will an accredited institution and must present evidence of successful teaching or administrative experience. Reference will be requested.

RESIDENCE REQUIREMENTS. A minimum of nine quarters of resident work will be required. Fourteen quarter quarters beyond the Master's level, exclusive of the Doctoral Dissertation, must be taken in residence at Montana State University. Thirty of these forty-five credits must be taken in continuous residence. For the purpose of doctorate work, a minimum of 10 quarter credits will be necessary to establish a quarter of residence.

COURSE REQUIREMENTS, DISTRIBUTION, AND QUALITY OF WORK. The candidate will submit a minimum of 125 quarter credits of graduate work including 120 quarter credits of approved course work beyond the Master's level. The candidate for the Ed. D. degree must complete 180 quarter credits of graduate work in Education. The candidate for the Ed. D. degree must include the following courses: Methods of Educational Research, Measurement, Philosophy of Education, and, if not taken previously, at least one course in each of the following fields: Educational Administration and Supervision; Classroom, Educational Psychology, Elementary Education, Guidance, Higher Education, History and Philosophy of Education and Educational Sociology, and Secondary Education.

A minimum of 45 quarter credits of graduate work in cognate areas is required. The distribution of this work will be determined by advisement.

A grade of "B" will be required for resident work at Montana State University. No work of "C" grade will be accepted in transfer from other institutions and no extension credit above the Master's level will be accepted.

TIME LIMIT. Sixty of the total graduate credits of course work exclusive of the dissertation and the Doctoral Dissertation, teaching, administrative, and other services in Education, History, and Philosophy of Education. These examinations may be oral or written or both.

ADVANCEMENT TO CANDIDACY. At least two weeks before the comprehensive examination, the candidate shall file an application for candidacy for the doctor's degree. Application forms may be secured from the Graduate Dean. The candidate must file the application for candidacy. The recommendation of the candidate for advancement to candidacy must be approved by the Graduate Dean of the Department of Education. The candidate will be advanced to candidacy for the degree at his request.

DISСERTATION. The candidate must submit a dissertation which will be evaluated by a committee of at least three members. The dissertation will be evaluated by a committee of at least three members. The dissertation will be evaluated by a committee of at least three members. The dissertation may be a thesis of existing knowledge or a contribution to knowledge. In either case it must show mastery of related literature and be written in creditable literary form. Fifteen to thirty credits may be allowed for the dissertation. The dissertation will be submitted to the Graduate School at least six times before the date of the final oral examination. Two copies of an abstract of the dissertation will be filed with the Graduate School at the same time.

FINAL EXAMINATION. A final oral examination dealing primarily with the candidate's research will be held. The examination shall be held in the field of study at the time of the commencement at which the degree is conferred. The examination shall be conducted on a date during the week before the commencement at which the degree is conferred. The examination shall be conducted on a date during the week before the commencement at which the degree is conferred. The examination shall be conducted on a date during the week before the commencement at which the degree is conferred. The examination shall be conducted on a date during the week before the commencement at which the degree is conferred. The examination shall be conducted on a date during the week before the commencement at which the degree is conferred.

HEALTH AND PHYSICAL EDUCATION

deals primarily with recreation and muscular activity to provide individuals with wholesome psychomotor and overall physical development. The program at the University is designed to provide instruction in a wide variety of recreational skills for the freshman and sophomore men and women. These courses are designed for students to organize and to compete with one another in such activities as archery, badminton, basketball, bowling, golf, handball, swimming, tennis, touch football, softball, and volleyball, and (6) preparation for teaching.

Four years are required for a bachelor's degree for those who wish to specialize in Health and Physical Education. The bachelor's degree is awarded (see Graduate Studies). Undergraduate courses provide instruction and development in the knowledge and skills required for careers in the teaching of recreation, health, and physical activities. These courses include planning and administration of physical education programs and the use of sound teaching techniques. The curriculum
HEALTH AND PHYSICAL EDUCATION—45

includes work in corrective physical education and physical therapy, dealing with the rehabilitation of crippled persons and the correction of physical defects. Students may take courses in physical therapy. The health education and the correction of orthopedic defects; students may participate in physical education at various health agencies toward the betterment of human health and welfare. Recreational leadership courses offer training in handicraft and recreational skills for leaders of youth groups. All levels of American Red Cross certification are offered. Students have the opportunity to participate in cutting edge work in physical therapy. The growth of the community recreation movement is increasing the opportunities for graduates to become directors or instructors in community recreation programs.

**REQUIREMENTS FOR THE UNDERGRADUATE DEGREE**

The requirements for the Bachelor of Arts degree and the Bachelor of Science degree are identical except that the Bachelor of Science degree requires 8 semester hours of mathematics. For a major in Health and Physical Education, a student must take 18 semester hours in health and physical education with a grade of "C" or better in all courses in the major.

**COURSE DESCRIPTIONS**

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**1. SOMATIC PHYSICAL EDUCATION**

- **180** (20) HUMAN ANATOMY. 1 Q. S., odd numbered years. 3. Prerequisite: Sociology 101. Theoretical and practical aspects of the human body and its parts; structure and function. Credit not allowed for this and the identical course in Sociology.

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**2. TECHNIQUES OF TEACHING SWIMMING.** 1 Q. S. 2. Prerequisite: completion of University swimming test or consent of instructor. Methods of teaching swimming, and use of tests for classification. Required for physical education majors. 280 (30) W. 1. 3. Prerequisite: H&EPE 311 or equivalent. Practice experience.

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**3. WATER SAFETY AND LIFE SAFETY.** 1 Q. S., odd numbered years. 2. Prerequisite: Red Cross Senior Life Saving certificate. The Red Cross of Greater Chicago, Red Cross Instructor's Certificate awarded upon successful completion of requirements. 280 (311) W. 1. 4. Prerequisite: H&EPE 335. Required for this and the identical course in Sociology.

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**4. CARE AND PREVENTION OF ATHLETIC INJURIES.** 1 Q. W., even numbered years. 2. Common athletic injuries, their causes, prevention and care. Practical work in bandaging and wrapping.

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**5. HUMAN ANATOMY.** 1 Q. S., odd numbered years. 2. Theoretical and practical aspects of the human body and its parts; structure and function. Credit not allowed for this and the identical course in Sociology.

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**6. TECHNIQUES OF TEACHING TEAM SPORTS FOR WOMEN.** 1 Q. W. 1. Prerequisite: H&EPE 311 or equivalent. Practice experience.

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**8. COACHING OF BASKETBALL (MEN).** 1 Q. A: 3. 2. Required for this and the identical course in Sociology.

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**9. THEORY OF OFFICIATING BASKETBALL (MEN).** 1 Q. A: 1. Principal, rules and techniques.

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**10. COACHING OF TRACK.** 1 Q. W. 2. Theory.

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**11. COACHING OF TRACK.** 1 Q. S. 2. Practice.

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**12. MATERIALS IN SOCIAL DANCING AND TAP DANCING.** 1 Q. A: 2.

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**13. METHODS AND MATERIALS IN FOLK DANCING AND SQUARE DANCING.** 1 Q. S. 2. Required for this and the identical course in Sociology.

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**14. METHODS AND MATERIALS IN MODERN DANCE.** 1 Q. 4.

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**15. METHODS AND MATERIALS IN POPULAR DANCE.** 1 Q. 4.

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**16. METHODS AND MATERIALS IN INTRAMURAL SPORTS.** 1 Q. 4.

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**17. METHODS AND MATERIALS IN SOCIAL RECREATION.** 1 Q. W. 3. Prerequisite: Sociology 101. Philosophy of social recreation, theory and practice of group leadership and program development, techniques of selecting activities, and special requirements such as the handicapped. Credit not allowed for this and the identical course in Sociology.

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**18. RECREATION LEADERSHIP (CAMP LEADERSHIP).** 1 Q. S. 3. Prerequisite: Sociology 101. Philosophy of leadership, theory and practice of group leadership skills in recreation; development of leadership skills in related organized camping. Credit not allowed for this and the identical course in Sociology.

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**19. ORGANIZATION AND ADMINISTRATION.** 1 Q. W. S. Prerequisite: Sociology 101. Philosophy of leadership, theory and practice of group leadership skills in related organized camping. Credit not allowed for this and the identical course in Sociology.
HISTORY and Political Science are combined in a single department for administrative purposes, but a student may earn a degree in either field or in a combination of the two. A core knowledge of both is expected of every department graduate regardless of the direction or extent of his specialization.

Courses are offered in European, American, Far Eastern, Canadian, and Latin-American History.

Most students combine the fields of History and Political Science. History as taught at Montana State University is not a useless catalog of names and dates. It is the study of man's past activities with the hope that lessons may be learned which will be applicable in solving problems of the present era. For the student who is in search of a broad basis of education rather than training in specific skills, this department offers a program of instruction calculated to provide knowledge and understanding of the backgrounds and the possibilities of present national and world situations.

The department offers the Master of Arts degree in History. Pursuit of the completion of an acceptable thesis based on original research.

Occupationally this department helps to prepare men and women for either the domestic or the foreign service of the federal government and for positions in state and local governments. It not only prepares teachers, lawyers, journalists, and businessmen with bases for their chosen occupations, but also furnishes knowledge and perspective for intelligent leadership in community action.

Recommended graduates of the department are accepted for advanced work by universities both in the United States and abroad, frequently receiving valuable scholarships. Many have gone on to distinguished careers in teaching and in research. Others have been successful in government service or as lawyers, archivists, writers, or college administrators.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN HISTORY. In addition to the general requirements for graduation, the following special requirements must be completed for the Bachelor of Arts degree with a major in History. A minimum of 45 credits in History is required, with 20 credits in Field I and 25 credits in Field II.

History majors may elect a minor of 15 credits in American or European History.

A student may offer a combined major in History and Political Science with 60 credits, of which at least 20 credits must be in History and 20 credits in Political Science. A student must be selected from courses numbered over 300 including either History 491, Political Science 493 or 494.

Either the completion of five quarters of a foreign language or the demonstration of a satisfactory reading knowledge of Latin, legal, or political science materials is required. With the consent of the Chairman of the Department the student may replace the language requirement by completing three quarters each in two languages.

In the final year in the Department, each major must pass a Senior Comprehensive examination.

With permission of the Chairman of the Department, majors may offer credit earned in Economics 365, 301-305, 331, 322 and in Journalism 200 in partial fulfillment of the major requires for a degree.

To earn a Bachelor of Arts degree with a major in History and Political Science together with a Bachelor of Arts degree in six additional fields is a difficult task. The University requires both major and departmental requirements. The study of Latin is recommended in fulfilling the foreign language requirement. Because of the time involved and the field to be covered, the Department of the School of Arts and Science proposes to limit joint study in both major and field to a maximum of 30 credits.

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In the final year in the Department, each major must pass a Senior Comprehensive examination.
306 (111) MEDIEVAL CIVILIZATION. 1 Q. S. 3. Prerequisite: History 101, 207-208 or equivalent. Institutional, social, and cultural progress in the Middle Ages.

314 (29) FRENCH REVOLUTION AND NAPOLEONIC ERA. 1 Q. S. 4. Prerequisite: 207-208 or equivalent. The social, political, economic and cultural development in France and the international reactions to the revolution.


321 (122) CONTINENTAL HISTORY. 1 Q. S. 4. Prerequisite: A college course in Modern European History. The internal affairs and the external relationships of the principal European states since 1920.

321-322 (121ab) CENTRAL EUROPE. 2 Q. W. S. 4, 4. Prerequisite: a college course in Modern European history. (321) The growth and development of the states of Central Europe and the Balkans since early modern times to 1815; (322) The growth and development of the states of Central Europe and the Balkans from 1815 to the present.

324-325-326 (11ab) HISTORY OF RUSSIA. 3 Q. A. W. S. 4, 4, 4. Students may enter any quarter. Prerequisite: History 251-252.

328 (123) ECONOMIC HISTORY OF EUROPE. 1 Q. A. S. 4. Prerequisite: Economics 203. The economic development of Europe from the early Middle Ages to the present time.

330 (110) THE BRITISH EMPIRE. 1 Q. S. 4. Prerequisite: History 102 or 310. The political, social, economic and cultural development of India, Africa, and Australia from the beginning of the 19th century to the present time. Special attention will be paid to cultural, religious and intellectual trends.

330-331-332 (10ab) EUROPEAN DIPLOMACY. 2 Q. A. W. S. 3, 3. Students may enter either quarter. Prerequisite: Political Science 110 and 210.

334-346 (127ab) ENGLISH CONSTITUTIONAL HISTORY. 2 Q. A. W. S. 3. Prerequisite: History 251 or 252. The growth and development of the English state from 1840, concentrating on the ideas, development, and significance of the three political institutions: Parliament, the Crown, and the People.

339 (130) HISTORY OF CANADA. 1 Q. A. 4. Prerequisite: History 202, 221, or 251. A unified account of the history of Canada to the present time, with emphasis on the interplay of French and English influences, and on the growth of Canada as a nation.


341-342 (112) LATIN AMERICAN HISTORY. 1 Q. W. 3. Prerequisite: History 251 or 252. Latin America from 1492 to the present.

343-344 (111ab) HISTORY OF THE UNITED STATES. 2 Q. A. W. S. 3. Prerequisite: 207-208 or equivalent. The social, political, economic and cultural development of the United States from the point of discovery to the present time.

345-346 (127ab) ENGLISH CONSTITUTIONAL HISTORY. 2 Q. A. W. S. 3. Prerequisite: History 251 or 252. The growth and development of the English state from 1840, concentrating on the ideas, development, and significance of the three political institutions: Parliament, the Crown, and the People.

348 (147) ECONOMIC HISTORY OF ENGLAND. 1 Q. A. S. 4. Prerequisite: history 242 or 251. Discovery and development of modern England; the growth and development of the British Empire.

349 (139) HISTORY OF THE INDIAN INDIAN. 1 Q. A. 4. Prerequisite: History 202, 221, or 251. The development of Indian society from the earliest days to the present time, with emphasis on the social, economic, and political development of the Indian continent.

350 (140) THE AMERICAN REVOLUTION. 1 Q. S. 3. Prerequisite: History 242 or 251. Causes and development of the American Revolution; the economic, social, and political development of the United States from 1763 to 1840.

352 (131) RECENT AMERICAN HISTORY. 1 Q. S. 3. Prerequisite: History 242 or 251. The development of the United States from 1840 to the present.


10. AMERICAN DIETETIC ASSOCIATION: These requirements are variable and the student should consult his advisor.

11. RESEARCH FOR INSTITUTION STUDY: Chemistry 121-122-123, 245, 260, 345-346-347; Bacteriology 300.

CURRICULUM IN HOMEROOM ECONOMICS

WOMEN

Freshman year

English 191-195 Freshman Composition and Soc. 101

1. Elem. Soc.'s Payroll Office 5

1. Chem 101-102-103 General Chemistry 5


1. Art 125-Color and Design 5

1. H. E. 101-Intro. to Personal Living 3

1. H. E. 101-Intro. to Home Management 3

1. H. E. 151-Clothing Selection 3

1. H. E. 155-Textile Selection 3

1. Health & P.E. 201-202-203 1

1. H.O. C. T. 101-102-103-Military or Air Science 2

Sophomore Year

H. E. 210-Household Equipment 3

H. E. 242-Meal Preparation 3

H. E. 246-Elementary Nutrition 3

H. E. 257-Clothing Construction 3

Electives 1

Sociology 204-Courtship and Marriage 3

(1) Foreign Language 5

(2) Group requirements 5

Electives 1

Freshman Year

H. E. 210-Household Equipment 3

H. E. 242-Meal Preparation 3

H. E. 246-Elementary Nutrition 3

H. E. 257-Clothing Construction 3

Electives 1

Art 125-Color and Design 3

English 101-105 Freshman Composition 5

Bus. Ad. 201-202-203 Elementary Accounting 5

Electives, language, or group requirements 6

Electives, language, or group requirements 6

P. E. 101-102-103-Physical Education 1

H. O. C. T. 101-102-103-Military or Air Science 2

or

Junior year

H. E. 302-Household Furnishings 3

H. E. 300-Problems of the Consumer 3

Chem. 200-Organic Chemistry 3

Chem. 204-Physiological Histology 3

Bact. 200—Elementary Bacteriology 5

Journ. 360, 362-Advertising 5

Bus. Ad. 340-Introduction to Organization & Management 5

Zoo. 202—Human Physiology 5

Electives, language, or group requirements 5

Senior year

H. E. 346-Nutrition (Credit not allowed for this

H. E. 246) 4

H. E. 431—Institution Cookery 4

H. E. 343—Institution Buying 4

H. E. 435—Institution Org. and Management 4

H. E. 434—Food Cost Control 4

H. E. 438—Principles of Küchen Pur. 2

H. E. 435—Food Service in Institutions 3

Bus. Ad. 451—Plant and Equipment Management 3

Soc. 311—Home and Family Life 4

Electives, language, or group requirements 6

16 15 15

The above curricula in addition to giving a student a B. S. degree in home service management qualifies the student for American

*Home Economics majors may take either H. E. 246 or 346 but not both.

Dietetic Association internships. For a B. A. degree sciences listed above, except those required to satisfy group requirements, may be omitted and language and electives substituted.

FOR UNDERGRADUATES

102 (17a) INTRODUCTION TO PERSONAL AND FAMILY LIVING. 1. Q. W. S. 3 (3-4). Aspects of Home Economics in relation to the student's personal and family living.

104 INTRODUCTION TO HOME MANAGEMENT. 1. Q. W. S. 2 (3-4). Elementary problems in home living.

105 (11) HOME CRAFTS. 3. Q. Any quarter on demand. 1, 1-9. Students may enter any quarter. Selected homemaking skills. Offered by various instructors under different titles.

141 (17b) INTRODUCTION TO FOODS. 1. Q. W. S. 4 (2-4). The production, selection and preparation of foods.

131 (17c) SELECTION AND CARE. 1. Q. W. S. 2 (1-2). Prerequisite: Art 125. Artistic and economic factors in wardrobe planning and selection for the family. Care and repair of clothing.

155 (82) TEXTILE SELECTION. 1. Q. W. S. 3 (2-2). Prerequisite: Art 125. Fabrics for family clothing and home furnishing. Analysis of fibers, weave, construction and care.


242 (21) MEAL MANAGEMENT. 1. Q. W. S. 3 (2-4). Prerequisite: Home Economics 141. Meal planning and the service of food in the home. Selection and care of dining equipment and services. Principles of menu making and food purchasing. Table etiquette and table decoration.

246 (24) ELEMENTARY NUTRITION. 1. Q. W. S. 4 (4-0). Fundamental principles of adequate human nutrition.

247 (21) ELEMENTARY NUTRITION. 1. Q. W. S. 3 (3-4). Prerequisites: Food Science 151, 155. Basic principles and techniques of health and modern food preservation, care and selection of sewage equipment, pattern alteration and clothing involved in construction of simple wool and cotton garments for the student.


248 (21) WEAVING. 1. Q. S. 2 (1-2). Prerequisite: Art 125. The interrelationships of various cultural techniques, care and use of fabrics for home and family clothing. May be offered by extension and as an evening class for 1 credit.

252 (19) FIBER CONSERVATION. 1. Q. W. S. 2 (2-2). Prerequisites: Home Economics 141, 242. The fundamental methods used in conserving, processing, and storing family processed foods.

311 (139) ELEMENTARY COOKERY. 1. Q. A. 4 (1-Work one complete summer in Lodge) Prerequisite: Home Economics 242. Application of scientific principles of cookery to large quantity food preparation in institutional kitchen. Students must do laboratory work by working ten weeks during the summer months in an approved institutional kitchen. This laboratory work must be taken the summer previous to enrolling in the course.

FOR UNDERGRADUATES AND GRADUATES

302 (119) HOUSEHOLD FURNISHINGS. 1. Q. W. S. 3 (2-4). Prerequisite: Art 125 and Home Economics 140. Furniture selection and home furnishing. Laboratory problems in renovation, repair, and care of materials in the home.

303 (112) HOME PLANNING. 1. Q. S. 2 (1-3). Prerequisites: Home Economics 242, 246. Home Economics planning of a home.


310 (127) HOME LIVING CENTER. 1. Q. A. S. 4. Prerequisites: Home Economics 140, 141. Taken concurrently with Home Economics 311. Autumn registration is restricted to those home economics majors who take Education 405 as pre-fall teaching.

311 (128) HOME MANAGEMENT. 1. Q. A. S. 2 (3-4). Prerequisites: Home Economics 102, 194, 242, 246 and 240. Open to non-majors. Taken concurrently with Home Economics 311. Autumn registration is restricted to those home economics majors who take Education 460 as pre-fall teaching.

312 (131) METHODS OF TEACHING HOME ECONOMICS. 1. Q. W. S. 2 (2-4). Prerequisites: Education 305 and Home Economics 102, 104, 106, and 108. The fundamental principles of organization, unit planning, and method of presentation of subject matter. (Home Economics majors should take this course as Education 321.)

313 (134) EXPERIMENTAL FOODS. 1. Q. S. 1 (1-4). Prerequisites: Home Economics 244, 245, 246. Foods from the scientific experiment point of view, prepared by the student, and problems dealing with food compositions and preparation. Special problems assigned individual investigations.


315 HISTORY OF CLOTHING AND TEXTILES. 1. Q. S. 3 (3-4). Prerequisite: Home Economics 247. The social and psychological influence of clothing and textiles on the development of man.

319 (121) TAILORING. 1. Q. W. S. 3 (0-4). Prerequisite: Home Economics 250. The inter-relationships of fabric, design, workmanship, and care of clothing as illustrated by construction of a suit or coat and skirt for any family member by custom tailoring methods. Open to odd numbered years.

320 (18) APPLIED CLOTHING DESIGN. 1. Q. A. 4 (3-2). Prerequisites: Home Economics 253 and Art 125. Art principles applied
grants. Many are editors and publishers, or hold positions on radio and television stations, with technical magazines, in public relations firms or advertising agencies, and government agencies. Some are distinguished scholars, authors and teachers.

CURRICULUM IN JOURNALISM

Graduates obtain positions on newspapers in Montana and in other states, including many metropolitan centers. Some are correspondents. Many are editors and publishers, or hold positions on radio and television stations, with technical magazines, in public relations firms or advertising agencies, and government agencies. Some are distinguished scholars, authors and teachers.

MAGAZINE SEQUENCE. An additional 9 hours required to be chosen from Journalism 334, 342, 344.

COMMUNITY JOURNALISM: An additional 9 hours required to be chosen from Journalism 330, 351, 352, 354, 495.

COMMUNITY JOURNALISM: An additional 9 hours required to be chosen from Journalism 330, 351, 352, 354, 495.

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COMMUNITY JOURNALISM: An additional 9 hours required to be chosen from Journalism 330, 351, 352, 354, 495.
JOURNALISM 371. A tutorial course for students wishing to specialize in reporting in particular fields such as politics, labor, finance, and science.

371 (35b) MAGAZINE ARTICLE WRITING. 1 Q. A. W. 3. Prerequisite: consent of instructor. Open to non-majors. The economics and techniques of writing and selling magazine articles. Techniques of analyzing and selling to magazine markets.

373 (133) PROMOTION AND PUBLIC RELATIONS. 1 Q. A. W. 3. Prerequisite: consent of instructor. Open to non-majors. The planning of public relations campaigns for broadcast, the role of the local station and national advertising principles of station management and sales.

380-501 COMMUNITY JOURNALISM. 2 Q. A. W. 2. Prerequisite: English 201 and Journalism 140. The techniques of writing for radio and television on news, features, and public relations.

381 (123ab) COMMUNITY JOURNALISM. 2 Q. A. W. 2.2. Prerequisite: English 201 and Journalism 140. The economics and techniques of radio and television advertising, with emphasis on copywriting, audience impact, the planning of advertising campaigns for broadcast, and the role of the local station and national advertising principles of station management and sales.

389-401 COMMUNITY JOURNALISM. 2 Q. A. W. 2. Prerequisite: English 201 and Journalism 140. The economics and techniques of radio and television advertising, with emphasis on copywriting, audience impact, the planning of advertising campaigns for broadcast, and the role of the local station and national advertising principles of station management and sales.

390 (190) PUBLIC OPINION. 1 Q. A. W. 3. Prerequisite: consent of instructor. Open to non-majors. Theories of public opinion, how they are formed, how they influence behavior, and the methods used in its measurement.

392 (124) ADVANCED JOURNALISM PROBLEMS. 1-3 Q. A. W. 3. Credit variable. Prerequisite: consent of the dean. Advanced journalism problems. Some take advanced or more specialized studies.

401 ADVANCED JOURNALISM PROBLEMS. 1-3 Q. A. W. 3. Credit variable. Prerequisite: consent of the dean. Advanced journalism problems. Some take advanced or more specialized studies.

402 (125) EDITORIAL WRITING. 1 Q. A. W. 3. Prerequisite: consent of instructor. Open to all non-majors. The editorial pages of leading newspapers; practice in research and the writing of editorials.

405 150 INTERNATIONAL COMMUNICATIONS. 1 Q. A. S. Prerequisite: consent of instructor. Media of information in other countries, with emphasis on newspapers and periodicals.

FOR GRADUATES

508 THEORIES OF COMMUNICATIONS. 1 Q. A. 3. Prerequisite: consent of the dean. Structure, processes and effects of mass communications.

599 METHODS OF JOURNALISM RESEARCH. 1 Q. A. W. 3. Prerequisite: consent of the dean. Problems and techniques in study and application of journalism research.

601 (201) RESEARCH IN JOURNALISM. 1-3 Q. W. 3. W. 3. Credit variable. Prerequisite: consent of the dean.

LAW

Law is the study of the official rules and regulations under which people live in organized societies. Practice of law involves the preparation and trial of cases as well as representing clients before government agencies and other authorities, such as tax agencies, city, state, and federal governments.

CALENDAR

FALL SEMESTER, 1958

Sept. 22-24, Monday through Wednesday - Registration and orientation of new law students (including transfer students from other schools)

Sept. 24, Wednesday - Registration of upperclass law students

Sept. 25, Thursday - Law faculties of the various law schools in various cities, county, state, and federal levels, broadcast.

Spring 1959

February 2, Monday - Registration for Spring Semester

February 3, Tuesday - Classes begin at 9:30 a.m.

March 21, Saturday - Spring Vacation begins after Winter Break

March 23, Monday - Classes resumes at 9:00 a.m.

April 19-20, Thursday - Pre-registration for Law School Bulletin

May 26-28, Monday through Wednesday - Pre-registration

June 6, Monday - Commencement

GENERAL STATEMENT: The Law School is accredited by the American Bar Association. The Law School bulletin is published by the School of Law bulletin. The Law School bulletin is available for sale at the Law School. Effective September 1, 1955, each applicant for the Law School bulletin shall make an application to the Law School bulletin. Required textbooks are listed on the following pages of the Law School bulletin.
(1) that he is a graduate of an approved college or university or (2) that he has satisfactorily completed three years of an approved combination program with a minimum index of 2.0 in all work for which he has registered and received a grade or (3) that he has completed, in an approved college, three-fourths of the work required for an undergraduate degree with an average, in all work for which he has been registered and received a grade, equivalent to that required for graduation from the institution attended, on condition, nevertheless, that he has completed, prior to receiving a Law degree. Non-theory courses are not acceptable under the provisions of subdivisions (2) and (3) with the exception that required courses in military service are excepted, provided the applicant will be admitted who has demonstrated a lack of capacity for self expression as evidenced, for example, by an inability to achieve at least average grades in English and Composition. In view of the fact that graduates of the Law School are admitted to practice law in Montana without taking a bar examination, it is expected that applicants from other than Montana State University who have not completed his college work will be accepted on a case by case basis. The successful student must have a high scholastic average and is exceptionally qualified to pursue the study of law. An applicant enrolled in an approved combination program or who has qualified under subdivision (3) of this paragraph is not likely to be admitted unless he has a high scholastic average and is exceptionally qualified to pursue the study of law.

The Law School Admission Test is required of all applicants for admission to the Law School. It should be taken during the year preceding the year of application. The Test and application forms may be obtained from the School of Law or from the Educational Testing Service, P. O. Box 600, Princeton, New Jersey.

For the student entering college on and after September 1, 1955, a number of minimum requirements have been established by the Law School in cooperation with various departments of the University. These include, Business Administration and Economics, and the Economics, History and Political Science, and Law, Philosophy and Society. Combination programs in other departments if predetermined, will be recognized. Students enrolled in approved combination programs receive an undergraduate degree in the department, upon completion of the first year of law and the LL.B. degree at the end of the third year of law. Starting in September, 1955, prospective candidates for the degree of Bachelor of Law will be required to secure prior approval of their contemplated course of study from the Dean of the Law School. Students accepted as a prospective member of the legal profession, and applying to the Law School, must submit to the Law School (a) an official transcript of college and law school work previously undertaken; (b) a verified questionnaire, on a form prescribed by the Law School, dealing with the moral character and fitness of the applicant as a prospective member of the legal profession, and (c) a report of his grade on the Law School Admission Test.

ADMISSION TO ADVANCED STANDING: Applicants for admission to the Law School who meet the following minimum standards are admitted: (a) the LL.B. degree in good standing is required for admission to the Law School; (2) that the average in all work for which the student has registered and received a grade is equivalent to that required for graduation from the Law School; (3) that the student is in good standing and eligible to continue in the law school previously attended; (4) the applicant is eligible to continue in this Law School under the policies specified herein. An applicant is not likely to be admitted to the Law School unless he has a high scholastic average in the law work previously taken and is exceptionally qualified to pursue the study of law.

BASIS OF EXCLUSION: (1) Failure: A student who has failed or is failing, in more than 10 credits at the end of the first or second semester of law study shall be automatically dropped from the Law School. (2) Weighted Average: A student otherwise eligible to continue, who has obtained an index of 1.5 or less at the end of his first two semesters of law study in all law courses for which he has registered and received a grade, will be placed on probation. A student on probation who fails to secure an index of 2.0 in law courses not previously taken for which he has registered and received a grade in any semester subsequent to being placed on probation, will be suspended from the Law School. (3)早上: If a student has registered and received a grade of D or F, and required courses in which he has received credit, provided the total credits in courses being repeated do not exceed one-half of the total credits finally failed. A student is not likely to be admitted to the Law School unless he has a high scholastic average in the law work previously taken and is exceptionally qualified to pursue the study of law.

REQUIREMENTS FOR GRADUATION: Candidates for the degree of Bachelor of Law (LL.B.) must: (1) be graduates of an approved college or university; (2) complete six semesters in residence at an approved college; and (3) complete ninety-four semester hours of law work with an index of 2.0 or more. Further required courses: (a) provision for the student who has completed a bachelor's degree at an accredited college of liberal arts and sciences is included in Civil and Criminal Procedure, Evidence, Court Room and Office Practice I; (b) preparation in Ethics and Legal Writing. A candidate for the degree of Bachelor of Laws who has fulfilled the requirements for the degree described in the preceding paragraph, in the opinion of the majority of the faculty, is unqualified in accordance with generally accepted standards for admission to the bar.

A student may not register nor receive credit for more than 16 hours of law in a semester.

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Civil Procedure I, II</td>
<td>2</td>
</tr>
<tr>
<td>Contracts I, II</td>
<td>2</td>
</tr>
<tr>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>Equity</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Law I, II</td>
<td>3</td>
</tr>
<tr>
<td>Property I, II</td>
<td>3</td>
</tr>
<tr>
<td>Torts I, II</td>
<td>3</td>
</tr>
</tbody>
</table>

SECOND YEAR

| Administrative Law | 2 |
| Agency and Business Organizations I, II | 3 |
| Civil Procedure III | 2 |
| Commercial Transactions I, II | 3 |
| Constitution | 2 |
| Evidence | 4 |
| Legal Writing I, II | 2 |
| Trusts and Future Interests | 4 |
| Wills | 2 |

THIRD YEAR

| Conflicts | 4 |
| Court Room and Office Practice I, II | 2 |
| Creditors' Rights | 3 |
| Criminal Law | 2 |
| Federal Taxation, I, II | 4 |
| Labor Law | 2 |
| Legal Ethics | 1 |
| Legal Writing III | 1 |
| Oil and Gas | 2 |
| Restitution | 2 |
| Trade Regulations | 2 |
| Water Law | 2 |

COURSES


INTRODUCTION TO LAW I & II. 2 Sem. S. 1, 1. Continuous. Casebook to be announced.

LABOR LAW. 1 Sem. S. 2. Casebook to be announced.

LEGAL ETHICS. 1 Sem. S. 1. Measured materials of instruction.

LEGAL WRITING I, II & III. 3 Sem. S. 1, 1, 1. Second year.


TRADE REGULATIONS. 1 Sem. S. 2. Handler, Cases and Regulations on Trade Control.


WILLS. 1 Sem. S. 2. Turrentine, Cases and Text on Wills and Administration.
### LIBERAL ARTS

Include Literature, Philosophy, Art, Foreign Languages, and the Social Sciences. The latter include Anthropology, Economics, History, Political Science and Sociology.

Four years are required for the degree of Bachelor of Arts. This program permits the student to work in these areas rather than in a particular one of them and affords a varied selection from which to choose. During his last two years the student does more advanced work in two areas of his choice.

This curriculum is designed for the student who wants a broad, or "liberal," education with a minimum of specialized professional work. It also provides a broad educational background for students who decide to prepare for high school teaching. Those who elect to teach, may qualify to do so by taking additional work in education as well as in their chosen field.

Following are the special requirements for the Bachelor of Arts degree with a major in Liberal Arts:

<table>
<thead>
<tr>
<th>University Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition (101-102-103 recommended)</td>
<td>9-10</td>
</tr>
<tr>
<td>Group I (Lab. sciences and mathematics recommended)</td>
<td>15</td>
</tr>
<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>Military Science (men)</td>
<td>10</td>
</tr>
<tr>
<td>Major Requirements (Courses under 300)</td>
<td>9</td>
</tr>
<tr>
<td>1. Art 231-232-233</td>
<td>23</td>
</tr>
<tr>
<td>2. Foreign Language (3 quarters)</td>
<td>15</td>
</tr>
<tr>
<td>3. Economics, Psychology, Sociology, Anthropology</td>
<td>20</td>
</tr>
<tr>
<td>4. History and Political Science, (History 101-102-103 recommended)</td>
<td>20</td>
</tr>
<tr>
<td>5. Humanities (General 151-152-153)</td>
<td>15</td>
</tr>
<tr>
<td>7. Philosophy</td>
<td>15</td>
</tr>
<tr>
<td>Major Requirements (Courses 300 and above)</td>
<td>122</td>
</tr>
<tr>
<td>In two of the following three fields the student selects under upper division courses equal to the number of credits indicated for those fields:</td>
<td></td>
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<tr>
<td>8. Economics, Psychology, Sociology, Anthropology</td>
<td>12</td>
</tr>
<tr>
<td>9. History and Political Science</td>
<td>12</td>
</tr>
<tr>
<td>10. Literature or Philosophy</td>
<td>24</td>
</tr>
<tr>
<td>Free Electives</td>
<td>10-0</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
</tr>
</tbody>
</table>

### LIBRARY SERVICE

Courses are designed to prepare students for professional work in small and medium sized public and college libraries. Students preparing for school library work should work toward a major in the School of Education with a minor in library service. Students preparing for public or college library work should register for the four-year program leading to the degree of Bachelor of Arts with a major in library service.

This program is so planned that the student is given basic preparation for admission to a graduate school if he wishes to prepare for work in larger libraries. The course outlined here is primarily designed to meet the needs of Montana for trained librarians, but will also prepare the student for library work in similar libraries in the Northwest and other areas.

The College of Arts and Sciences and the School of Education offer the curriculum in Library Service.

### SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN LIBRARY SERVICE.

In addition to the general requirements for graduation listed earlier in the guidebook, the following special requirements must be completed for the Bachelor of Arts with a major in Library Service.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 104, 105—Freshman Composition</td>
<td>10</td>
</tr>
<tr>
<td>History 101, 102, 103—Development of Western Civilization</td>
<td>15</td>
</tr>
<tr>
<td>French or German 101, 102, 103—Elementary French or German</td>
<td>15</td>
</tr>
<tr>
<td>Psychology 110—Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; P. E. 101, 102, 103</td>
<td>3</td>
</tr>
<tr>
<td>ROTC 101, 102, 103</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>48 or 53</td>
</tr>
</tbody>
</table>

### MATHEMATICS

Is concerned not only with formulas and processes which give "answers" to problems but with the fundamental ideas which are the basis for modern developments in most other sciences. It is a science in its own right and is still growing rapidly.

Four years are required for the Bachelor of Arts degree, the Master of Arts degree is also offered (see Graduate Studies).

### FOR UNDERGRADUATES

#### 601 (A) PRE-FRESHMAN ALGEBRA

1. Q. A. 0. For students who do not qualify for Mathematics 100.

2. Prerequisite: satisfactory performance in an examination in elementary algebra.

#### 112 MATHMATICS FOR BUSINESS STUDENTS

1. Q. A. W. S. 5.

2. Prerequisite: Mathematics 100 or satisfactory performance in an examination in intermediate algebra.

#### 123 (12) PLANE TRIGONOMETRY

1. Q. A. W. S. 5.

2. Prerequisites: plane geometry, and Mathematics 100, or satisfactory performance in an examination in intermediate algebra. This is not high school trigonometry.

#### 125 (25) STATISTICS

1. Q. A. W. S. 5.

2. Prerequisite: Mathematics 100 or satisfactory performance in an examination in intermediate algebra.
120 (139) THEORY OF ARITHMETIC. 1 Q. A. S. 5. Prerequisite: satisfactory performance in a placement examination in elementary algebra. The mathematical meaning and background of arithmetic.

151 FRESHMEN MATHEMATICS I. 1 Q. A. W. Su. 5. Prerequisite: adequate arithmetic performance in a placement examination in intermediate algebra. Linear, quadratic, and circular functions; solution of triangles; systems of equations.

152 FRESHMEN MATHEMATICS II. 1 Q. A. W. Su. 5. Prerequisite: Mathematics 151. Determinants; identities; complex numbers; transformations of coordinate systems; conic sections.

153 FRESHMEN MATHEMATICS III. 1 Q. A. S. Su. 5. Prerequisite: Mathematics 152. Permutations, combinations, and probability; mathematical induction; properties of binomial coefficients; differentiation of algebraic functions; theory of equations.

222 (223) CALCULUS I. 1 Q. A. S. 5. Prerequisites: Mathematics 121. Differentiation and work with integrals. This course will not be offered after Autumn 1958.

251 SOPHOMORE MATHEMATICS I. 1 Q. A. W. Su. 5. Prerequisite: Mathematics 153. Applications of logarithms; series and sequences; conics by means of coordinate systems.

252 SOPHOMORE MATHEMATICS II. 1 Q. A. W. 5. Prerequisite: Mathematics 251. Integration, further applications of the derivative and the integral; mathematical induction.

301 (131) ALGEBRA FOR TEACHERS. 1 Q. W. Su. 5. Prerequisite: Mathematics 222 or 251 or concurrent registration. The processes and elementary functions are explored from the high school teacher's viewpoint. Elementary number theory and a knowledge of simple variables.

302-303 (102ab) STATISTICAL METHODS. 2 Q. A. W. 3. Prerequisite: Mathematics 124 or 222 or consent of instructor. Primarily for those who need the statistical techniques in other fields. Descriptive statistics, probability; principles of estimation, confidence intervals, tests of significance; (303) analysis of variance, regression, correlation, design of experiments, simplified statistical tables.

304 (132) GEOMETRY FOR TEACHERS. 1 Q. W. S. 5. Prerequisite: Mathematics 251. The great theorems of geometry, such as the Pythagorean theorem.

309-310 (109ab) ADVANCED CALCULUS. 2 Q. A. W. 3. Prerequisite: Mathematics 222 or 251. An introduction to elementary functions of one and several variables.

311-312 (110ab) INTRODUCTION TO ABSTRACT MATHEMATICS. 2 Q. A. W. 3. Prerequisite: Mathematics 222 or 251. An introduction to abstract mathematics; rings, fields, vector spaces.

313 (101) ORDINARY DIFFERENTIAL EQUATIONS. 1 Q. S. 5. Prerequisite: Mathematics 221 or 251. An introduction to elementary differential equations.

314 (112) LINEAR GROUPS. 1 Q. S. 1. Prerequisite: Mathematics 222 or 251. An introduction to the theory of groups in fields, vector spaces, rings, fields, vector spaces.

315 (103) ELEMENTARY GROUP IN GEOMETRY. 1 Q. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary group theory.

316 (104) SYNTHETIC PROJECTIVE GEOMETRY. 1 Q. A. 3. Prerequisite: Mathematics 222 or 251. An introduction to basic principles of projective geometry.

317 (105) ANALYTIC PROJECTIVE GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to analytic projective geometry.

318 (107) GEOMETRIC CONSTRUCTION OF APPLICATIONS. 1 Q. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to the geometric construction of applications to metric geometry.

319 (108) SYNTHETIC PROJECTIVE GEOMETRY. 1 Q. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to basic principles of projective geometry.

320 (109) ELEMENTARY NUMBER THEORY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary number theory.

321 (110) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

322 (111) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

323 (112) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

324 (113) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

325 (114) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

326 (115) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

327 (116) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

328 (117) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

329 (118) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

330 (119) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

331 (120) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

332 (121) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

333 (122) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

334 (123) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

335 (124) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

336 (125) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

337 (126) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

338 (127) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

339 (128) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.

340 (129) ESSENTIALS OF GEOMETRY. 1 Q. W. S. 5. Prerequisite: Mathematics 222 or 251. An introduction to elementary geometry.
MUSIC

The School of Music offers to students who have demonstrated talent in music, the opportunity to continue further study of music either for a profession or an avocation, and to acquire at the same time a broad general education. Complete sequences of courses are given to prepare a student for (A) a career as teacher or supervisor of music in the public schools, or for (B) a career directed toward composition, private teaching, and concert work, or for (C) thorough training in music within the structure of a broad liberal arts curriculum.

The School of Music is a member of the National Association of Schools of Music.

The following degrees in music are offered by the School of Music:

Bachelor of Music
with a major in Music Education
with a major in Applied Music
with a major in Theory and Composition
Bachelor of Arts
with a major in Music
Master of Music
with a major in Music Education
with a major in Applied Music
with a major in Composition

Vocational opportunities for graduates are listed in the copy that follows.

REQUIREMENTS FOR ADMISSION. In general, admission as a freshman to the School of Music is by certificate from the high school from which the student graduates. The faculty of the School of Music is more concerned with evidence of talent, conspicuous achievement in music, promise of development, and in scholarship in general, than it is in the precise content of the program which the prospective music student has followed prior to admission to college. The School of Music welcomes the opportunity to advise with students and parents during the high school period by correspondence or by interviews on the campus.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREES IN MUSIC. In general, the general requirements for graduation listed earlier in the guidebook, the following special requirements must be completed:

1. All candidates for the Bachelor of Music degree must select academic electives so as to complete a minimum of 54 credits not including required freshman and sophomore physical education and military science, courses in music, and courses in education offered for state certification.

2. For the Bachelor of Music with a major in Music Education, the course requirements in Curriculum A must be completed.

3. For the Bachelor of Music with a major in Applied Music or in Theory and Composition, the course requirements in Curriculum B must be completed.

4. For the Bachelor of Arts degree with music as a major, the course requirements in Curriculum C must be completed.

5. All students majoring in music are required to attend a minimum of eight recitals per quarter as prescribed by the faculty.

6. All music majors seeking a B.M. degree are required to participate in Band, Orchestra or a Choral Group each quarter of residence of the regular school year. Students who are wind instrument majors in their applied field must register for band (or orchestra, if designated) every quarter, string majors must register for orchestra every quarter, voice majors must register for a cappella choir every quarter. Piano and organ majors must fulfill this requirement on the exception that this requirement may be made only by action of the music faculty.

7. All candidates for the Bachelor of Music degree must satisfactorily demonstrate completion of 8 credits in Piano 190 or completion of Piano in Class 217.

APPLIED MUSIC FEES

Non-music majors pay $24 for two lessons per week, or $15 for one lesson per week. Music majors will pay $25 if taking two or more half hour lessons per week. Otherwise they pay the standard fees as stated for non-music majors. All of these are halved for the five week summer term.

For majors and non-majors register for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of $7.50 per private lesson will be made. Refunds are made of the number of weeks elapsed since the beginning of the quarter.

Lessons in applied music misused 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

Practice room without piano, one hour daily $2.00
Additional hour daily 1.00
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 3.00
Wind and string instruments 3.00
Rentals must be paid for entire quarter. No refunds of rentals will be made.

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

A. CURRICULUM FOR BACHELOR OF MUSIC DEGREE WITH A MAJOR IN MUSIC EDUCATION

For students who sincerely feel the challenge and vital service opportunity in the teaching profession, the School of Music offers three major courses, each leading to the degree of Bachelor of Music with a major in Music Education. Students desiring of teaching and directing both vocal and instrumental groups may enroll for the General Supervisor's Course.

Separate courses for vocal and instrumental majors are available. These courses of study meet the state requirements for certification for public school teaching (see Requirements for Certification for High School Music Teachers).

GENERAL SUPERVISOR MAJOR

FRESHMAN YEAR:

<table>
<thead>
<tr>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 101, 102, 103 (Applied)</td>
</tr>
<tr>
<td>Music 108-110 (Organization)</td>
</tr>
<tr>
<td>Music 111-112-113 (Theory I)</td>
</tr>
<tr>
<td>Music 114, 115, 116 (Piano in Class)</td>
</tr>
<tr>
<td>Music 125, 126, 127 (Introduction to Voice and Winds in Class)</td>
</tr>
<tr>
<td>Music 135, 136, 137 (Introduction to Music Literature)</td>
</tr>
<tr>
<td>English 104-105 &amp; 106</td>
</tr>
<tr>
<td>Health &amp; Physical Edu. 101-102-103</td>
</tr>
<tr>
<td>R.O.C.T. 101-102-103 (Men)</td>
</tr>
</tbody>
</table>

SOPHOMORE YEAR:

<table>
<thead>
<tr>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 201, 202, 203 (Applied)</td>
</tr>
<tr>
<td>Music 108-110 (Organization)</td>
</tr>
<tr>
<td>Music 341, 342, 343 (Theory II)</td>
</tr>
<tr>
<td>Music 315, 316, 317 (Piano in Class)</td>
</tr>
<tr>
<td>Music 117, 118, 119 (Voice in Class)</td>
</tr>
<tr>
<td>Music 251, 252, 253 (Choral Literature)</td>
</tr>
<tr>
<td>Electives (Non-Music)</td>
</tr>
<tr>
<td>Health &amp; Physical Edu. 201-202-203</td>
</tr>
<tr>
<td>R.O.C.T. 201-202-203 (Men)</td>
</tr>
</tbody>
</table>

JUNIOR YEAR:

<table>
<thead>
<tr>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 301, 302, 303 (Applied)</td>
</tr>
<tr>
<td>Music 108-110-111 (Organization)</td>
</tr>
<tr>
<td>Music or Edu. 331, 334, 335 (School Music)</td>
</tr>
<tr>
<td>Music 125, 126, 127 or 129 (Strings or Winds in Class)</td>
</tr>
<tr>
<td>Education 200, 205, 305</td>
</tr>
<tr>
<td>Electives (Non-Music)</td>
</tr>
</tbody>
</table>

SENIOR YEAR:

<table>
<thead>
<tr>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 401, 402, 403 (Applied)</td>
</tr>
<tr>
<td>Music 108-110 (Organization)</td>
</tr>
<tr>
<td>Music 434, 435, 436 (History of Music)</td>
</tr>
<tr>
<td>Music 229, 230, 231 (Orchestration)</td>
</tr>
<tr>
<td>Music Electives (upper division)</td>
</tr>
<tr>
<td>Education 400-405 (Practicum)</td>
</tr>
<tr>
<td>Electives (Non-Music)</td>
</tr>
</tbody>
</table>

VOCAL MAJOR

Vocal majors in Music Education follow Curriculum A with the following additional requirements: Music 125, 126, 127, 129, 233 and 235 are not required. Music or academic electives may be substituted.

INSTRUMENTAL MAJOR

Instrumental majors in Music Education follow Curriculum A with the following additional requirements: Music 125, 126, 127, 129, 233 and 235 are not required. Music or academic electives may be substituted.

B. CURRICULA FOR BACHELOR OF MUSIC DEGREE WITH A MAJOR IN APPLIED MUSIC

The serious instrumentalist or vocalist whose talent and ability are unquestionably superior may enroll for training leading to the degree of Bachelor of Music with a major in Applied Music. Enrollment may not be completed until the student has received the recommendation of a major professor or a committee of the music faculty, before which the student has appeared in an audition at the time of enrollment.

Completion of the entire Curriculum qualifies the student to receive the Secondary State Certificate in Applied Music by en-
dorment from the State Department of Public Instruction. Students who intend to request a certificate in applied music by endorsement must include 4 credits in Educational Psychology or Philosophy of Education as an elective.

MAJOR IN PIANO OR ORGAN

FRESHMAN YEAR:  Credits per Quarter
Music 151-152-153 (Applied) ............................................. 4.44
Music 106-110 (Organization) or Music 140 (Ensemble) ............ 3.33
Music 111-112-113 (Theory I) .............................................. 3.33
Music 125, 126-127 (Introduction to Music Literature) .......... 2.22
English 104-106 & Psych. 110 ............................................. 5.55
Health & Physical Educ. .................................................... 1.11
R.O.T.C. 101-102-103 (Men) ............................................ 2.21

SOPHOMORE YEAR:  Credits per Quarter
Music 251-252-253 (Applied) ............................................. 4.44
Music 105-110 or 140 ..................................................... 1.11
Music 241-242-243 (Theory II) ............................................ 1.11
Music 247, 248, 249 (Keyboard Harmony) ............................. 1.11
Electives (non-music) ..................................................... 1.11
Health & Physical Educ. .................................................. 1.11
R.O.T.C. 201-202-203 (Men) ............................................ 2.21

JUNIOR YEAR:  Credits per Quarter
Music 351, 352, 353 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music 320-321-322 (Class Piano Methods) ............................. 1.11
Music 241-242-243 (Conducting) ........................................ 1.11
Music electives (upper division) ....................................... 1.11
Electives (non-music) ..................................................... 1.11

SENIOR YEAR:  Credits per Quarter
Music 451-452-453 (Applied) ............................................. 4.44
Music 106-110 or 140 ..................................................... 1.11
Music 434-435-436 (History of Music) ................................. 3.33
Music 445 (Senior Recital) .............................................. 7.77

MAJOR IN VOICE

FRESHMAN YEAR:  Credits per Quarter
Music 151, 152, 153 (Applied) ............................................. 3.33
Music 106-110 (Organization) ............................................ 1.11
Music 111-112-113 (Theory I) ............................................. 1.11
Music 114-115-116 (Piano in Class) .................................... 1.11
Music 135, 136, 137 (Introduction to Music Literature) ......... 5.55
English 104-106 & Psych. 110 ............................................ 1.11
Health & Physical Educ. 101-102-103 .................................. 3.33
R.O.T.C. 101-102-103 (Men) ............................................ 2.21

SOPHOMORE YEAR:  Credits per Quarter
Music 251, 252, 253 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music 241, 242, 243 (Theory II) ........................................ 1.11
Music 215, 216, 217 (Piano in Class) ................................. 1.11
Elective (language) .......................................................... 1.11
Health & Physical Educ. .................................................. 1.11
R.O.T.C. 201-202-203 (Men) ............................................ 2.21

JUNIOR YEAR:  Credits per Quarter
Music 351-352-353 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music 231, 232 (Conducting) ........................................... 1.11
Music electives (upper division) ....................................... 1.11
Electives (non-music) ..................................................... 1.11

SENIOR YEAR:  Credits per Quarter
Music 451, 452, 453 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music 434, 435, 436 (History of Music) ............................. 5.55
Music 445 (Senior Recital) .............................................. 7.77

MAJOR IN ORCHESTRAL INSTRUMENTS

FRESHMAN YEAR:  Credits per Quarter
Music 151, 152, 153 (Applied) ............................................. 3.33
Music 106-110 (Organization) ............................................ 1.11
Music 111-112-113 (Theory I) ............................................. 1.11
Music 114-115-116 (Piano in Class) .................................... 1.11
Music 135, 136, 137 (Introduction to Music Literature) ......... 5.55
English 104-106 & Psych. 110 ............................................ 1.11
Health & Physical Educ. .................................................. 1.11
R.O.T.C. 101-102-103 (Men) ............................................ 2.21

SOPHOMORE YEAR:  Credits per Quarter
Music 251, 252, 253 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music 241, 242, 243 (Theory II) ........................................ 1.11
Music 215, 216, 217 (Piano in Class) ................................. 1.11
Elective (language) .......................................................... 1.11
Health & Physical Educ. .................................................. 1.11
R.O.T.C. 201-202-203 (Men) ............................................ 2.21

JUNIOR YEAR:  Credits per Quarter
Music 351, 352, 353 (Applied) ............................................. 4.44
Music 321, 322 (Conducting) ........................................... 1.11
Music electives (upper division) ....................................... 1.11
Electives (non-music) ..................................................... 1.11

SENIOR YEAR:  Credits per Quarter
Music 451, 452, 453 (Applied) ............................................. 4.44
Music 106-110 .............................................................. 1.11
Music electives (Choice of History & Literature or Counterpoint) 5,5,5
Electives from Group I, II, or III ....................................... 1,1,1
Electives (non-music) ..................................................... 7,7,7

COURSES OF STUDY
In the following course descriptions, + indicates applied music and * indicates ensemble music.

APPLIED MUSIC

Upon entrance to any applied music course, the student will be given a placement examination and assigned to the course to which his ability, previous training, and experience entitle him.

MUSIC 100—Secondary Applied Minor. Any quarter. 1 credit.

Individual instruction in voice, piano, organ, string or wind instruments. Various curricula would provide for secondary study in applied music. Secondary study is designed to give the beginning student certain proficiencies in order that he may use this application as a tool rather than as a vocation for performance. Prerequisite: Consent of instructor. May be repeated for a maximum of 6 credits in any one academic year.

MUSIC 101, 102, 103 (First year)—201, 202, 203 (Second year)—301, 302, 303 (Third year)—401, 402, 403 (Fourth year)

Secondary Applied Major. Any quarter. 1-2 credits. Individual instruction in voice, piano, organ, string or wind instruments. The student in his junior or senior year must have an applied major, i.e., Music Education. A student entering in Music 101 should show evidence of the equivalence of one year's prior study. Prerequisite: By audition and consent of instructor.

MUSIC 151-152-153 (First year)—251-252-253 (Second year)—351-352-353 (Third year)—451-452-453 (Fourth year)
Required: Teaching experience. Presenting simple material at a basic level of skill, toward a wider utilization of the piano in classroom and school situations.

231-232 (23abc) CLASS PIANO METHODS. 3 Q. A, W, S. 2,2,2. Prerequisite: 121-122. Fifty minutes of practice per week. Teaching piano classes in public schools and private studios. Practical demonstration with children's classes. Offered in 1957-58 and in alternate years.


243-244 (14abc) HISTORY OF MUSIC. 3 Q. A, W, S. 2,2,2. Study of history of music in Western Civilization from its origin to modern times with emphasis on its relationship to general cultural development.

445 (142) SCHOLARSHIP. 1 Q. A. Prerequisite: registration in Music 451, 452 or 453.

FOR UNDERGRADUATES

308 (110) WORKSHOP IN MUSIC EDUCATION. 1 Q. Su. 1-3. Prerequisites: Junior standing and experience in the field of music. Special workshops in elementary and secondary public schools.


535 MUSIC OF THE BAROQUE PERIOD. 1 Q. A. Prerequisites: Music 243, 244. History and analysis of selected instrumental, vocal and keyboard compositions of the Baroque Period, with emphasis on orchestral instruments and related techniques.


537 (135b) MUSIC OF THE ROMANTIC PERIOD. 1 Q. S. Prerequisite: Music 244. History and analysis of selected instrumental, vocal and keyboard compositions of the Nineteenth Century, with emphasis on orchestral instruments and related techniques.

538 (135c) MUSIC OF THE TWENTIETH CENTURY. 1 Q. S. Prerequisites: Music 137 and 243. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the Twentieth Century, with emphasis on orchestral and related techniques.

364 (151) INSTRUMENTAL REPAIR. 1 Q. S. The care and maintenance of band and orchestral instruments. Emphasis placed on special problems presented by each instrument, including the use of hand tools, materials, and special techniques. Course arranged for band or orchestra leaders.

244-245-246 (14abc) HISTORY OF MUSIC. 3 Q. A, W, S. 2,2,2. Prerequisite: Music 243. Study of the history of music in Western Civilization from its origin to modern times with emphasis on its relationship to general cultural development.

FOR GRADUATES

501-502-503 (105) APPLIED TECHNIQUES. Any quarter. 1-4. Individual instruction in voice, piano, organ, string or wind instruments. Students desiring further study in these fields may elect 1-2 credits.

533 (223) COMPOSITION ADMINISTRATION. 1 Q. A. Prerequisite: Music 243. For graduate students whose primary purpose in advanced study is preparation for administrative or supervisory work in music education. Study of the administrative aspects of music in the elementary, junior and senior high school.

534 (223) ORCHESTRAL CHAMBER MUSIC. 1 Q. W. Prerequisite: Music 244. Study of music prepared by the student for small instrumental groups.

535 PEDAGOGY OF THEORY. 1 Q. A. Prerequisite: Music 243. The teaching of theory, including techniques, procedures and sequences of teaching and a comparison of standard textbooks. The application of teaching techniques, and organization of the teaching of theory in secondary schools and in college.

562 (262) SEMINAR IN MUSIC EDUCATION. Any quarter. 1-5.
Investigation of research in fields of individual interest. Total credit allowed: 15.
2.00 COMPOSITION. Any quarter. Credit variable. Total credit allowed: 12.
601-602-603 (108) APPLIED TECHNICS. Any quarter. 1-4. Individual instruction in voice, piano, organ, string or wind instruments. Students desiring further study of minor applied fields may elect 1-2 credits.
699 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

PHARMACY

is the science which treats of medicinal substances. It embraces not only a knowledge of medicines and the art of compounding and dispensing them but also their identification, selection, standardization, and mode of action.

Five years are required for the degree of Bachelor of Science in Pharmacy. The Master of Science in Pharmacy degree is also offered (see Graduate Studies). Since pharmacists are licensed by the states, the undergraduate curriculum is geared toward the professional; pre-pharmacy students do not take pharmacy courses until their third year. During their first two years at the university they study physical and biological sciences and take as many courses as possible in the social sciences and English. In structure and function of pharmacy, chemistry, mathematics, and biology, they become familiarized with the properties, and analysis. Pharmacognosy is the study of drugs obtained from plant, animal, and microbiological sources. Pharmacology treats of the effects and mode of action of drugs on living organism. Pharmaceutical administration is concerned with the important business phases of retail pharmacy such as purchasing, handling, and selling of drug products and pharmaceutical law.

Most graduates enter retail pharmacy in rural, neighborhood, or "downtown" stores. Others conduct hospital pharmacies, a particularly attractive field for women. In addition to the formal education program, the candidate for licensure as a registered pharmacist must complete one year of "practical experience" or internship in pharmacy under the direction of a registered pharmacist and must pass an examination given by the State Board of Pharmacy. To be qualified for this examination, the applicant shall be 21 years of age or older, of good moral character, and shall have been a graduate of an accredited school of pharmacy for at least one year. The applicant must have completed an internship of at least one year, following graduation, in an approved pharmacy in the state of his or her residence.

REQUIREMENTS FOR LICENSURE IN MONTANA. An applicant for the degree of Bachelor of Science in Pharmacy must comply with the regulations governing the graduate study and must complete a program satisfactory to the School of Pharmacy.

PHARMACY CURRICULUM

First year: Bacteriology 303-304; Business Administration 201; Pharmacy 306, 314, 320, 324-325, 326, 361; and Zoology 340-341.
Second year: Bacteriology 370; Chemistry 349; Health and Physical Education 159; Pharmacy 414-415-416, 426, 441, 452, 462, 483; and electives.
Year three: Pharmacy 503, 505-506, 516, 517-518, 519, 540-541-542, 550, 577; and electives.

REQUIREMENTS FOR LICENSURE IN MONTANA. An applicant for the degree of Bachelor of Science in Pharmacy must complete at least two years as prescribed in the professional curriculum and pass an examination given by the State Board of Pharmacy. To be qualified for this examination, the applicant shall be 21 years of age or older, of good moral character, and shall have been a graduate of an accredited school of pharmacy. However, the applicant must have completed an internship of at least one year, following graduation, in an approved pharmacy in the state of his or her residence.

REQUIREMENTS FOR GRADUATE STUDIES. To enter for the degree of Master of Science in Pharmacy must comply with the regulations governing the graduate study and must complete a program satisfactory to the School of Pharmacy.

PHARMACY—57

C H A P T E R  I

PHARMACY

1. The general requirements for admission to Montana State University as listed earlier in the guidebook.
2. At least two years as prescribed in the pre-pharmacy curriculum:
   First year: Botany 130, Chemistry 121-122-123, English 104-105, Health and Physical Education 101-102-103, Mathematics 100 and 101, ROTC 101-102-103, and Zoology 101. (Students satisfactorily passing the mathematics placement examination will be exempt from Mathematics 100 in which case it will be taken as an elective.)
PHILOSOPHY is the study of man’s ideas, past and present, in the light of metaphysics, ethics, political theory, religion, belief, logic and scientific method, and aesthetic appreciation; the aim of philosophical study is the development of critical ability and intellectual perspective.

Fours years are required for a Bachelor of Arts degree. Philosophy courses consist primarily in preparation with the aid of text books and readings for classroom lectures and discussions.

Since the aim of courses in Philosophy is cultural rather than economic or professional, those who specialize in that field have limited career opportunities other than for advanced studies and teaching in institutions of higher education. Philosophy is recommended as preparation for the study of law and for theological study.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN PHILOSOPHY. In addition to the general requirements for graduation listed earlier in the guidebook, the following special requirements must be completed for the Bachelor of Arts degree within the Philosophy department. Students must include Philosophy 110, 201, 202, 203, and three or more credits in courses numbered 400 or above. No foreign language requirement listed earlier in the guidebook must be satisfied.

PHILOSOPHY-LAW COMBINATION PROGRAM. In addition to the general requirements for graduation listed earlier in the guidebook, a minimum of 12 credits must be earned in courses numbered 400 and above. The first year of law will complete requirements for the degree Bachelor of Arts with a major in Philosophy. Students must take Philosophy 110, 120, 201, 202, 203, 322, and either 330 or 331 and should take any one of the following courses: Philosophy 330, 335, 354, 365, 398 and 422.

FOR UNDERGRADUATES

100 (50) INTRODUCTION TO PHILOSOPHY. 1 Q. A, W, S. Sa. 5. The main problems of metaphysics, knowledge, and moral philosophy; the manner in which great philosophers reach their conclusions. To be taught also a 3 quarter course, 2 credits per quarter.

110 (50) LOGIC. 1 Q. A, W, S. Sa. 5. The valid forms of reasoning, the methods of science, and the detection of fallacies.

120 (50) ETHICS. 1 Q. A, W, S. Sa. 5. Inquiry into the nature of moral values, the standards of moral judgment, and the moral problems arising in personal life and in social relations.

201 (52a) HISTORY OF ANCIENT PHILOSOPHY. 1 Q. A, W, S. Sa. 5. Prerequisite: Philosophy 201, or consent of instructor.

203 (52c) HISTORY OF MODERN PHILOSOPHY. 1 Q. S. Sa. 5. Prerequisite: Philosophy 201 or consent of instructor.

210 (53) SYMBOLIC LOGIC. 1 Q. A, W, S. Sa. 5. Introduction to abstract logical theory and practice in symbolic logic. Translation of arguments from ordinary language into symbolic logic; testing validity by the methods of formal or mathematical logic.

FOR UNDERGRADUATES AND GRADUATES

301-302-303 (101abc) GREAT PHILOSOPHERS. 3 Q. A, W, S. Su. 1. (3, 3, 3) Prerequisite: Philosophy 100. (101a) The ancient and classical philosophers; (101b) Medieval and modern philosophers; (101c) Ethics. Especially designed for enter any quarter. Weekly lectures by members of the staff on 25 philosophers, ancient and modern, and early Christian thinkers; (302) late medieval, renaissance, and modern; (303) recent and contemporary thinkers. Not open to Philosophy majors for graduate credit.

302 (152) MODERN ETHICS. 1 Q. W, S. Sa. 5. Prerequisite: Philosophy 120. An examination of theories put forward in recent times on the nature of moral concepts. Tendencies of ethical thought to be studied will include naturalism, intuitionism, emotivism, and existentialism.

321 (151) SOCIAL ETHICS. 1 Q. S. Sa. 3. Prerequisite: Philosophy 120 or consent of instructor. The individual and society. Ethical foundations and relativism in modern systems and institutions with respect to rights, responsibilities, and the formation of personal character. Prerequisite: Philosophy 120.

322 (152) PHILOSOPHY OF LAW. 1 Q. A, W. Sa. 5. Prerequisite: Philosophy 120. Analysis of various concepts of law in their relation to individual freedom and to social order. Philosophical justification of different forms of authority.

325 (155) PHILOSOPHY IN THE TWENTIETH CENTURY. 1 Q. A, W, S. 5. Prerequisites: Philosophy 120 or consent of instructor. 3 credits in Philosophy, preferably Philosophy 201-202-203.

340 (153) AESTHETICS. 1 Q. S. Sa. 3. The nature of aesthetic experience, of the standards of art, and of the kinds of knowledge communicated by art. Readings will include classical and contemporary aesthetic theories as presented by philosophers, artists and art critics.

351 PHILOSOPHY IN LITERATURE. 1 Q. A, W, S. 5. Prerequisites: 10 credits in Philosophy and a literature equivalent. Philosophical evaluation of leading ideas in selected masterpieces of literature, both classical and modern.


351 (157) METAPHYSICS. 1 Q. W, S. 3. Prerequisites: 10 credits in Philosophy. Theories of reality including study of such fundamental categories as being, form, substance, causation, universal, particular, and process.
PHYSICAL SCIENCES, PHYSICS—59

PHYSICAL SCIENCES are those sciences which concern themselves primarily with the inanimate aspects of man's environment—the fields of Astronomy, Chemistry, Geology, Mathematics, and Physics.

Four years are required for the degree of Bachelor of Arts. During the first two years the student has the opportunity to study in all five fields. In the junior and senior years the student takes advanced work in the area of his choice. Since more advanced mathematics is necessary for adequate understanding of modern physics, students who choose that field must do some intensive work in one or more of them.

This program enables the student to gain broad insight into these related areas of the physical sciences as well as to do some intensive work in one or more of them.

Students completing this program are prepared for beginning positions in industry or for work toward more advanced degrees. Those electing to teach may qualify to do so by taking the required courses in education and completing courses to meet requirements in a field taught in high schools in addition to the area chosen for intensive work.

High school preparation. In addition to the general requirements for admission to the University, the student needs algebra and geometry. It is recommended that the high school preparation include a foreign language.

Following are the requirements leading to the Bachelor of Arts degree with a major in physical sciences:

University Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>English Composition</td>
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</tr>
<tr>
<td>Military Science (men)</td>
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</tr>
<tr>
<td>English Composition</td>
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</tr>
<tr>
<td>Physics (men)</td>
<td>12</td>
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<tr>
<td>Foreign Language (23-25 credits or a reading knowledge)</td>
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Group Requirements

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<tr>
<th>Group</th>
<th>Requirements</th>
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</thead>
<tbody>
<tr>
<td>Group II</td>
<td>Biological Science 131-132-133 -or- 15 credits in Biological Science selected from Zoology 101, 102: Botany 111 or 121. At least 5 credits must be selected from the two fields Botany and Zoology unless Biological Science 131-132-133 (is taken)</td>
</tr>
<tr>
<td>Group III</td>
<td>15 credits in Physics or a reading knowledge. (is taken)</td>
</tr>
</tbody>
</table>

 requirements outside Major

| Biological Science 131-132-133 -or- 15 credits in Biological Science selected from Zoology 101, 102: Botany 111 or 121. At least 5 credits must be selected from the two fields Botany and Zoology unless Biological Science 131-132-133. (is taken) | 15 |

Major Requirements

| Mathematics through Analytical Geometry or Math | 15-17 |
| Chemistry 121-122-123 | 15 |
| Physics 111-112-113 or 221-222-223 | 15 |
| Geology 110, 120, 130 | 12 |
| Astronomy | 5 |

Fifteen credits from one of the following sequences

Mathematics 281, 282, 309, 311-312
Physics 314-315, 322, 346, 352 (requires Math 253)
Chemistry 265, 266 or 268-269-270, 278
Geology 301-302-303 or 211-212, 220, 310

PHYSICS is the basic science out of which have come such discoveries as the structure of atoms, artificial radioactive and the production of atomic energy as well as radar, television, guided missiles, and jet planes. The trained physicist regards physics as the science that has to do primarily with energy, its interactions with matter, and its transformation. The laws and theories of physics show how mechanical energy is converted into electrical energy, how heat is formed, how sound waves can modulate radio waves and how even matter itself is converted into "atomic" energy. Knowledge of physics is valuable to engineers and scientists of all kinds. It appeals in a non-technical way to the philosophically minded who see that physics has modified man's thinking about the universe and time.

Four years are required to earn the Bachelor of Arts degree. The Master of Arts (or Master of Science) degree is also offered (see Graduate Studies). The undergraduate curriculum requires the ability and will to think logically, write well, and undertake rigorous study. Much work in
mathematics is required as well as in chemistry. Courses include elementary studies with the use of textbooks and classroom recitations and discussions. There is much laboratory work and demonstration. Those who specialize in physics, and desire to follow careers in research are very likely to pursue graduate studies usually through work leading to the doctor’s degree.

Positions for physicists are plentiful, pay good salaries, and offer wide choice. Larger industrial organizations, as well as food, drug, rubber, paper and fabric makers require well-trained and able physicists to do research on their products and methods. The federal government employs a large number of physicists, mostly to carry on research for the Bureau of Standards, the Atomic Energy Commission, the Department of Defense, the Department of Agriculture, the Weather Bureau, and the Public Health Service. Inter-governmental scientific foundations and organizations support research. Colleges and universities have need for qualified physicists to teach or to combine research with teaching.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry. It is also recommended that the high school preparation include advanced algebra, solid geometry, and trigonometry.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN PHYSICS. In addition to the general requirements for graduation listed earlier in the guidebook, fifty-five credits in physics must be earned for the Bachelor of Arts degree which may be major in physics. In preparation for advanced courses, a student should take Physics 221-222-223 in his junior year. Given odd number of credits in physics. In other departments: Mathematics 181, 182, 193, 251, 252, 253; Chemistry 121-122-123. The foreign language requirement listed earlier in the guidebook must be satisfied.

FOR UNDERGRADUATES

111-119-113 (11abc) GENERAL PHYSICS, 3 Q. A. W. S. S. 5, 5, 5. Prerequisite: Mathematics 106. 111 is prerequisite for 112 and 113, but 112 is not prerequisite to 113. This course satisfies mechanics, energy, and motion requirements in (111) Mechanics of wave motion; (112) sound, electricity and magnetism. 113 Heat and light. Credit not allowed for both 111-112-113 and 221-222-223.

221-222-223 (20abc) GENERAL PHYSICS, 3 Q. A. W. S. S. 5, 5, 5. Prerequisite: 221 for 222, 222 for 223, but 222 is not prerequisite to 223. This course satisfies medical and technical school requirements in general physics. 221 Mechanics and wave motion; (222) sound, electricity, and magnetism. (223) Heat and light.

251-252-253 (5abc) LABORATORY ARTS, 3 Q. A. W. S. 1, 1, 1. Prerequisite: Upper-class majors who have completed Physics 223. Students may enter laboratory arts in any quarter. Lower credit allowed. Credit not allowed for both laboratory arts and general physics. 5 credits must be in Physics 253.

370 (70) GEOMETRICAL OPTICS. 1 Q. S. 2 (3-1). Prerequisite: Physics 115 or 223 and Mathematics 153. Given odd numbered years.

FOR UNDERGRADUATES AND GRADUATES

312 (112) VECTOR ANALYSIS. 1 Q. A. 5 (5-0). Prerequisites: Physics 223 and Mathematics 232.

314-315 (114a b) ELECTRICITY, 2 Q. W. S. S. 5, 5, (4-3). Prerequisite: Physics 312 and Mathematics 231. Given odd numbered years.

222 (122) LIGHT. 1 Q. S 5 (4-3). Prerequisite: Physics 223 and Mathematics 231. Given odd numbered years.

431 (151) SELECTED TOPIC. Any quarter. 1-5 variable. Prerequisites: Consent of instructor and 15 credits in physics. Total credit allowed: 15.

346 (146) HEAT. 1 Q. W. S. 5 (5-0). Prerequisites: Physics 223 and Mathematics 253 or concurrent registration. Given even numbered years.

352 (152) ATOMIC PHYSICS, 1 Q. A. 5 (5-0). Prerequisites: Physics 223 and Mathematics 251 or concurrent registration. Given even numbered years.

360 (150) INTRODUCTION TO NUCLEAR PHYSICS, 1 Q. S. 5 (3-0). Given even numbered years.

386 (160) ELECTRONICS. 1 Q. S. 3 (3-0). Prerequisite: Physics 315 or concurrent registration. Given odd numbered years.

471 (20ab) MECHANICS, 2 Q. W. S. S. 5, 5, (5-0). Prerequisites: Physics 318 and Mathematics 251.

480 (180) PHYSICS SEMINAR. 1 Q. S. 1 (1-0). A library and discussion course required of physics majors.

FOR GRADUATES

501 (201) RESEARCH. Given subject to demand. 2-10, (variable). Prerequisite: Consent of thesis supervisor.

512-513-514 (312abc) ADVANCED EXPERIMENTAL PHYSICS, 3 Q. A.W.S. 2,2,2, (6-6). Given subject to demand.

532 (232) RADIATION AND ATOMIC STRUCTURE. Given subject to demand. 5 (5-0). Prerequisite: Physics 302.

554-555 (354a b) QUANTUM MECHANICS, 2 Q. W. S. S. 5, 5, (5-0).

699 (299) DISSERTATION. Any quarter. Credit variable. Total credit allowed: 15.

POLITICAL SCIENCE and History are combined in a single department for administrative convenience, but a student may earn a degree in either field or in a combination of the two. Each subject has subdivisions in which the student may specialize. The Political Science and History courses must present 30 credits in at least four of the following fields: American Political Institutions, Comparative Government, International Relations, Public Administration, Public Law, and Political Theory.

The department offers the Master of Arts degree in Political Science which involves an acceptable thesis based on original research.

To the student who is in search of a broad educational background, Political Science offers a program calculated to provide the fundamental understanding of the origin, development, present status and future possibilities of international, national, and local governmental problems with the object of aiding him to become an effective citizen. To the person who has an opportunity to study the practical as well as the theoretical sides of government, administration and politics each in its various functions and at its various levels.

These courses of study are designed to prepare men and women for the domestic and international service of the federal government and for positions in state and local government. It aids in preparing students for professional careers with citizen agencies concerned with government or public relations such as community chests, chambers of commerce, and labor unions. Recommended graduates of the department are accepted for advanced work by universities in the United States and in Europe and they frequently receive valuable fellowships or scholarships. Many have gone on to distinguished careers in teaching and in research. Others have achieved success in various branches of the government, in the Foreign Service, and in Federal and local administrative agencies.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN POLITICAL SCIENCE. In addition to the general requirements for graduation listed in the guidebook, the following specific requirements must be met. The Bachelor of Arts degree with a major in Political Science. A minimum of 36 credits in Political Science is required, with 20 credits from courses numbered 200-300 and including Political Science 491. A student may offer a combination major in Political Science and History with a minimum of 30 credits selected from the two departments. Courses must be in at least 20 credits must be in Political Science 300-400 and 20 credits in History. A minimum of 20 credits must be selected from courses numbered 300-400 or other Political Science 491 or History 491.

All students majoring in Political Science will complete the integrated introductory sequence 101, 102, 201 before taking other courses in Political Science.

Upper division work in Political Science is offered in American Political Institutions, Comparative Government, International Affairs, Public Administration, Public Law, and Political Theory.

A student may offer a combination major in Political Science and Economics with a minimum of 90 credits selected from the two departments. Courses must be in at least 20 credits must be in Political Science 300-400 and Economics 201, 202, 203, 301 and 311. At least 12 additional credits will be chosen from upper division Economics courses and 12 additional credits from Political Science. Twelve hours of the Political Science work must be in upper division courses. All graduating seniors will take comprehensive examinations in the fields of Political Science offered. Either Political Science 491 or Economics 303 will be required.

Either the completion of a large amount of foreign language or the demonstration of a satisfactory reading knowledge of historical and political science material in such a language is required. With the consent of the examining committee, the student may fulfill the language requirement by completing three quarters in each of two languages.

In the final year in the Department, each major must pass a senior comprehensive examination.

With permission of the Chairman of the Department, majors may offer credit earned in Economics 395, 396, 397, 398, 399, and Political Science 200 in partial fulfillment of the major requirements for a degree.

To earn a Bachelor of Arts degree with a major in Political Science and History together with a Bachelor of Laws degree in six academic years, the student must fulfill the requirements of the University and departmental requirements. The study of Latin is recommended for students who plan a career in law. The student must satisfy as many requirements for graduation as is possible during his freshman year. Students must register for History 241, 242, 243, 251, 252 and 253, and Political Science 200, approximately seven hours per quarter for the completion of requirements for and elective. As a junior, the student will select a minimum of 31 hours from the offerings in the Department with Political Science 323, 324, 320 and 322 and History 337 and 345 and 346 as required or highly recommended courses. In lieu of or in addition to the above, electives may be chosen from Economics 304, 305, and History 306, Political Science
FOR UNDERGRADUATES

101 (14) INTRODUCTION TO GOVERNMENT. 1 Q. S. Su. 4. Comparative study of fundamental political institutions of modern governments, including constitutions, political parties, legislatures, executives, and courts.

203-203 (17ab) AMERICAN GOVERNMENT. 2 Q. A. W. Su. 4, 4. The underlying principles of our national government. The democratic political processes, including public opinion, interest groups, political parties, and elections. The structure of the American national government, the presidency, and the courts; (203) The functions of the American national government in labor, agriculture, conservation, welfare, national defense, and foreign policy. Selected problems of national government policy in light of the political and social context.

231 (60) INTERNATIONAL RELATIONS. 1 Q. S. Su. 4. A general introduction to the nation-state system: factors of national power and policy, processes including tension, legal and institutional devices for adjustment of conflict.

241 (45) POLITICAL PARTIES AND ELECTIONS. 1 Q. W. Su. 3. Prerequisite: Political Science 203-203. The American party system, the organization and work of American political parties, the conduct and control of nominations, and comparisons with the composition and processes of European political parties.

FOR UNDERGRADUATES AND GRADUATES

231 (140) PARLIAMENTARY DEMOCRACIES. 1 Q. W. Su. 3. Prerequisite: Political Science 101. Parliamentary governments with emphasis on Great Britain and France.

232 (141) TOTALITARIAN GOVERNMENTS. 1 Q. A. Su. 3. Prerequisite: Political Science 101. Dictatorships with emphasis on the history of the Soviet Union.

233 (124) INTERNATIONAL ORGANIZATIONS. 1 Q. A. Su. 3. Prerequisite: Political Science 231. The international cooperation among countries and the United Nations.

322-333 (106ab) INTERNATIONAL PUBLIC LAW. 2 Q. A. W, 3, 3. Prerequisite: 6 cr. in the Department. The law of nations in relation to peace, war, and diplomacy; national sovereignty; international organizations.

330 (146) MODERN WAR AND WESTERN SOCIETY. 1 Q. S. 3. Prerequisite: 6 cr. in the history of warfare since the French Revolution. Emphasis is placed on relationships of government and military command, on problems of strategy, and on theories of war.

341 PRESSURE GROUP POLITICS. 1 Q. 3, 3. Prerequisite: Political Science 241. The role and activities of interest groups in a democracy. The interaction of political parties, legislatures, executives, administration, and the courts.

351-352 (115ab) THE DEVELOPMENT OF WESTERN POLITICAL THOUGHT. 2 Q. W, 4, 4. Prerequisite: Political Science 101 or 203. (351) The development of Western political thought from ancient origins to the early modern period. (352) The politics of public governance in early modern Europe to the roots of the twentieth century.

381-382 (124) THE AMERICAN CONSTITUTIONAL SYSTEM. 2 Q. W. S. 3, 3. Prerequisite: Political Science 101 or 203. American political thought both systematic and popular, from colonial origins to the present.

391 (134) THE AMERICAN CONSTITUTIONAL SYSTEM. 2 Q. W, S. 3. Prerequisite: Political Science 203. The constitution of the United States in the jurisprudence of the Supreme Court.

375 (134) PRINCIPLES OF ADMINISTRATIVE LAW. 1 Q. W. 3. Prerequisite: Political Science 371 or 391. Administrative law in the United States with reference to other countries. Administrative authorities, the scope and limitations of their powers, remedies, judicial control of administrative action.

381 STATE GOVERNMENT. 1 Q. A. 3. Prerequisite: Political Science 203. The organization and government of states: relation of states to other units of local government; administrative organization and reorganization including constitutional reforms. States and their problems. Local government.

383 MUNICIPAL GOVERNMENT. 1 Q. A. 3. Prerequisite: Political Science 203. The local government of cities and towns and its programs; relation of cities to other units of local government; administrative organization and reorganization including constitutional reforms. States and their problems. Local government.

393 (134) THE AMERICAN CONSTITUTIONAL SYSTEM. 2 Q. W. S. 3. Prerequisite: Political Science 203. The constitutional principles of the United States in the jurisprudence of the Supreme Court.

PRE-MEDICAL SCIENCES are designed for students who wish to prepare for entry into medical, dental, and nursing schools. Medical schools require three years of such training and in most states a preprofessional year. For the latter year the University offers the degree of Bachelor of Arts with a major in premedical sciences, the curriculum for which is described below. However, pre-medical students may take their degrees in any of the related sciences so long as they are careful to include the required courses. These require have been standardized by the professional boards and representatives. They require primarily basic sciences (Chemistry, Mathematics, Physics, and Zoology) as well as a modern foreign language literature, psychology, and social studies. An equally important requirement is that they demonstrate a high level of competence and have a well-balanced personality. Since not all applicants for entrance to medical schools are accepted, the pre-medical student is urged to plan his own University career with that idea in mind.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry, and preferably also advanced algebra, and trigonometry. It is also highly recommended that the high school preparation include one year of a laboratory science, two years of French or German and considerable background in literature and social studies.

PRE-MEDICAL SCIENCES STUDENT. The majority of medical schools now expect a broad background of knowledge, experience, and training on the part of the student; a student receiving his Bachelor's degree is not important provided he has the minor course requirements, in the high school student the major course requirements, and a high level of competence and has a well-balanced personality. Since not all applicants for entrance to medical schools are accepted, the pre-medical student is urged to plan his own University career with that idea in mind.

The pre-medical sciences student is advised to get a Bachelor's degree in a field of his own choice. However, he should make sure that he can satisfy within the time available (1) the University requirements for graduation, (2) the minimum preprofessional science requirements listed below, and (3) the major requirements in his selected major field. The student should consult with the preprofessional sciences advisor during the freshman year, and consult with both the pre-medical sciences advisor and the advisor in his major beginning not later than the sophomore year in residence.

MINIMUM COURSE REQUIREMENTS FOR THE PRE-MEDICAL SCIENCES student. The student must complete the following course requirements. A minimum of 15 credits in English, 15 credits in Physical Science, 15 credits in Zoology, and 15 credits in the humanities; (1) the University requirements listed above, and to satisfy the preprofessional course requirements in which he is interested. The University preprofessional sciences advisor should be consulted before the student makes this decision.

MINIMUM COURSE REQUIREMENTS FOR THE PRE-MEDICAL SCIENCES student. The student must complete the following course requirements. A minimum of 15 credits in English, 15 credits in Physical Science, 15 credits in Zoology, and 15 credits in the humanities; (1) the University requirements listed above, and to satisfy the preprofessional course requirements in which he is interested. The University preprofessional sciences advisor should be consulted before the student makes this decision.
PRE-MEDICAL SCIENCES CURRICULUM
(Medicine, Dentistry, Veterinary Medicine)
Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>A</th>
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<th>S</th>
</tr>
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<tbody>
<tr>
<td>English 104-105 Freshman Composition</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics (depends on placement) 151, 152, 153</td>
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<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 121-122-123 College Chemistry</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Psychology 110 Introduction to Psychology</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 101-102-103 Freshman E.</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>R.O.T.C. 101, 102, 103 Mill. or Air Science</td>
<td>or</td>
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Sophomore Year

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<tbody>
<tr>
<td>Zoology 194-195 Elementary Zoology</td>
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<td>5</td>
</tr>
<tr>
<td>Zoology 201 Comparative Vertebrate Biology</td>
<td>5</td>
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</tr>
<tr>
<td>Forensic Language 101, 102, 103 (Fr. or Ger.)</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Chemistry 261-262 Organic Chemistry</td>
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<td>2</td>
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<tr>
<td>Chemistry 245 Quantitative Analysis</td>
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<tr>
<td>Psychology 261 &amp; P.E. 204, 202, 203 Sophomore P.E.</td>
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<td>2</td>
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<tr>
<td>R.O.T.C. 201, 202, 203 Mill. or Air Science</td>
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Junior Year

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<tbody>
<tr>
<td>Physics 111-112-113 or 121-122-123 General Physics</td>
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<tr>
<td>Zoology 262 Vertebrate Embryology</td>
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<td>Science sequence as elected by student</td>
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Group requirements

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Senior Year

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<th>Course</th>
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<tr>
<td>Chemistry 370 Elementary Physical Chemistry</td>
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<td>Science Sequence or electives</td>
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<td>Group requirements or electives</td>
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Recommended Course Sequence
Freshman Year

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<th>Course</th>
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<tbody>
<tr>
<td>Psychology 110—Introduction to Psychology</td>
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<tr>
<td>Mathematics 105—Intermediate Algebra</td>
<td>5</td>
<td>5</td>
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</tr>
<tr>
<td>Mathematics 125—Statistics</td>
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<tr>
<td>Modern Language 101-102-103</td>
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<tr>
<td>English 104-105—Language in Action</td>
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<td>Elective from Group II</td>
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<tr>
<td>Ecol 101-102-103—Physical Education</td>
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<td>3</td>
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<tr>
<td>MS 101-102-103—Military Science (Men)</td>
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Sophomore Year

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<th>Course</th>
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<tbody>
<tr>
<td>Psychology 210-211-212—General Psychology</td>
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<td>5</td>
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<tr>
<td>Modern Language 213, 215</td>
<td>5</td>
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<tr>
<td>Elective from Group II</td>
<td>5</td>
<td>5</td>
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</tr>
<tr>
<td>Psychology 320—Psychological Statistics</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Psychology 240—Social Psychology</td>
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<td>5</td>
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<tr>
<td>Elective</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>PE 201-202-203—Physical Education</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>MS 201-202-203—Military Science (Men)</td>
<td>or</td>
<td>2</td>
<td>1</td>
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Junior Year

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<tr>
<th>Course</th>
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<tr>
<td>Choice of 300—level Psychology courses</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Philosophy 210 or Elective</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Biology 202—Human Physiology</td>
<td>5</td>
<td>13</td>
<td>5-13</td>
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Electives

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<tr>
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Special Requirements for the Master of Arts Degree in Psychology

In addition to the general requirements of the Graduate School, the following special requirements must be completed: at least 24 credits of psychology at the introductory level, at least 16 credits of psychology at the upper level, and at least 60 credits in psychology. Upon completion of 20 graduate credits, the student is required to pass a comprehensive examination comprising 20 graduate credits in psychology.

Special Requirements for the Master of Arts Degree in Clinical Psychology

A special two-year program is provided for students who plan to earn a Master of Arts degree in psychology and complete a specialization in clinical psychology. Upon successful completion of this program, the student will be prepared for the practice of clinical psychology in clinics, and other institutions where professional supervision of a full qualified psychologist is available. Students electing this program must satisfy the special requirements for the Master of Arts degree in psychology (listed in the preceding paragraph), and complete Psychology 551, 561, 575, 591, 700, and nine credits of 450 level work. The psychology major is a comprehensive program offering advanced study in the broad areas of psychology, emphasizing problem-solving skills and research methods.

For Undergraduates


220 (17) PSYCHOLOGICAL STATISTICS. 1 Q. A. 5 (5-0). Prerequisite: Psychology 110 and Mathematics 125 or equivalent. Application of statistical techniques to psychological data. Interpretation and theory stressed.

230 (13) CHILD AND ADOLESCENT PSYCHOLOGY. 1 Q. W. 5 (5-0). Prerequisite: Psychology 110. An introductory study of the effects of group memberships and other forms of social influence upon human behavior.


For Undergraduates and Graduates

RADIO AND TELEVISION courses are designed to prepare students for occupations in the broadcast media, for effective use of radio and television in connection with occupations in other fields, or for greater appreciation of the media as audience members. Graduates in radio-television have many vocational opportunities as announcers, performers, writers, newsmen, program directors, managers and executives of radio and television stations, or as radio-television specialists in advertising agencies, and other businesses.

Students work toward either a Bachelor of Arts degree in Journalism with specialization in radio and television, or a Bachelor of Arts degree with a major in Radio and Televisin. In either case, emphasis is placed on a strong liberal arts background, and approximately three-fourths of the courses for either degree will be taken in the College of Arts and Sciences. In addition to required courses in radio and television, special requirements must be met in curricula of related fields. Most of the radio-television courses are offered by the School of Journalism, but some departments in the College of Arts and Sciences also have offerings in the program. Production of programs for broadcast from the University's studios is included in the course of study. Modern equipment of professional quality in new studies and an adherence to high standards of performance prepare students to make significant contributions and successful careers in the broadcasting profession.

Note: Students wishing to major primarily in radio or television journalism should take the radio-television sequence in Journalism.

The College of Arts and Sciences and the School of Journalism offer the Bachelor of Arts degree leading to a Bachelor of Arts degree with a major in Radio-Television.

University Requirements: 37

English Composition., 101-102-103 recommended 9
Physical Education 9
R.O.T.C. (men) Mill. or Air Science 101-102-103 9
Gymnastics 9
Speech—118 3
Drama—212, 231 5
Journalism—270, 377 6

32 hours from the following courses:

Jr. Journalism—410, 420, 430, 440, 441, 442, 443, 449 90-92
Speech—421 32
Drama—342 32
Free Electives 23-27

186-188

RELIGION courses of a non-sectarian nature are offered for general education purposes. Although no degree is offered in Religion, up to 15 credits in the courses listed below may be counted for graduation in other curricula where the professional requirements leave room for such electives. The instruction includes the use of religious literature, including the scriptures, along with church and religious history and contemporary thought and scholarship. No attempt is made to indoctrinate the student in beliefs or creeds.

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 students. The School is affiliated with the University, under a director who is responsible to a Board of Trustees representing the cooperating denominations and the University.

FOR UNDERGRADUATES

118. (18) INTRODUCTORY STUDY OF RELIGION. 1 Q. A. W. S.

2. An introduction to the purposes, methods, and content of religious education. An introduction to the origins and interpretations of scripture including the Bible, the comparative study of the living religions of the world, the study of Church history, and the psychology of religion.
Elements and Potentials of Air Power, the nature of major tasks, targets, weapons, aircraft, bases and operations. (102) Air Vehicles and their applications, effect of Flight, control methods, flight, mission and power plants; and Other Instruments of National Security, the mission and objectives of Air Force in modern war. (103) Basic military training: Practical exercises and instruction in drill and ceremonies, military customs and courtesy. Emphasis is placed on teamwork and professional training.


119 (10) AIR FORCE BAND. 1 Q. S. 1. Admission must be approved by the Band School. Music. Band formations and marching.

ADVANCED COURSE: AIR FORCE OFFICER DEVELOPMENT

Admission to the Advanced Course is by application of the student and selection by the Professor of Air Science and the President of the University. Once begun successful completion of the six quarters and the summer camp is a requirement for all bachelors degrees.


RESERVE OFFICER TRAINING CORPS

or ROTC courses conducted by Army and Air Force officers at the University are part of the program of the armed forces of the nation.

AIR SCIENCE

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry. It is also recommended that the high school preparation include trigonometry, physics and either French, German or Spanish.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN AIR SCIENCE

University Requirements

<table>
<thead>
<tr>
<th>English 104-105 or 101-102-103</th>
<th>9-10</th>
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</thead>
<tbody>
<tr>
<td>Physics 102, 103-102, 201-202-203</td>
<td>25-26</td>
</tr>
</tbody>
</table>

Major Requirements

(Group requirements satisfied herein)

Mathematics 101-111, 113, or equivalent | 12 |
Physics 111-112-113 | 12 |
Political Science 101, 202-203, 331, 339 | 19 |
Geography of the 21st Century | 14 |
General 181-125-125 or other Group III Subj. | 15 |
Foreign Language (French, German or Spanish) 101, 104, or equivalent | 23 |
Air Science 301-302-303, 364 (required), 401-403-403 | 118 |

Electives

(60% must be in upper division courses. A second major is recommended) 44-45

BASIC COURSE: AIR FORCE CITIZENSHIP EDUCATION

101-102-103 FOUNDATIONS OF AIR POWER. 3 Q. A. W. S. 2.2. A General survey of Air power, designed to provide the student with an understanding of the elements of Air Power and basic aeronautical science. (101) Introduction to AFROTC, an outline of the AFROTC program; careers in the United States Air Force, a survey of the various types of careers and opportunities in the U.S.A.F.; and
BASIC COURSE: MILITARY TRAINING FOR CITIZENSHIP

101-102-103 (1abc) INTRODUCTION TO THE ARMY. 3 Q. A, W, S. 2,1,2. Students may enter any quarter. (101) Introduction to Army organizational principles, missions, and chain of command; practical instruction in Individual Weapons and Marksmanship with emphasis on preliminary marksmanship, shooting techniques and instructional methods to enable the student to coach others. Leadership, Drill and Command, basic and progressive training in leadership through practical exercises and instruction in drill, ceremonies, military customs and courtesy. Emphasis placed on teamwork and proficiency required of the individual. (102) American Military History, emphasizing men, factors and events which have led to the organizational, tactical and psychological patterns found in the Army today. (103) Continuation of Instruction in Individual Weapons and Marksmanship and Leadership Drill and Command from 101.

201-202-203 ADVANCED INDIVIDUAL TECHNIQUES. 3 Q. A, W, S. 2,1,2. Students may enter any quarter. Prerequisite: 101-102-103. (201) Map and Aerial Photograph Reading to include their reading and employment, terrain evaluation, marginal information, military symbols, orientation, resection and the Military Grid Reference System: Leadership, Drill and Command, a continuation of 103 with emphasis on functional, duties, and responsibilities of junior leaders. (202) Recoilless and Indirect Fire Weapons and Gunnery, to include mechanical functioning, nomenclature, principles of fire control and techniques of employment. Familiarization with automatic weapons. (203) Leadership, Drill, and Exercise of Command, a continuation of Leadership, Drill and Command from 201. Familiarization with automatic Weapons and Comprehensive Course on Role of the Army in National Defense.

ADVANCED COURSE: OFFICER TRAINING

The advanced course prepares the student for a commission as a Second Lieutenant in any branch of the United States Army Reserve. Admission is on application of the student and selection by the Enlisted Officer Selection Board. Once begun, successful completion of the six quarters and summer camp is a requirement for all bachelor degrees, unless sooner honored, distinguished service, and/or upon recommendation of the President of the United States.

301-302-303 (111abc) PRINCIPLES AND TECHNIQUES OF THE MILITARY LEADER. 3 Q. A, W, S. 3,3,3. Students may enter any quarter. (301) Leadership and instructional principles, including characteristics, qualities, requirements, problem solving and theoretical and practical military instruction; organizational structure and functions of the branches of the Army. Leadership, Drill and Command—to include practical work in structuring and directing military drill of individuals and small units. (302) Small unit tactics, including the principles and techniques of leading small units from the squad to the company in offensive and defensive operations. (303) Continuation of small unit tactics and introduction to Army Communication Systems. Orientation of Summer Camp Activities. Continuation of Leadership, Drill and Command from 301.

313 (113) SUMMER CAMP. No credit. Six weeks at an Army training center taken after completion of 303 from middle of June through first week of August. Practical military training and team exercises with emphasis on the development of discipline and qualities of leadership.

401-402-403 (112abc) MILITARY MANAGEMENT. 3 Q. A, W, S. 3,3,3. Prerequisite: 301-302-303. Students may enter any quarter. (401) Operations to include staff organizations and procedures at Division level, coordination of the Arms and Services, functions and techniques of intelligence, training and operations, staff sections and the planning and conduct of tactical operations. Leadership, Drill and Command; Practical exercise of leadership functions as officer in command of companies in various Army ceremonies, (402) Military Administration and Logistics, including personnel and supply management and procedures, troop movement by foot and motor, motor pool management; military justice and courts-martial procedure with practical work in moot court. (403) Continuation of Military Administration and a study of military service, continuation of Leadership, Drill and Command from 401.

SECRETARIAL - HOME ARTS is a curriculum, designed especially for women, combining work in Secretarial Science and Home Economics. Home Economics provides a base for successful home and family life; and Secretarial Science provides training for a vocation for immediate or future use. Four years are required for the degree of Bachelor of Science or Bachelor of Arts. The courses in secretarial science provide training in typing, shorthand, filing, the use of office machines, and secretarial practice as preparation for general office work. Opportunity is provided for election of additional secretarial courses if added proficiency is desired. The work in home economics includes the study of nutrition, home equipment, house planning and furnishing, budgeting, child development, and family living. In addition, a general education is provided in areas outside the major fields.

This course is for women who desire a broad liberal education with some training in home making and sufficient vocational training to provide them with professional opportunities.

Following are the requirements leading to the Bachelor of Science in Secretarial-Home Arts. Students desiring to receive the Bachelor of Arts degree with a major in Secretarial-Home Arts may do so by meeting these requirements and in addition, completing the entire foreign language requirement of five quarters (25-26 credits), Economics (10 quarters or equivalent in each of two foreign languages), or a reading knowledge at the level of attainment expected of a student who has passed at least five quarters in a foreign language.

University Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>English Composition (104, 105 recommended)</td>
<td>9-10</td>
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<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>Group Requirements</td>
<td>12-15</td>
</tr>
<tr>
<td>Group I (Humanities 151, 152, 153 recommended)</td>
<td>12-15</td>
</tr>
<tr>
<td>Group III</td>
<td>24-30</td>
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<tr>
<td>Major Requirements</td>
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<table>
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<tr>
<th>Course</th>
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<tr>
<td>Home Economics 102, 104, 141, 151, 155</td>
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</tr>
<tr>
<td>210</td>
<td>3</td>
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<td>242</td>
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<td>246 or 246</td>
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<td>257</td>
<td>3</td>
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<tr>
<td>302</td>
<td>3</td>
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<td>303</td>
<td>3</td>
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<tr>
<td>305, 307, 368 or Soc. 311</td>
<td>3</td>
</tr>
<tr>
<td>1 other course above 300</td>
<td>3</td>
</tr>
<tr>
<td>Home Economic courses with credit toward major with 186 total credits not to exceed 39 cr</td>
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<table>
<thead>
<tr>
<th>Business Administration 182 (Placement test required)</th>
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<tbody>
<tr>
<td>183 (Placement test required)</td>
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<tr>
<td>184, 185, 196 (1 year in H.S., no cr. in 184; 2 yrs. in H.S., no cr. in 184 or 185)</td>
<td>15</td>
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<table>
<thead>
<tr>
<th>Political Science 101</th>
<th>4</th>
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<tbody>
<tr>
<td>Free Electives</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>186</td>
</tr>
</tbody>
</table>
SOCIAL WELFARE

studies involve exploration of the ways in which social problems affect people; of the agencies which help people deal with these problems; and of the methods used in such endeavor. For that reason, preparation required for the degree of Bachelor of Arts. Social Welfare courses involve oral and written work based on lectures, textbooks, readings and case records, and some actual field work or observation. Broad studies in other social sciences are required.

The profession is new and expanding, and employment is open to graduates in many agencies which do not require full professional training for beginning jobs. Those seriously considering a career in the field should plan on the two years of graduate professional training for which this course is preparatory. Social workers may seek employment in such positions as caseworkers, group workers, supervisors and administrators in public and private social agencies, hospitals, mental-health clinics and youth serving organizations.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE.

In addition to the number of courses for graduation set earlier in the guidebook, fifty credits in departmental courses are required for the Bachelor of Arts degree with a major in Social Work.

Also required is a classical or modern foreign language, 5 quarter credits in one language, one year in each of two foreign languages, and reading knowledge of the level of a first-year student expected of a student who has passed five quarters in a language.

General Information: The undergraduate major in Social Work is available to those pursuing a practical orientation toward social problems. Both theory and practical experience are emphasized in this effectiveness needed on the job. Those wishing to enter graduate schools of social work are well advised to take Social Work content and method. Group methods are freely used.

Major requirements: A minimum of 30 credits in Social Work courses must be completed. For the first two years of study, the following courses should be taken in order to prepare for the major:

1. Sociology 181 or 152
2. Economics 201, 202 or 225-235
3. Psychology 101
4. Sociology 101 and 102
5. Social Work 181

During the second two years, one course numbered 500 or above must be taken in each of the following fields: Anthropology, Economics, History, Political Science, Psychology, and Sociology. Work in the Community Schools for the second year is required up to a maximum of 12 credit hours.

FOR UNDERGRADUATES

181 (30) THE FIELD OF SOCIAL WORK. 1 Q. W. 5. An introduction to the field of social work and of social work functions. Development of modern social work and the distinctive features of the profession.

FOR UNDERGRADUATES AND GRADUATES

362 (170) INTRODUCTION TO RECREATION LEADERSHIP. 1 Q. A. Social Welfare 181. Philosophy of social recreation, theory and practice of group leadership, social aspects of leisure; survey of recreation resources and activities. Forces, interests, and resources required to provide a total community recreation program. Credit not allowed for this course and for the identical course in Health and Physical Education.

363 (170a) RECREATION LEADERSHIP (SCHOLARSHIP). 1 Q. A. W. Sociology 101. Philosophy of social recreation, theory and practice of group leadership, social aspects of leisure; survey of recreation resources and activities. Forces, interests, and resources required to provide a total community recreation program. Credit not allowed for this course and for the identical course in Health and Physical Education.

363 (170c) RECREATION LEADERSHIP (CAMP LEADERSHIP). 1 Q. S. 3. Prerequisite: Sociology 101. Principles, philosophy, and practice of group leadership, social aspects of leisure; survey of recreation resources and activities. Forces, interests, and resources required to provide a total community recreation program. Credit not allowed for this course and for the identical course in Health and Physical Education.

381 (194) JUVENILE DELinquency. 1 Q. Su. only. 3. Nature and extent of problems of courts, social agencies, and schools in its prevention and treatment.

382 (195) GROUP METHODS IN TEACHING. 1 Q. Su. only. 3. Prerequisite: Social Studies 181. Use of group methods in the teaching of content and skill subjects and the principles recognized as basic in their use.

383 (132) GROUP METHODS IN MODERN SOCIETY. 1 Q. S. 4. Prerequisite: Social Welfare 181. Purposes, principles and methods involved in group process and group experience in a democracy. The role of the group member, leadership, achieving group effectiveness. Group dynamics.

481 (132) PUBLIC WELFARE. 1 Q. A. 4. Prerequisite: Social Welfare 181. Development, organization, functions, and methods of governmental programs designed to protect individuals and families against the loss of income due to such hazards as unemployment, illness, disability, old age and death.

481 (133) CASE STUDIES. 1 Q. A. Prerequisite: Social Welfare 181. The analysis of case records drawn from a variety of social work settings.

493 (134) FIELD PRACTICE: COMMUNITY SERVICES LABORATORY. 1 Q. A. W. 2-4 cr. Each year. May be entered any quarter. Prerequisite: Social Welfare 181. In the laboratory, the student will participate in the self-help project experiences in dealing with community needs and resources. Theoretical analysis, application and experience in situations Learning by means of the laboratory method. Total credit allowed: 12.

493 (135) CHILD WELFARE SERVICES. 1 Q. W. 4. Prerequisite: Sociology 181. Techniques of practice in child welfare services. The program of self-help for the child in problems of public and voluntary programs designed to meet the special needs of children and their families, foster home and institutional care, adoption services, school, and community, youth services, etc.

485 (190) ADVANCED PROBLEMS. Any quarter. 1-2 cr. Prerequisite: consent of instructor. Total credit allowed: 6.

SOCIOLOGY is a field in social science concerned with the behavior of people in groups, particularly societies and cultures, and the institutional arrangements under which people live. It is concerned with contemporary civilization.

Four years are required for the Bachelor of Arts degree, which may be earned either in Sociology or a combination of Sociology and Anthropology. Under this plan, the program of study in Sociology and Anthropology is also offered (see Graduate Studies). Sociology courses for undergraduates involve mainly preparation on the basis of texts and readings followed by class discussions and lectures. Graduates may engage in teaching, research, or government service. There are many opportunities for scholarships or fellowships in graduate work. Sociology is also a suitable major for those planning a career in various forms of government service. There are many opportunities for scholarship or fellowships in graduate work. Sociology is also a suitable major for those planning a career in various forms of government service.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE.

In addition to the general requirements for graduation listed earlier in the guidebook, fifty credits in departmental courses are required for the Bachelor of Arts degree with a major in Sociology. A classical or modern foreign language, 5 quarter credits in one language, one year in each of two foreign languages, or a reading knowledge at the level of attainment expected of a student who has passed five quarters in a language.

At least 35 of the 50 major credits must be in sociology courses, including Sociology 101, 201, 205, and 301. Anthropology 152 or 153 and Social Welfare 181 must be taken. Students for the major may be selected from any courses in the department.

COMBINED ECONOMICS AND SOCIOLOGY: For those who plan to go into work that requires a background in both sociology and economics, the following additional general departmental requirements should be completed: Sociology 101, 204, 305, and 491; Economics 101, 203, 301, 305, 401, 405, 411, and 511. The minimum number of credits required for this major is 35 credits.

FOR UNDERGRADUATES

101 (16) INTRODUCTORY SOCIOLOGY. 1 Q. A. W. 5. A general study of interpersonal relations.

102 (17) SOCIAL PROBLEMS. 1 Q. W. Sociology 101. A social study of personal disorganization.

201 (25) DEVELOPMENT OF SOCIAL THOUGHT. 1 Q. A. 4. Development of social thought from earliest times to the establishment of sociology.

202 (26) COLLECTIVE BEHAVIOR. 1 Q. W. 3. Prerequisite: Sociology 101 or Psychology 110. Theories relating to mass behavior. The characteristics of such social aggregates as crowds, mobs, and social movements.

204 (109) COURTSHIP AND MARRIAGE. 1 Q. Any quarter. 3. A general course in the social institutions of marriage and family.

205 ELEMENTARY SOCIAL STATISTICS. 1 Q. 3. Introduction to simple statistics and graphic techniques commonly used in social science. Credit not allowed for this course and the identical course Economics 205.

FOR UNDERGRADUATES AND GRADUATES

301 (116) SOCIAL MOVEMENTS. 1 Q. S. 5. Prerequisite: Sociology 101. Selected reform and other movements with emphasis on their organizational, functional, and behavioral characteristics. Offered odd numbered years.

302 (117) SOCIAL STRATIFICATION. 1 Q. S. 3. Prerequisite: Sociology 101 or consent of instructor. Analysis of the class system in contemporary society in terms of social class theory, class behavior, and current research in social stratification in American society. Offered in even numbered years.
SPEECH—67

303 (118) SOCIAL SCIENCE METHODS. 1 Q. A. 3. Prerequisite: 10 credits in Social Science courses. Introduction to the techniques and measurement used in the social sciences.

304 (120) POPULATION. 1 Q. S. 4. Prerequisite: Sociology 101. A quantitative and qualitative analysis of world population; vital statistics and population change, migration, and immigration.

305 (121) PRINCIPLES OF RURAL-URBAN SOCIOLOGY. 1 Q. W. 4. Prerequisite: Sociology 101. The rise of urbanism; changes in social relationships and social structure in rural and urban communities; the ecology of rural and urban life.

306 (122) CRIMINOLOGY. 1 Q. S. 5. Prerequisite: Sociology 101 or 102. The causes, prevention, detection, and punishment of crimes.

307 (127) CRITICAL THINKING. 1 Q. S. 2. Prerequisite: Sociology 101. Institutional and non-institutional processes and methods by which persons and groups are controlled. Offered even numbered years.

309 INDUSTRIAL SOCIOLOGY. 1 Q. S. 4. Su. Prerequisite: Sociology 101. Introduction to the methods and problems of industrial sociology such as factories, offices, and stores; work group processes and applied problems; industrial relationships in various industries.

311 (Home Ec. 128) FAMILY DEVELOPMENT. 1 Q. S. 3. Prerequisites: Sociology 101, Psychology 110 and any one of the following courses in human development or applied psychology: Economics 369, 367, 368; Psychology 236; Education 202, 205; or a course acceptable to the instructor. Interfunctional understanding of American families as changing groups of changing individuals, mutually influencing one another's development throughout the family life cycle.

312 REGIONAL DEVELOPMENT. 1 Q. Su. 1956 only 8, 5 weeks. June 23-July 28, 1956. A travel education project in the Rocky Mountain region; work and travel in Arizona, New Mexico, Utah, and Wyoming. An intensive study of the unique sociological and social characteristics of the Rocky Mountain region with emphasis on its resources and its relation to the rest of the nation.

313 (126) FOUNDATIONS OF MODERN SOCIOLOGY. 1 Q. Prerequisite: Sociology 101. Selected sociological problems arising from the theories of Durkheim, Marx, and Weber. Emphasis on the sociological study of rural areas and the interplay between the national and local communities.

314 (130) SURVEY OF EUROPEAN SOCIOLOGY. 1 Q. S. 4. Prerequisite: Sociology 101. Historical and comparative study of Western European Sociologies and the influences they exercise upon European social structure.

318 (139) THE FAMILY. 1 Q. W. 5. Prerequisite: Sociology 101. Comparative, historical and analytical study of the family.

319 (150) ADVANCED PROBLEMS. Any quarter. 1-2. Prerequisite: Consent of instructor. Offered even numbered years.

404 SURVEY OF EUROPEAN SOCIETY. 1 Q. W. 3. Prerequisite: Sociology 101. Historical and comparative study of Western European Sociologies and the influences they exercise upon European social structure.

501 (201) GRADUATE RESEARCH. Any quarter. Credit variable.

509 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

SPEECH includes courses in the field of General Speech, including public speaking and other related courses, and courses in the field of speech major, emphasis in one or more of five areas of concentration: Public Address and Forensics, Speech Pathology and Audiology, Speech Education, Interpersonal Communication, and Radio and Television. Students who wish to enter a career in speech must complete a satisfactorily a course of study in public speaking and the related courses offered in the department of speech.

FOR UNDERGRADUATES

111 (20) PRINCIPLES OF SPEECH. 1 Q. A. W. S. 5. This course aims, through various experiences in group discussion, oral reading, and public speaking, to develop constructive attitudes, organized thinking, and discriminative listening as these contribute to effective communication and human relations.

112 (21) ARGUMENTATION. 1 Q. A. W. S. 5. The principles by which valid and invalid conclusions are drawn and the techniques of argumentation, reasoning. Attention to evidence, analysis, logic, fallacies, refutation, rebuttal, and their application to current economic, social, and political problems.

113 (22) PARLIAMENTARY PROCEDURE. 1 Q. S. 1. The principles and practice of parliamentary procedures used in the conduct of business and social affairs.

118 (48) VOICE AND DICTION. 1 Q. A. W. S. 3. Principles of phonation and pronunciation. Analysis of speech sounds, utilizing the principles of acoustics and phonetics to develop the ability to produce speech and achieving vocal flexibility.

135 (52) DISCUSSION TECHNIQUES. 1 Q. A. 3. A study of and practice in the techniques in making inquiries and solving problems by the means of group thinking.

140 (76) PUBLIC PERSONALITY. 1 Q. A. W. S. 1-2. Total credit allowed: 6. Prerequisites: consent of the instructor. The principles of public performance. Practice in presenting before public audiences and in the preparation of public addresses.

145 (49) RADIO-TELEVISION SPEECH. 1 Q. W. 3. Prerequisite: Speech 118 and Journalism 140. Principles and practice in adapting pronunciation, articulation and vocal pattern to the various forms of speech in radio and television. Analysis of individual voices by tape recording.

201 (69a) BEGINNING ORAL INTERPRETATION. 1 Q. A. 3. Prerequisite: Speech 118. An analysis and synthesis of sense and sound in literature. Application of these principles in creating patterns spoken in literature.

202 (69b) INTERMEDIATE ORAL INTERPRETATION. 1 Q. W. 3. Prerequisite: Speech 118 or 261. Practice in communicating all forms of literature in radio drama. Selection of significant aspects of radio drama interpretation, special consideration of melody, rhythm, tempo, and quality as factors in interpretation.


315 (130) INTERPERSONAL COMMUNICATION. 1 Q. W. 3. Prerequisite: Speech 101. Principles of group dynamics as they impact upon the individuals, sociometry as a means of discovery of lines of communication; and certain formulations in general semantics as tools of evaluation.

FOR UNDERGRADUATES AND GRADUATES

316 (161) BUSINESS AND PROFESSIONAL SPEECH. 1 Q. A. W. S. 3. Prerequisite: 5 credits in Speech. The methods, techniques, and the role of speech for leaders in business, labor, education, and the professions.

317 (183) SPEECH IN TEACHING AND LEARNING. 1 Q. A. 3. For teachers, major or minor in speech. The role of speech in education, use of speech as a teaching device, and the principles by which the teacher works with the speech of his students.

318 (148) ADVANCED PHONETICS. 1 Q. A. 3. Prerequisite: Speech 118. The neuro-physiological basis of phonetic principles with consideration of the morphological aspects of oral language, dialects, foreign accents, and current American usage.

321 (121) THE TEACHING OF SPEECH. 1 Q. W. 3. Prerequisite: 10 credits in Speech. A study of planning the speech curriculum and its relationship to other school subjects; instructional materials, and methods of teaching Speech in the junior and senior high schools.

322 (122) THE MODERN FORENSICS PROGRAM. 1 Q. Su. only 1957. Prerequisite: 10 credits in Speech. Special training in preparation and direction of debate, oratory, declamation, extemporaneous speech, and other competitive activities in Speech.

345 (143) ADVANCED PUBLIC SPEAKING. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of theories of speech composition and oral presentation, the development of the speech project.

344 (147) SURVEY OF RHETORIC. 1 Q. W. 3. Prerequisite: 10 credits in Speech. A survey of ancient, medieval, and modern rhetoric. Attention to the contributions of Socrates, Plato, Aristotle, Cicero, Quintilian, Longinus, St. Augustine, Ward, Campbell, Blair, White, and John Quincy Adams to modern rhetoric.

345 (150) HISTORY OF PUBLIC ADDRESS. 1 Q. S. Prerequisite: 10 credits in Speech. A survey of the biographies and speeches of representative speakers, the issues with which they were identified, and their influence on the history of their period. Attention to the ancient Greek and Roman, British, and American speakers of prominence.

352 (164) THE PSYCHOLOGY OF SPEECH. 1 Q. A. 3. Prerequisite: Speech 118. The relationship of psychology to speech, with a comparison of modern theories on the factors affecting that relationship.

353 (167) GENERAL SEMANTICS. 1 Q. S. 3. Prerequisite: 5 credits in Speech. A study of human relations as affected by language; special attention to the subject function, order, relations, associations, and abstractions in language.

359 (189) ADVANCED ORAL INTERPRETATION OF LITERATURE. 1 Q. A. W. S. 3. Prerequisite: Speech 112. Instruction in preparing for and participating in various kinds of oral interpretation for various occasions. Concentration on the oral interpretation of one major piece of literature.

361 PRINCIPLES OF PUBLIC ADDRESS. 1 Q. S. 3. Prerequisite: 5 credits in Speech. Principles and practice of role-playing as a technique of communication. The role of spontaneous, creative and the extemporaneous types of speech delivery.

374 (174) COMMUNITY REHEARSAL SOCIODRAMA. 1 Q. W. S. Prerequisite: 10 credits in Speech. Techniques of organizing programs, in schools and in the community, dramatizing sequences in the history of the community; the writing and staging of productions based upon public data.
search, and a survey of current research in the various speech areas. Independent study and research on assigned areas of speech.

FOR GRADUATES
541 (40) PERSUASION. 1 Q. S. Prerequisite: Speech 343 or 434. An introduction to the causes and principles of treatment of speech disorders, and to speech correction as an educational and clinical field.

500 RESEARCH. Any quarter. Credit variable. Total credit allowed: 1.

599 (299) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

SPEECH PATHOLOGY AND AUDIOLOGY

Individuals with speech and hearing disorders constitute our largest group of exceptional persons. Study in the field of speech pathology and audiology evaluates these disorders, their causes and remedial principles.

Students interested in these studies take their Bachelor of Arts degree with a major in speech, but vary their course selection sufficiently to obtain the academic requirements necessary for Basic Speech Certification or one listed earlier in the guidebook, the following special requirements must be satisfied: at least 30 credits in speech pathology and audiology, which contributes to the training of graduate students only.


333 SPEECH PATHOLOGY. 3 Q. A. W. Prerequisite: 331. Theory of speech, examination, treatment, and prevention of speech disorders. An introduction to the causes and general principles of treatment of speech disorders.

333 GLUCOSE TOLERANCE. 3 Q. A. W. Prerequisite: 331. Theory and practice of speech pathology.


333 MEASUREMENT OF HEARING LOSS. 1 Q. A. W. Prerequisite: 331. Emphasis given to inner-ear type hearing losses and their differential responses to audiological examination.


333 MEASUREMENT OF HEARING LOSS. 1 Q. A. W. Prerequisite: 331. Emphasis given to inner-ear type hearing losses and their differential responses to audiological examination.

WILDLIFE TECHNOLOGY

is the study of basic science with particular emphasis upon the biological sciences, together with the development of special skills and techniques as a preparation for professional work in fish and game conservation and management. Wildlife Technology stresses biological concepts; Wildlife Management the relationship of wildlife to problems of land management.

Graduates find employment with state fish and game conservation departments or federal agencies such as the Fish and Wildlife Service, the National Park Service, the Soil Conservation Service, the Food and Drug Administration, etc. Some become managers of wildlife on private estates. The better positions go to those who have received the master's degree in Wildlife Management or Wildlife Technology. The field is becoming more specialized and several institutions give graduate work leading to the doctor's degree. Graduates with advanced degrees may enter college or university teaching.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs algebra and geometry. It is also recommended that the high school preparation include advanced algebra, solid geometry, and trigonometry.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN WILDLIFE TECHNOLOGY. In addition to the general requirements listed earlier in the guidebook, the following special requirement must be completed for the degree Bachelor of Science in Wildlife Technology.

Students electing the Terrestrial option should elect additional courses from the following: Zoology 530, 531, 536; Botany 530; Chemistry 115, 125; General 450; Biology 115; General 450; Geology 100; Bacteriology 220; General 450.

Students electing the Terrestrial option should elect additional courses from the following: Zoology 530, 531, 536; Botany 530; Chemistry 115, 125; General 450; Geology 100; Bacteriology 220; General 450.

Students electing the Terrestrial option should elect additional courses from the following: Zoology 530, 531, 536; Botany 530; Chemistry 115, 125; General 450; Geology 100; Bacteriology 220; General 450.
ZOOLEGY—69

ZOOLEGY is the study of animals—how they are put together, how their bodies work, and how they adjust to their surroundings. It is a basic science for many professional fields such as medicine, pharmacy, wildlife, and physical education.

Four years are required for the Bachelor of Arts degree. The Master of Arts (or Master of Science) degree is also offered (see Graduate Studies). Undergraduate courses involve much laboratory work as well as the study of texts and classroom recitations. There are also opportunities for field work; during the summer extensive field experience is available at the Biological Station maintained on Flath Lake for qualified upperclass and graduate students.

Graduates become high school teachers or, after advanced studies, instructors in colleges and universities. Others enter state or federal government service in health and conservation agencies. Many, with further training, enter medicine or related fields. A few establish themselves as fish culturists, fur farmers, pest control experts, and so on.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN ZOOLEGY. In addition to the general requirements for graduation listed earlier in the guidebook, the following special requirements must be completed for the Bachelor of Arts degree with a major in Zoology: 48 credits in Zoology including Zoology 101-102, 103, 201, 328, 340, 341, 385, 429 (3 credits).

The following must also be completed: Botany 121-122, 123 or 100 and 121-122; Chemistry 101-102-103 or 121-122 and 123 or 200; and Physics 111-112-113 or 211-222-223.

Students who contemplate graduate work in Zoology should elect during their Junior or senior years, Bacteriology 200 and Zoology 300, 309.

The foreign language requirement listed earlier in the guidebook must be satisfied. French, German or other language approved by the department may be used. It would be wise for prospective graduate students to secure a reading knowledge of both French and German if possible.

Senior examinations are given only to candidates for honors.

CURRICULUM IN ZOOLEGY

Freshman Year

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<td>Chem. 101-102-103—General Chemistry</td>
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Senior Year

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Bison Wildlife Study
FOR UNDERGRADUATES AND GRADUATES

101 (10) GENERAL COMPARATIVE EMBRYOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The comparison of vertebrates during the period of their development from the fertilized egg to the adult, with emphasis on the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

102 (10) VERTEBRATE EMBRYOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the development of the invertebrates and vertebrates, with emphasis on the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

103 (10) PARASITOLOGY. 1 Q. W. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

104-105 (14ab) ELEMENTARY ZOLOGY. 2 Q. A. Su. 5 (3-4). A survey of the invertebrates, including the anatomy, physiology, and behavior of the invertebrates.

106 (15) FIELD ZOOLOGY. 1 Q. S. 3 (2-5). Prerequisites: Zoology 101 or 104. Field trips are taken during the last week of the quarter.

201 (101) GENERAL COMPARATIVE ANATOMY. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the comparative anatomy of the invertebrates and vertebrates, with emphasis on the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

202 (102) VERTEBRATE ANATOMY. 1 Q. W. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the anatomy of the invertebrates and vertebrates, including the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

203 (103) MAMMALOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the anatomy, behavior, and physiology of mammals. Field trips are taken during the last week of the quarter.

204 (104) MICROTECHNIQUE. 1 Q. W. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the techniques used in the identification and classification of invertebrates and vertebrates. Field trips are taken during the last week of the quarter.

205 (105) HISTOLOGY AND MICROTECHNIQUE. 1 Q. W. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the techniques used in the identification and classification of invertebrates and vertebrates. Field trips are taken during the last week of the quarter.

206 (106) AQUATIC BIOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

207 (107) ANTHROPOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

301 (301) GENERAL COMPARATIVE EMBRYOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the development of the invertebrates and vertebrates, with emphasis on the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

302 (302) VERTEBRATE EMBRYOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the development of the invertebrates and vertebrates, with emphasis on the nervous system, endocrine system, and cardiovascular system. Field trips are taken during the last week of the quarter.

303 (303) PARASITOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

304 (304) HISTOLOGY AND MICROTECHNIQUE. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the techniques used in the identification and classification of invertebrates and vertebrates. Field trips are taken during the last week of the quarter.

305 (305) AQUATIC BIOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

306 (306) MAMMALOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the anatomy, behavior, and physiology of mammals. Field trips are taken during the last week of the quarter.

307 (307) ANTHROPOLOGY. 1 Q. A. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

401 (401) ECOLOGY OF WILDLIFE POPULATIONS. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the dynamics of wild life populations and the factors which control them.

402 (402) ECOLOGY OF WILDLIFE. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

403 (403) ECOLOGY OF MAMMALS. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

404 (404) ECOLOGY OF BIRDS. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

405 (405) ECOLOGY OF REPTILES. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

406 (406) ECOLOGY OF AMPHIBIANS. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

407 (407) ECOLOGY OF FISH. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

501 (501) GENERAL ECOLOGY. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.

502 (502) ECOLOGY OF INSECTS. 1 Q. 5 (3-4). Prerequisites: Zoology 101 or 104. The study of the habits of aquatic vertebrates, including the methods of identification and classification.
### DEGREES CONFERRED 1956-1957*

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*Spring, 1956, to Winter, 1957, inclusive

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| Bachelor of Science in Wildlife Technology | 2   | 1     | 3     |
| College of Fine Arts                       |     |       |       |

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| Bachelor of Science in Business Administration | 109 | 28    | 137   |
| Bachelor of Arts in Education               | 25  | 47    | 72    |
| Bachelor of Science in Forestry             | 32  | 1     | 33    |
| Bachelor of Science in Journalism           | 11  | 7     | 18    |
| Bachelor of Science in Pharmacy             |     | 11    | 12    |
| Bachelor of Laws                            | 15  | 15    | 30    |

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### MONTANA STATE UNIVERSITY
Missoula

SUMMARY OF REGISTRATION, 1956-57

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<th>COLLEGE OR SCHOOL</th>
<th>Graduates</th>
<th>Seniors</th>
<th>Juniors</th>
<th>Sophomores</th>
<th>Freshmen</th>
<th>Unclassified <em>Special</em></th>
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