1-1-1958

1958-1959 Course Catalog

University of Montana–Missoula. Office of the Registrar

Let us know how access to this document benefits you.
Follow this and additional works at: https://scholarworks.umt.edu/coursecatalogs_asc

Recommended Citation
https://scholarworks.umt.edu/coursecatalogs_asc/106

This Catalog is brought to you for free and open access by the University of Montana Publications at ScholarWorks at University of Montana. It has been accepted for inclusion in University of Montana Course Catalogs, 1895-2017 by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.
PURPOSE AND USE OF THE GUIDEBOOK

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 officers; 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 table of 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.

CONTENTS

Montana State University
Accreditation, Support and Endowment, Campus 7—8
Physical Plant, The Library, Control and Administration.

Admission, Requirements for General Admission, High School Preparation, Admission by Examination, Conditional Admission, Admission by Transfer, Admission as Special Students, Unclassified Students.

Registration and General Regulations
This section defines limitations within which students register and outlines proper procedures to follow when making changes in enrollment, when drawing from a course, withdrawing from the University or repeating a course. It also indicates how credit for Independent Work is allowed superior students, and the number of credits needed for full payment under the Kansas G. I. Bill.

Degrees Offered
The statement here is general in nature. You should check under alphabetically arranged curricula later in the Guidebook for more detail.

Grading System—Grade Points
Requirements for graduation Credits Required for a Degree, or for a Major, Required Courses, Group Requirements, Foreign Language Requirements, Limitations on Correspondence Credit, Veterans’ Credit, Residence Requirements, Senior Examinations, Senior Examinations for Honors, Grade Point Requirements.

Financial Obligations Fees, Fees for Special Purposes, Methods of Payment and Refunds, Including Railway Fare Refund.

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

Service, Student Health Service, Placement, Housing, Residence Halls, Family Housing, Women’s Cooperative House, Fraternity and Sorority Houses, Loans and Employment, Scholarships and Prizes, Student Standards and Affairs, Absences, Leaves of Absence, Social Functions, and Student Marriages.

Activities
Organizations
Organization of 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

Geology

Graduate School

Health & Physical Education

History

Home Economics

Journalism

Law

Liberal Arts

Library Service

Mathematics

Medical Technology

Music

Pharmacy

Philosophy

Physics

Physical Sciences

Physiology

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, and 2-12 under Group II and III relates to ROTC.

Montana State University Bulletin
Number 478 May, 1958

Published at Missoula, Montana. Issued five times yearly: January, February, March, May, and December. Entered as second-class matter at the post office at Missoula, Montana, under Act of Congress August 24, 1912.

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.
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 92 of the Laws of the Thirteenth Legislature, 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 UNIVERSITY

THE UNIVERSITY OF MONTANA

MONTANA STATE BOARD OF EDUCATION

J. HUGO ARONSON, Governor
FORREST H. ANDERSON, Attorney General Ex-Officio Secretary
MRS. G. E. CHAMBERS, 1966 Ex-Officio Secretary
CLARENCE L. POMEROY, Sup't of Public Instruction Ex-Officio Secretary

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

MONTANA STATE UNIVERSITY, MISSOULA
Established February 17, 1893, and consisting of:

- The Graduate School
- 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
- The Biological Station (Flathedral Lake)
- The Forest and Conservation Experiment Station
- The Forest Nursery
- The Labreche Experimental Forest
- The Division of Public Service
- The Montana Cooperative Wild- lands Unit
- The University Press

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)

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

- The Course in Metalurgical Engineering

- The Course in Geological Engineering
- The Graduate School
- The Summer Field Courses

WESTERN MONTANA COLLEGE OF EDUCATION, DILLON
Established February 23, 1893, and consisting of:

- The Two-year Course in Teacher Education
- The Two-year Course in Business Education
- The Teachers’ Service Division

- The Two-year Course in Elementary and Secondary Education
- The Teachers’ Service Division

- The Teachers’ Service Division

EASTERN MONTANA COLLEGE OF EDUCATION, BILLINGS
Established March 12, 1925, and consisting of:

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

NORTHERN MONTANA COLLEGE, HAVRE
Established March 8, 1913, and consisting of:

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

- The Four-year Course in Education

B. L. O. BROCKMANN, 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 Thanksgiving Day, a Holiday
November 27, Thursday Thanksgiving Day, a Holiday
December 14-15, Monday through Friday Examinations
December 18, 9:00 a.m. Winter 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, 5:30 p.m. Winter Quarter Ends

SPRING QUARTER

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

SUMMER SESSION

June 15, Monday (10 weeks and first term) Registration
June 16, Tuesday Instruction Begins
July 4, Wednesday Independence Day, a Holiday
July 20, Monday Second Term Begins
August 21, Friday Session Ends

AUTUMN QUARTER

September 20-26, 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 Registration of Upperclass Law Students
November 25, Thursday Thanksgiving Day, a Holiday
November 26, Thursday Veterans Day, a Holiday
December 14-18, Monday through Friday Examinations
December 18, 5:00 p.m. Autumn Quarter 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 25, Thursday Classes Begin at 8:00 a.m.
November 27, Thursday Thanksgiving Day (no classes)
December 20, Saturday Christmas Vacation Begins After Last Class
January 6, 1959 Classes Resume at 8:00 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 22, Monday 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 30, 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 8:00 a.m.
January 6-9, Wednesday through Friday Pre-registration
January 25-30, Monday through Saturday Semester Examinations
OFFICIAL DIRECTORY, 1957-58

EXECUTIVE BOARD

THEODORE JACOBS, Missoula
MRS. THOMAS E. MULRONEY, Missoula
ALEX M. STEPANZOFF, Missoula

ADMINISTRATIVE OFFICERS

CARL McFARLAND, B.A., M.A., LL.B., S.J.D., LL.D., President
HAROLD CHATLAND, B.A., M.S., Ph.D., Academic Vice President, Dean of the Faculty
ROBERT T. PANTZER, B.A., LL.B., Executive Vice President
ROBERT T. TURNER, B.A., M.A., Ph.D., Dean of the College of Arts and Sciences
LUTHER A. RICHMAN, B.S., B.Mus., M.Mus., D.Mus., M.A., D.Ed., Dean of the College of Fine Arts
ELLIS L. WALDRON, B.A., M.A., Ph.D., Acting Dean of the Graduate School
THEODORE H. SMITH, B.A., M.B.A., Ph.D., Dean of the School of Business Administration
LINUS J. CARLETON, B.A., M.Ed., Ed.D., Dean of the School of Education
ROSS A. WILLIAMS, B.S.F., M.F., Dean of the School of Forestry
NATHAN B. BLUMBERG, B.A., M.A., Ph.D., Dean of the School of Journalism
ROBERT E. SULLIVAN, B.A., LL.B., Dean of the School of Law
ROBERT L. VAN HORNE, B.S., M.S., Ph.D., Dean of the School of Pharmacy
E. KIRK BADGLEY, B.A., Controller
A. C. COGSWELL, M.A., Dean of Students
MAURINE CLOW, B.A., M.A., Ph.D., Associate Dean of Students
LEO SMITH, B.S., M.A., Registrar
E. A. ATKINSON, B.A., M.A., Director of the Summer Session
HOMER ANDERSON, B.S., M.A., Director, Division of Public Service
KATHLEEN CAMPBELL, B.S., M.S., Librarian

THE FACULTY

BACTERIOLOGY

EKlund, Carl M., B.A., M.D., Lecturer in Virology
FAUST, Richard A., B.S., M.S., Ph.D., Assistant Professor
HOYER, Bill H., B.S., M.S., Ph.D., Lecturer
LACKMAN, DAVID B., B.S., Ph.D., Lecturer in Immunology
MUNOZ, JOHN J., B.S., M.S., Ph.D., Professor, Director of the Stella Duncan Memorial Fund Research
Nakamura, Mitsuru J., B.A., M.S., Ph.D., Associate Professor
ORMSBEE, Richard A., B.A., M.S., Ph.D., Lecturer in Biochemistry
TAYLOR, John J., B.S., M.S., Ph.D., Assistant Professor

BOTANY

CHESSIN, MEYER, B.S., Ph.D., Associate Professor
DIEHTERT, REUBEN A., B.A., M.S., Ph.D., Professor
HARVEY, LEROY H., B.S., M.S., Ph.D., Associate Professor, Curator of the Herbarium
KRAMER, JOSEPH, B.S., M.A., Ph.D., Professor
PREECE, SHERMAN J., Jr., B.A., M.S., Ph.D., Assistant Professor
SEVERY, JOSEPH W., B.A., M.S., Ph.D., Professor
STEIN, OTTO L., B.S., M.S., Ph.D., Assistant Professor (spring quarter)
WATERS, CHARLES W., B.S., B.L., M.A., Ph.D., Professor

SCHOOL OF BUSINESS ADMINISTRATION

ANGEL, CHARLES F., B.S., Instructor
BOONE, WILLIAM T., LL.B., Instructor (part time)
CHAMBERS, EDWARD J., B.Com., B.A., M.A., Ph.D., Associate Professor and Associate Director, Bureau of Business & Economic Research
EMBLEN, DONALD J., B.A., M.B.A., Ph.D., C.P.A., Professor (on leave of absence)
FORD, ROBERT K., B.S., Lecturer (part time)
FOX, RAYMOND J., B.A., LL.B., Lecturer (part time)
HELING, ALBERT T., Ph.B., Ph.D., Professor
HOLT, HAROLD L., LL.B., B.A., Lecturer (part time)
JOHNSON, MAXINE (Mrs.), B.A., M.A., Research Associate, Bureau of Business and Economic Research, Instructor
KADLEC, ANTON L., B.A., M.Ed., Lecturer (part time)
KEMPNER, JACK J., B.S., M.S., Ph.D., C.P.A., Associate Professor
LINE, ROBERT C., B.A., M.A., Professor (Retired January 1, 1958)
LUNDAHL, DANA (Mrs.), B.S., Instructor
MCALLISTER, RICHARD C., B.A., M.A., C.P.A., Assistant Professor
MARCUS, SUMNER, B.A., M.B.A., LL.B., Associate Professor
MARKIN, ROM J., B.S., M.B.A., Instructor
MARTINSON, ALVHILD, B.A., M.Ed., Assistant Professor
PANTZER, ROBERT T., B.A., LL.B., Executive Vice President, Professor
PETERS, WILLIAM S., B.A., M.B.A., Ph.D., Associate Professor
SMITH, THEODORE H., B.A., M.B.A., Ph.D., Dean, Professor
SWANSON, MARGARET, (Mrs.), B.S., M.Ed., Instructor
TAO, ALFRED M., M.B.A., M.A., Ph.D., Associate Professor
WILSON, BRENDA (Mrs.), B.A., M.A., Professor
WISEMAN, DORSEY E., B.S., M.B.A., Ph.D., Associate Professor
WORDEN, DONOVAN, Jr., B.A., LL.B., Instructor (part time)
WRIGHT, JOHN S., Ph.B., M.B.A., Ph.D., Assistant Professor

CHEMISTRY

BATEMAN, WILLIAM G., B.A., M.A., Ph.D., Professor Emeritus
HOWARD, JOSEPH W., B.A., M.A., Ph.D., Professor
JOHNSON, WILBUR, B.S., Instructor
JUDAY, RICHARD E., B.A., Ph.D., Associate Professor
LORY, EARL C., B.S., Ph.D., Professor
OSTERHELD, JEANNINE E. (Mrs.), B.A., M.S., Instructor (part time)
OSTERHELD, ROBERT KEITH, B.S., Ph.D., Assistant Professor
STEWART, JOHN M., B.A., Ph.D., Professor
YATES, LELAND M., B.A., M.A., Ph.D., Assistant Professor

ECONOMICS

ELY, ROY J. W., B.S., M.A., Ph.D., Professor
HELIKER, GEORGE B., B.A., M.A., Ph.D., Associate Professor
HOEKENDORF, WILLIAM C., B.A., M.A., Instructor
McCoy, RAYMOND H., B.A., M.A., Ph.D., Associate Professor
MARTINSEK, THOMAS A., B.A., M.A., Ph.D., Assistant Professor
SHANNON, RICHARD E., B.A., M.A., Ph.D., Assistant Professor
SHEARER, HENRY K., B.A., M.A., Ph.D., Associate Professor and Director, Bureau of Business and Economic Research
SCHOOL OF EDUCATION

AMES, WALTER R., Ph.B., Ph.D., Professor Emeritus
CARLETON, LINUS J., B.A., M.Ed., Ed.D., Dean, Professor
DARLING, RICHARD L., B.A., M.A.L.S., Assistant Professor
GEBHART, JAMES W., B.S., M.S., Assistant Professor
HANSON, FRANCES F., B.S., M.A., Assistant Professor
JAY, ROBERT H., B.A., M.Ed., Assistant Professor
KNAPP, HENRY W., B.A., M.Ed., Ph.D., Assistant Professor
KNUDSEN, SVEN E., B.A., M.Ed., Visiting Instructor (part time)
LOTTICK, KENNETH B., B.A., M.A., Ed.D., Associate Professor
MADDOW, WILLIAM E., B.S., M.A., Assistant Professor Emeritus
MATTILL, CHARLES R., B.A., M.Ed., Visiting Instructor
MILLIS, GEORGE H., B.S., M.S., Assistant Professor
MUNRO, JAMES J., B.S., M.S., Ed.D., Assistant Professor
SLETENN, VERNON O., B.S., M.A., Ed.D., Professor
SMITH, LEO, B.A., M.Ed., Registrar, Professor
SMITH, RICHARD M., B.A., M.A., Ed.D., Visiting Professor
WATSON, FRANK J., B.S., M.A., Assistant Professor
WHITE, ELAINE, B.A., M.A., Executive Secretary

ENGLISH

BANKSON, DOUGLAS, B.A., M.A., Ph.D., Assistant Professor
BETSKY, SEYMOUR, B.A., M.A., Ph.D., Associate Professor
BIER, JESSE, B.A., M.A., Ph.D., Assistant Professor (on leave of absence)
BONE, AGNES V., B.S., M.A., Ph.D., Assistant Professor
BOWEN, ROBERT O., B.A., M.A., Assistant Professor
BROWN, WALTER L., B.A., M.A., Ph.D., Associate Professor
CARPENTER, NANCY C., B.Mus., M.A., Ph.D., Professor, Chairman of the Editorial Board of the University Press
CHARLES, ROBERT A., B.A., M.A., Ph.D., Assistant Professor
CLAPP, MARY B. (Mrs.), B.A., M.A., Associate Professor Emeritus
CLUBB, MERRELL D., B.A., M.A., Ph.D., Assistant Professor (on leave of absence 1956-58)
COLEMAN, RUFUS A., B.A., M.A., Ph.D., Professor Emeritus
CONROY, KENNETH, B.A., M.A., Instructor
FIEDLER, LESLIE A., B.A., M.A., Ph.D., Professor
FREEMAN, EDMUND L., B.A., M.A., Professor
GILBERT, VEDDER M., B.A., M.A., Ph.D., Associate Professor
KING, WALTER N., B.A., M.A., Ph.D., Assistant Professor
LAROM, HENRY V., B.A., M.A., Assistant Professor
MERRIAM, HAROLD G., B.A., M.A., Ph.D., Professor Emeritus
MOORE, JOHN E., B.A., M.A., Professor
PASSMORE, MARIAN, B.A., M.A., Instructor
STUMP, REVA, B.A., M.A., Ph.D., Instructor
VIETH, DAVID M., B.A., M.A., Ph.D., Assistant Professor
VINOCUR, JACOB, B.A., M.A., Instructor

THE COLLEGE OF FINE ARTS

ART

ARNOLD, ADEN F., B.A., M.A., Professor
AUTOIO, A. RUDY, B.S., M.FA., Instructor
BETSKY, SARAH (Mrs.), B.S., M.A., Ph.D., Visiting Lecturer (winter quarter)
DEW, JAMES E., B.A., M.A., Assistant Professor
HOOK, WALTER, B.A., M.A., Associate Professor
TURK, RUDY H., B.S., M.A., Instructor

OFFICIAL DIRECTORY—3

BALLETT

COOPER, MARJORIE (Mrs.), Instructor (part time)

DRAMA

BROWN, FIRMAN H., B.A., M.A., Instructor

SCHOOL OF MUSIC

ANDRE, EUGENE, B.S., M.A., Associate Professor
BARENDSEN, PATRICIA, B.Mus., M.Mus., Instructor
CHILDs, GORDON, B.A., M.A., Instructor
EVERSOLE, JAMES, B.Mus., M.Mus., Instructor
EVERSOLE, SYLVIA (Mrs.), B.Mus., M.Mus., Assistant (part time)
GRAY, J. JUSTIN, B.Mus., M.Mus., Associate Professor
HARLAN, MONAS, B.Mus.Ed., M.Mus., Assistant Professor
HUMMEL, J. GEORGE, B.S., M.A., Assistant Professor

FOREIGN LANGUAGES

BISCHOFF, PAUL A., B.S., B.A., M.A., Professor
BURGESS, ROBERT M., B.A., M.A., Ph.D., Professor
CLARK, WESLEY P., B.A., M.A., Ph.D., Professor Emeritus, Dean Emeritus of the Graduate School
DICK, ERNST S., Instructor
EPHRON, MARGUERITE H. (Mrs.), B.A., M.A., Assistant Professor
HOFFMAN, RUDOLPH O., Ph.C., M.A., Professor Emeritus
LAGARDE, MARIE LOUISE, B.Ph., M.A., Ph.D., Assistant Professor
LAPIKEN, PETER P., Ph.D., Assistant Professor
NONnenMACHER, PATRICIA J. (Mrs.), B.A., M.A., Instructor
ORTISI, DOMENICO, Dottore in Diritto di Stato, Ph.D., Assistant Professor
POWELL, WARD H., B.A., M.A., Ph.D., Assistant Professor
RIOUX, ROBERT N., B.A., M.A., Docteur de l’Universite de Paris (Lettres), Assistant Professor
SHEEMAKER, THEODORE H., B.A., M.A., Ph.D., Associate Professor
SORENSEN, THORA, B.A., M.A., Ph.D., Professor
WEISBERG, FLORA B. (Mrs.), B.A., Assistant Professor Emeritus
SCHOOL OF FORESTRY

BOLE, ARNOLD W., B.A., B.S.F., M.P.A., Associate Professor (on leave)
CLARK, F. G., B.A., M.S.F., Professor Emeritus
COVEY, WILLIAM H., B.S.F., M.S.F., Research Specialist
COX, GENE S., B.S., M.F., Ph.D., Associate Professor
CRAIGHEAD, JOHN J., B.A., M.S., Ph.D., Associate Professor, Leader, Montana Wildlife Research Unit
DYSON, PETER J., B.S., M.S.F., Instructor
FAUROT, JAMES L., B.S., M.F., Assistant Professor
GERLACH, FREDERICK L., B.S.F., M.F., Instructor
HOSLEY, NEIL W., B.S., M.F., Ph.D., Assistant Professor
HOWELL, O. B., B.S., M.S., Assistant Professor
KRIER, JOHN P., B.S., M.S., Ph.D., Associate Professor
MORRIS, MELVIN S., B.S., M.S., Professor
PIERCE, WILLIAM R., B.S.F., M.F., Assistant Professor
SKOK, RICHARD, B.S., M.S., Assistant Professor
STEELE, ROBERT W., B.S.F., M.S.F., Assistant Professor
TABER, RICHARD D., B.A., M.S., Ph.D., Assistant Professor
WALLIS, JAMES R., B.S.F., M.S.F.E., Assistant Professor
WATERMAN, CHARLES J., B.S.F., Instructor
WILLIAMS, ROSS A., B.S.F., M.F., Dean; Professor; Director of Montana Forest and Conservation Experiment Station

GEOGRAPHY

BEYER, JACQUELYN, B.A., M.A., Ph.D., Assistant Professor
SHAUDYS, VINCENT K., B.A., M.A., Ph.D., Assistant Professor
THOMAS, MORGAN, B.A., Ph.D., Associate Professor

GEOLGY

FIELDS, ROBERT W., B.A., Ph.D., Assistant Professor
HONKALA, FRED S., B.S., M.A., Ph.D., Professor
HOWER, JOHN J. JR., B.A., M.A., Ph.D., Assistant Professor
WEHERENBERG, JOHN P., B.S., M.S., Ph.D., Assistant Professor
WEIDMAN, ROBERT M., B.A., M.A., Instructor
YALKOVSKY, RALPH, B.S., M.S., Ph.D., Assistant Professor

HEALTH AND PHYSICAL EDUCATION

CHINSKE, EDWARD S., B.A., Assistant Professor
CLONINGER, E. FAY (Mrs.), Instructor
CLONINGER, LEWIS A., Instructor
CROSS, GEORGE W., B.S., M.S., Assistant Professor
HANSEN, PATRICIA F. (Mrs.), Assistant
HERTLER, CHARLES F., B.P.E., M.A., B.S.Ed., Associate Professor
KLEINDIENST, VIOLA K., B.A., B.S., M.A., Ed.D., Assistant Professor
LLOYD, MARGARET E., B.A., Instructor
LORENZ, MAVIS M., B.S., M.S., Instructor
OSWALD, ROBERT M., B.A., Instructor
SCHREIER, WILLIAM E., B.A., Professor Emeritus
STODDEY, AGNES L., B.A., M.S., Ed.D., Professor
WILSON, VINCENT, B.A., M.A., Associate Professor

Intercollegiate Athletics

ADAMS, HARRY F., B.A., M.S., Professor, Head Track Coach
COX, FORREST B., B.A., Assistant Professor, Head Basketball Coach

DAHLBERG, GEORGE P., B.A., Professor, Director of Athletics
JENKINS, RAY, B.S., M.S., Assistant Professor, Head Football Coach (effective April 15, 1958)
NIEMI, LAURIE, B.S., Instructor, Assistant Football Coach
RHINEHART, NASEBY, B.A., Instructor
SHERBECK, HAROLD E., B.A., Instructor, Freshman Football and Basketball Coach, Head Baseball Coach
WILLIAMS, JERRY R., B.S., Assistant Professor, Head Football Coach (Resigned March 22, 1958)
ZIMNY, ROBERT J., B.S., Instructor, Assistant Football Coach

HISTORY AND POLITICAL SCIENCE

BARNWELL, STEPHEN B., B.A., B.Litt., M.A., Ph.D., Assistant Professor
BENNETT, EDWARD E., B.A., M.A., Ph.D., Professor
BORDEN, MORTON, B.A., M.A., Ph.D., Assistant Professor
CABER, PAUL A., B.A., M.A., Ph.D., Assistant Professor
HAMMEN, OSCAR J., B.A., Ph.D., Professor
KARLIN, JULES A., B.S., M.A., Ph.D., Associate Professor
KAUP, KEMAL, L.L.B., M.A., Ph.D., Assistant Professor
MILLER, J. EARL, B.A., L.L.B., M.A., Ph.D., Professor
PAYNE, THOMAS, B.A., M.A., Ph.D., Associate Professor
RICHERT, ROBERT E., B.A., M.A., Ph.D., Assistant Professor, Director of the Bureau of Government
SMURR, JOHN W., B.A., M.A., Instructor
TETERS, BARBARA J., B.A., M.A., Ph.D., Assistant Professor
TURNER, ROBERT T., B.A., M.A., Ph.D., Dean of the College of Arts and Sciences, Professor, Acting Director of Museum
WALDRON, ELLIS L., B.A., M.A., Ph.D., Acting Dean of the Graduate School, Professor
WREN, MELVIN C., B.A., M.A., Ph.D., Professor

HOME ECONOMICS

BROWN, BRUCE M., B.A., M.A., Instructor
CHAMBERLAIN, D. GERTRUDE, B.S., Instructor; Dietitian, Food Service
DALTHORP, LOIS M. (Mrs.), B.A., Instructor; Dietitian, Food Service (Reigned October 31, 1957)
DAWES, ARTIE, B.A., Head Teacher, Nursery School and Kindergarten (Instructor)
GAETZ, E. RAE, B.S., Instructor; Dietitian, Food Service
GLEASEN, HELEN, B.S., M.A., Professor Emeritus
HOGAN, STEPHEN P., B.A., M.A., Instructor
KOTSCHERAR, LENDAL H., B.A., B.S., M.A., Ph.D., Professor; Director, Food Service
KRIER, JESSICA (Mrs.), B.S., M.A., Instructor
LEWIS, VANETTA (Mrs.), B.S., Instructor
LORY, NAOMI (Mrs.), B.S., Instructor
PAINE, LORNA M., B.S., Assistant Head Teacher Nursery School (Instructor)
PLATT, ANNE C., B.S., M.S., Professor

SCHOOL OF JOURNALISM

BLUMBERG, NATHAN B., B.A., M.A., Ph.D., Professor; Dean
BUE, OLAF J., B.A., M.S.J., Professor
COGSWELL, ANDREW C., B.A., M.A., Professor, Dean of Students
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
OFFICIAL DIRECTORY—5

SCHOOL OF LAW

BARROWS, RICHARD, B.S., LL.B., Assistant Professor, Librarian
BRIIGGS, 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., LL.B., S.J.D., LL.D. (honorary), President, Professor
MASON, DAVID R., B.A., S.J.D., Professor
MUNRO, JAMES, B.A., J.D., Assistant Professor
RUSOFF, LESTER R., B.A., LL.B., Associate Professor
SMITH, RUSSELL E., B.A., 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., Professor (part-time)

MATHEMATICS

BALLARD, WILLIAM R., B.A., M.S., Ph.D., Assistant Professor
CHATLAND, HAROLD B., 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., 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

BRUNETT, EMERY W., B.S., M.S., Instructor
ERYAN, 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 HORN, ROBERT L., B.S., M.S., Ph.D., Dean, Professor
WAILES, JOHN L., B.S., M.S., Ph.D., Assistant Professor

PHILOSOPHY

ADAMCZEWSKI, Zygmunt, 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

PHYSICS

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

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.D., Lecturer (part time)
BURGESS, THOMAS C., B.A., Ph.D., Assistant Professor
CLOW, MAURINE B., M.A., Ph.D., Professor, Associate Dean of Students
COOPER, HOMER C., B.A., M.A., Ph.D., Assistant Professor
duMARS, 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., 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., Lt. Col., 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, EMIRICH D., 2nd Lt., U.S. Army, B.A., Instructor
LEWIS, WILLIAM J., 1st Lt., U.S. Army, B.A., Professor

SOCIOLGY, ANTHROPOLOGY, SOCIAL WELFARE

BROWDER, W. GORDON, B.A., M.A., Ph.D., Professor
BROWN, BRUCE M., B.A., M.A., Instructor
COVLIN, 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 L., B.S., M.S., Ph.D., Assistant Professor
TASCHER, HAROLD B., M.A., Ph.D., Professor
TAYLOR, DEE C., B.A., M.A., Ph.D., Assistant Professor
SPEECH

COOPE, EVELYN SEEDORF, B.A., M.A., Ph.D., Associate Professor
FESSENDORF, 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
SIROIS, 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
CRAIGHEAD, 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
SANGER, 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

SERVICES

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)
SPEER, 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)

BUREAU OF 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

BUREAU OF 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 EXPERIMENT STATION

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

CRAIGHEAD, JOHN J., B.A., M.S., Ph.D., Leader, Montana Cooperative Wildlife Research Unit; Associate Professor, Forestry and Zoology
PENELLY, 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
HAZELBAKER, LOIS (Mrs.), B.A., Assistant Head Resident, Freshman Women's Residence Halls
HUFF, 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, VERA S. (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
DALTHORP, LOIS M. (Mrs.), B.A., Dietitian; Instructor, Home Economics (Resigned October 31, 1967)
ETHERIDGE, FANNIE E., B.S., M.S., Dietitian (spring quarter)
GAETZ, E. RAE, B.S., Dietitian; Instructor, Home Economics
KOTSCHYVAR, LENDAL H., B.A., B.S., M.A., Ph.D., Director; Professor, Home Economics
MACARTHUR, ELEANOR B., Assistant Director; Assistant Professor, Home Economics (on leave winter and spring quarters)
STEWARD, GERTRUDE, B.A., Assistant to Director

MISCELLANEOUS ADMINISTRATION

ARMSBY, LUCILLE JAMESON (Mrs.), B.A., Secretary to the President (Assistant Professor)
BADGLEY, 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)
LOMMASSON, EMMA B. (Mrs.), B.A., M.A., Assistant Registrar (Instructor)
MARTELL, 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, JACK, B.A., Distribution Manager, University Press
SWEARINGEN, T. G., B.A., Director, Planning and Construction Office
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, 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. It is possible for 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, 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 curricula 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 less 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 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, Western Montana College, and other accredited colleges and universities 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 or 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 required 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 requirements 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 halls; (2) Examining the University program in detail—the types of instruction offered and the course 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. (5) Social authorities which students become acquainted with fellow classmen, students of other classes, and members of the faculty. (6) 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, sixteen credits plus physical education and ROTC as required; (3) Juniors and Seniors may register for seventeen credits except that students with approximately B average grades may be permitted by their advisers to register for eighteen credits.

In addition to those allowed number 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. During the first four weeks of a quarter, a student may withdraw from a course in which he has registered by filing with the Registrar's Office the proper forms secured from that office and signed by the student's adviser, the instructor in the course and the chairman of the department or school in which the student is majoring. A "W" (withdrawal) will be assigned.

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. This is required, 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 repeat 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 department 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.

Grade points 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 for each 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.
REQUIREMENTS FOR GRADUATION

GUIDEBOOK GOVERNING GRADUATION. Students must meet requirements of the guidebook in effect when they entered the University, or they may arrange with their department chairman 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 their 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 DEGREE. The work in Montana State University is measured in terms of credits. One credit represents three hours of time per week for one quarter of twelve weeks. The time required for each credit may be distributed in any combination among preparation, recitation, lecture, or laboratory work. A total of 180 credits plus six credits in required physical education is necessary in all courses for graduation with the candidate'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 nor 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 a 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.

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 the 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 quarter 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 on the basis of entrance credits in the major. Specific major field requirements will be satisfied by courses required for graduation in that major field. The student should consult the junior college catalog for the specific specialization which he might select.

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. Failure to complete 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 any 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 101-110, Air Force Band, may be substituted for Air Science or Military Science 102-103.

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 are required to take a placement examination; those who fail to demonstrate an acceptable college standard must take English 001 without credit before enrolling in English 104 or 101. Students who receive "A" in English 102 or 104 may substitute English 201 for 105 or 103.

GROUP REQUIREMENTS. All candidates for the Bachelor's degree must present for graduation at least twelve credits from each of the groups I, II and III following. Credits must be included from at least two sub-groups listed for groups I, II and III, except that General 131-132-133INTRODUCTION 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, Geology, General 111-112-113 or General 151 and 10 credits from other sub-groups, or 131-132 and 5 credits from other sub-groups, Biology, Chemistry, Geology, Mathematics, Physics, Zoology.

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

Group III. Art (231-233-235), English (literature courses only), Foreign Languages (213-215, and other literature courses only), General 151-152-153, or part of it with credits from another sub-group, Music (134 only), Philosophy, Psychology, Sociology.

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.
Elementary teachers may fulfill Group I requirements with 125 GENERAL SCIENCE FOR TEACHERS, General 126 BIOLOGICAL SCIENCE 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 the language in high school and passing the 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 in the major language required at the University, or by three quarters or equivalent in each of two foreign languages. A student may be allowed credit toward the fulfillment of the language requirement for high school language study recognized by the University, provided that he is 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 minimum for graduate work. 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.

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 fee charges 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
(Student 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.

(Optional to students who have a B.A. or B.S. degree or 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 addition (per quarter) 87.50
(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 entering 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 Certificate 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

Registration ($10.00) None None None None

Incidental ($30.00) 75% 50% 50% None

Building ($10.00) 100% 100% 100% 100%

Student Union Building ($4.00) None None None None

Student Activity ($10.00) 100% 50% 50% None

Health Service ($10.00) 100% 50% 50% None

Non-Resident Tuition ($50.00) 80% 80% 40% 20%

School of Music Majors Refund on charge of ($20.00) $1.75 per lesson for the number of weeks elapsed since the beginning of the quarter.

Regular Students who drop to Limited Registrants

Registration None None None None

Incidental $11.25 $7.50 $7.50 None

Building 5.00 5.00 5.00 None

Student Union Building None None None None

Student Activity 10.00 5.00 5.00 None

Health Service None None None None

Non-Resident Tuition Varies with number of credits

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 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.
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, the 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 develop 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, 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 cooperates 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 either five-week term or the full ten-week session. The 1959 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 certificate.

Students in the Summer Session who are not registered as candidates for degrees 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. Satisfying student 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 housing, 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 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) the diagnosis 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 infirmary 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 trauma. The plan pays for University-day 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 finding 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 be on 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 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, $80; 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 without reducing 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.

**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 resident 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 may not be entered into and the 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 Dean or undergraduate scholarships 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 as stock-citizens. 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, (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 are unable, 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 Dean of Students Office.

**ABSENCE INCURRED THROUGH ILLNESS.** Absences incurred when a student is on assigned departmental activity will be reported in advance to the Dean of Students Office. 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 or his instructors. In case of sudden emergency when it is not possible for the student to see his instructors, the student should notify the Dean of Students Office or the Registrar 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 rules: "No contract 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. False statements 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, 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 concern, 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, Choral 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 dramatics in any capacity such as acting, stage managing, costuming, designing, etc. A series of plays is given throughout the year in Missoula, and occasionally a tour is made of the state.

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

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

Bear Paw 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 been 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

Liberal Arts
Library Service
Mathematics
Medical Technology
Philosophy
Physical Sciences
Physics
Pre-Medical Sciences
Psychology
Radio and Television
Reserve Officers Training
Corps
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:

106 (13) 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.
104-105 (11ab) Two quarter course. Unless otherwise stated the first quarter is required before the second quarter may be taken.
101-102-103 (12abc) Three quarter course. Unless otherwise stated, 101 is prerequisite to 102 and 102 is prerequisite to 103.
1 Q. 2 Q. or 3 Q. 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, Indicate quarters in which the course is offered: Autumn, Winter, Spring and Summer respectively.
5 . 5, 5, 5, 5. 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.
(5-4) 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.
(0-3/cr) A laboratory course in which the student does 3 hours laboratory per week for each credit earned.
Prerequisite: 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 "prerequisite" 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 arrangements 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 School for requirements for a 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 must be completed. Remaining courses for the major may be selected from any courses in the department. Religion 304, Geography 236 and Speech 318 may be counted toward a major in Anthropology.

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. 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 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. Religion 304, Geography 236 and Speech 318 may be counted toward a major in Anthropology.

FOR UNDERGRADUATES

152 (18) ELEMENTARY ANTHROPOLOGY. 1 Q. A. W. 4. Su. 3. Majors and humanities. 4 quarter.

153 (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 152 or 153 or equivalent. The prehistoric man and his cultures, up to the Neolithic, in Europe and the Near East. Offered first quarter.

352 (129) ARCHAEOLOGY OF MONTANA. 1 Q. S. 3. Prerequisites: Anthropology 152 or 153 or equivalent, and consent of instructor. The origins and distribution of aboriginal cultures in Montana and surrounding regions. Students 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 152 or 153 or equivalent. A field course in Montana archaeology. Total credit allowed: 18.

354 (140) OLD WORLD ARCHAEOLOGY. 1 Q. S. 4. Prerequisite: Anthropology 152 or 153 or equivalent. A survey of development of culture from the Neolithic Age to the dawn of written history. Offered odd numbered years.

355 (141) ARCHAEOLOGY OF NORTH AMERICA. 1 Q. W. 4. Prerequisite: Anthropology 152 or 153 or equivalent. The prehistoric cultures of the United States, their development from the Neolithic Age to the dawn of written history. Offered odd numbered years.

358 (PHYSICAL ANTHROPOLOGY. 1 Q. W. 4. Prerequisite: Anthropology 152 or 153 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 152 or 153 or equivalent. A survey of the Indian cultures in the southwestern United States beginning with the most ancient evidence of man's presence and treating culture up to and including, modern tribes. Offered odd numbered years.

361 (145) INDIANS OF NORTH AMERICA. 1 Q. A. 4. Su. 3. Prerequisite: Anthropology 152 or 153 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 152 or 153 or equivalent. The aboriginal cultures of South America. Offered even numbered years.

366 (151) FIELD WORK: NORTHWEST ETHNOLOGY. Any quarter in which field parties are organized. 1-5. Prerequisite: Anthropology 152 or 153 or equivalent. A field course in the study of Indian cultures of Montana and related areas. Total credit allowed: 15.

367 CULTURE CONFLICT IN COLONIAL AREAS. 1 Q. A. 3. Prerequisite: Anthropology 152 or 153 or equivalent. Sociological changes and social problems associated with the emergence of peoples from colonial to independent or semi-autonomous status.

371 (142) CULTURE AND PERSONALITY. 1 Q. A. 3. Prerequisites: Anthropology 152 or 153 or equivalent, and Sociology 301. The development of theory and method in anthropological theory and the influence of various anthropological, ethnological, and socio-psychological theories in the development of personality. Offered even numbered years.

451 (190) ADVANCED PROBLEMS. Any quarter. 1-2. Prerequisites: Anthropology 152 or 153 or equivalent, and consent of instructor. Total credit allowed: 6.

470-471-472 SELECTED TOPICS. 3 Q. A, W. S. 2. 2. Students may enter any quarter. Prerequisite: 10 credits in Anthropology. Selected problems in Anthropology.

FOR GRADUATES

551 (201) RESEARCH. Any quarter. Credit variable.

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

ART study is concerned with the acquisition of skills in the visual arts and knowledge of the use of visual means in the portrayal of man and his environment, for the purposes of personal expression or social and economic advantage.

Four years are required for the Bachelor of Arts degree. Art courses are offered in design and history as well as drawing, ceramics, crafts, painting, and sculpture. Training also necessarily includes much general education, since an artist must understand as much as possible of man and man's environment to produce effective works of art. Study includes not only art training, but mainly, learning the techniques, analytical, and, for want of a more specific term, the independent artist, whose productions follow his own inclinations and who exhibits his work for sale or in competition. Many artists fail into more than one of these classifications, Graduates of the University are working successfully in all of these groups.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN ART. In addition to the general requirements for graduation listed earlier in the guidebook the following special requirements must be completed.

123 (3) DRAWING. 1 Q. A. W. S. 1. Su. 2 or 4. Fundamentals of objective and expressive drawing, using varied methods and subject matter.

125-126 (25ab) COLOR AND DESIGN. 2 Q. A. W. 2. Su. 2 or 4. Creative design and use of color, offering an introductory study of theories, methods and problems.

197-198 (27ab) CRAFTS. 2 Q. A. S. 2. 2. Students may enter either quarter. Prerequisites: 0 credits in studio work. May be creative use of various materials: (127) wood, leather, metal; (128) jewelry, enameling.

199 (29ab) CERAMICS. 2 Q. W. S. 2. Creative techniques including building, throwing, and glazing as applied to creative work with clay.

133-134 (33ab) PRINTING ARTS. 2 Q. A. W. 2. 2. Prerequisite: 6 credits of Art 123. Students may enter either quarter. Creative experiments in various printing media: (133) Woodcut, serigraphy; (134) lithography.
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 those preparing in 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 greater 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 either in universities, government 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 200, 202, 203, 204, 404, 405-406-407; Chemistry 245, 261-262-263, 384; Physics 111-112-113, or 221-222-223.

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

Electives in Bacteriology may be chosen from 230, 330, 331, 402, 404, 410, 420 and 430 to make a minimum total of 45 credits in Bacteriology. Zoology 201, 203, 305, 340 and 341 and 285 may also be applied in certain cases to the major instead of the elective courses in Bacteriology.

Freshman Year

<table>
<thead>
<tr>
<th>Group Requirement</th>
<th>16-18</th>
<th>16-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 111-112-113—General Physics</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 261-262-263—Chemistry of Carbon Compounds</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Eng. 104—108—Freshman Composition</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Math. 116—College Algebra</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;PE 201-202-203—Physical Education</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 201-102-103—Military or Air Science</td>
<td>or</td>
<td>2</td>
</tr>
<tr>
<td>Bact. 200—Elementary Bacteriology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Sophomore Year

<table>
<thead>
<tr>
<th>Group Requirement</th>
<th>15-17</th>
<th>15-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bact. 310—Immunology and Serology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Bact. 302—Medical Microbiology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Bact. 305—Clinical Bacteriology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 245—Quantitative Analysis</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Zool. 305—Parasitology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Group Requirements</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Junior Year

<table>
<thead>
<tr>
<th>Group Requirement</th>
<th>15-17</th>
<th>16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bact. 405-406-407—Seminar</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bact. 408—Bacterial Cytology</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bact. 410—Microbial Physiology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 384—Physiological Chemistry</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Senior Year

<table>
<thead>
<tr>
<th>Group Requirement</th>
<th>15-17</th>
<th>16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bact. 405-406-407—Seminar</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bact. 408—Bacterial Cytology</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Bact. 410—Microbial Physiology</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 384—Physiological Chemistry</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Electives</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

100 (19) ELEMENTARY BACTERIOLOGY. 1 Q. A. 3 (3-0). A survey of fundamentals of general bacteriology, pathogenic bacteria and immunology. (May not be applied towards a major in Bacteriology.)
BACTERIOLOGY, PHYSIOLOGY; EFFECT OF ENVIRONMENTAL FACTORS ON BACTERIA; MICROBIOLOGY OF SOIL, WATER, MILK AND FOODS; AND INDUSTRIAL MICROBIOLOGY.

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

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.

PHARMACEUTICAL BACTERIOLOGY, 2 Q. A. W. 5, 5 (3-4). Prerequisite: Chemistry 263; Physics 115 or 223. Techniques and principles of basic bacteriology; pathogenic bacteria, immunity and chemotherapy as they apply to the field of pharmacy.

MEDIA PREPARATION, 1 Q. Any quarter. 2 (1-3). Prerequisite: Bacteriology 360. Preparation, sterilization and storage of culture media; differential media, function of ingredients, and general nutritional requirements of bacteria.

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.

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

FOOD BACTERIOLOGY, 1 Q. A. On demand. 5 (3-5). Prerequisite: Bacteriology 300. Preparation, sterilization and storage of culture media; differential media, function of ingredients, and general nutritional requirements of bacteria.

FOOD BACTERIOLOGY LABORATORY, 1 Q. A. On demand. 2 (2-0). Prerequisite: Bacteriology 300. Techniques for the investigation of food microbiology.

ADVANCED IMMUNOLOGY, 1 Q. On demand. 3 (3-0). Prerequisite: Bacteriology 310. Advanced theories of immunity and recent immunological techniques.


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

Mycrobiological 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.

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


CLINICAL DIAGNOSIS, 1 Q. W. 4, (2-4). Prerequisite: Bacteriology 302. Clinical diagnostic methods used for the analysis of feces and gastric juice with emphasis on the practical methods used in hospital laboratories.

VIROLOGY, 1 Q. S. On demand. 3 (3-0). A survey of bacteriophage, plant and animal viruses.

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

FOR GRADUATES

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.

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

PHYSIOLOGY OF PROTOZOA, On demand. 2. Nutrition and metabolism of protozoa and to protozoal parasites.

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

RESEARCH, Any Q. Credit variable. Original investigations on research problems under the guidance of a staff member. Total credit allowed: 25.

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 of the art through lecture, instruction, and participation in performances. 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.

152 (2) INTERMEDIATE BALLET, 3 Q. A. W. S. 1-3 cr. each quarter. Prerequisite: consent of instructor. Continuation of Ballet 101.

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

BALLET, BIOLOGICAL SCIENCES—19

BIOLOGICAL SCIENCES deal with living things. The several specific sciences are Bacteriology, the study of plant-like micro-organisms which are both beneficial and harmful to man, Botany or the study of plants, and Zoology or the study of animals. This curriculum is recommended for students interested in the structure, function, and interrelations of all living organisms in the study of animal and plant sciences.

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 plans to do more extensive study in 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 recommended in order to fulfill the requirements for a 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). The major requires 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 careful 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 in the federal government for which a bachelor's degree in Botany is considered to be 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 positions in the professional field, a doctorate is almost essential. The well trained person may go into college or positions in the federal government for which a bachelor's major in Biology, rather than a major in Botany, is advisable.

The various processes of plants under controlled conditions in the laboratory and greenhouse.

250 (37) ELEMENTS OF PLANT ECOLOGY. 1 Q. A. S. 2, 3-4. Prerequisites: Botany 112 and 122. An introduction to ecological principles, including interrelationships of environmental factors, primary and secondary succession, plant indicators and vegetation units.

258 (129) EVOLUTION. 1 Q. W. 3 (3-9). Prerequisites: Botany 121 or 122 and Zoölogy 186. An outline of evolution from the historical point of view; the nature of evolutionary processes, their evidence for evolution, and the factors of evolution. Credit not allowed for this course and the identical course, Zoölogy 284.

399 (175) PROBLEMS IN PLANT PHYSIOLOGY. 1 Q. Any quarter: 2-6 (3-6). Prerequisites: Botany 335, or 343 and consent of instructor. Individual or group work (consisting of research problems, special readings, discussions, etc.) dealing with aspects of plant physiology not taken up in regular courses. Total credit allowed: 6.

399 (176) PROBLEMS IN PLANT ANATOMY AND CYTOLOGY. 1 Q. Any quarter: 2-5 (4-6). Prerequisites: Botany 221 or 222, 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.

399 (177) PROBLEMS IN MORPHOLOGY. 1 Q. Any quarter: 2-5 (4-6). Prerequisites: Botany 335 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.

399 (178) PROBLEMS IN PLANT ECOLOGY. 1 Q. Any quarter: 2-5 (4-6). Prerequisites: Botany 335 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.

399 (179) PROBLEMS IN TAXONOMY. 1 Q. Any quarter: 2-5 (4-6). Prerequisites: Botany 335 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.

399 (180) PROBLEMS IN MYCOLOGY AND PHYTOPATHOLOGY. 1 Q. Any quarter: 2-5 (4-6). Prerequisites: Botany 335 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.

FOR UNDERGRADUATES AND GRADUATES

285 PLANT BIOCHEMISTRY. 1 Q. A. 3 (3-4). Prerequisites: Botany 122-123, or equivalent, and Chemistry 113, or 123. The chemical aspects of plant physiology: enzymes, carbohydrates, lipid, and protein metabolism; hormones, by-products of plant metabolism.

314 (163) MICROTECHNIQUE. 1 Q. Any quarter, but preferably in the spring. 2-3 (3-6). Prerequisite: 15 credits in botany. Microscopy and routine laboratory procedures, with emphasis on the paraffin method. Total credit allowed: 5.

315 (121) PLANT ANATOMY. 1 Q. A. 5 (5-10). Prerequisites: Botany 121, 122, 123, or equivalent. The origin of organs and tissues, and the anatomy of the vascular plants, grasses, sedges, and rush es. Credit not allowed for this course and the identical course in regular courses.

337 CYTOLOGY. 1 Q. W. 5 (3-4). Prerequisites: Botany 121, 122, and Chemistry 165 or equivalents. The finer structures of the plant cell in relation to its function. Total credit allowed: 5.

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

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

345 (145) MORPHOLOGY OF THE SPERMATOPHYTES. 1 Q. S. 4 (4-5). Prerequisites: Botany 121, 122, or equivalent. The morphology and life histories of the gymnosperms and angiosperms. Given odd numbered years.

355 (121) PLANT ECOLOGY. 1 Q. S. 5 (3-4). Prerequisites: Botany 121, 122, or equivalent. An analysis of the environmental factors, emphasizing inter-relationships of habitat and vegetation; the concept of climax vegetation; and the distribution of vegetation in North America. Given even numbered years.

361 (174) FRESH WATER ALGAE. 1 Q. Su. Given only at the Biological Station. 3 (6-7). Prerequisites: Botany 121, 122, 123, or equivalents. Identification, life histories, and limnological and morphological characteristics of the algae of the Northern Rocky Mountains.

363 (176) BRYOPHYTES. 1 Q. Su. 3-5 (6-7). Prerequisites: Botany 121, 122, 123, or equivalents. The life history and ecology of the Bryophytes of the Northern Rocky Mountains.

365 (160) GENERAL SYSTEMATIC BOTANY. 1 Q. S. 5 (3-4). Prerequisites: Botany 121, 122, or equivalent. Taxonomy and classification of the flowering plants, classification of the gymnosperms, and distribution of flowering plants. Given odd numbered years.

366 (154) AGROLOGY. 1 Q. W. 5 (3-4). Prerequisites: Botany 121, 122, 123, or equivalents. The identification and classification of field and turf grasses, and their use in agriculture, with emphasis on native grasses and weeds. Given odd numbered years.

368 (156) AQUATIC VEGETATION. 1 Q. W. 3, 4-5, 5-6. Prerequisites: Botany 121, 122, 123, or equivalents. The classification and ecology of the aquatic plants. Given odd numbered years.

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

375 (165) MYCOLOGY. 1 Q. A. 3 (3-4). Prerequisite: Botany 241 for Botany majors; Botany 240 for Forestry majors. The classification and relationships of the fungi, with training in their collection, preservation, and culture.

383 (Zoo. 125) GENETICS. 1 Q. A. 5 (3-4). Prerequisite: Zoology 251 or Botany 225. The mechanics of heredity, including consideration of mendelian and non-mendelian inheritance, sex linkage, and chromosomal inheritance, and their relationship to structure and function.

429 (129) BIOLOGICAL LITERATURE. 2 Q. A. W. 1, 1, (2-4). prerequisite: Botany 232, 365, or 365. Student reports of recent literature of investigation and experimentation in biological fields. Credit not allowed for this course and the identical course, Zoology 429.

464 CYTOTAXONOMY. 1 Q. S. 5 (3-4). Prerequisites: Botany 232, 355, 395, and 365. Modern concepts in taxonomy with emphasis upon cytological techniques used in chromosomal studies related to problems of taxonomy.


FOR 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:

521 RADIATION-BIOLOGY. 1 Q. Su. 5 (6-15). Prerequisite: Bachelor's degree: major preparation in Physics, Chemistry or Botany with leading emphasis 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.

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

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

551 GENERAL ECOLOGY. 1 Q. Su. 5 (6-15). Prerequisite: Bachelor's degree: major preparation in Botany, Biology or Zoology. Modern student concepts including succession, stratification, periodicity and energy relationships; introduction to population problems. To be offered at the Biological Station.

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

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

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

600 (300) ADVANCED BOTANICAL PROBLEMS. Any quarter. Credit variable. (0-3 cr.) The department is prepared to arrange for properly qualified graduate students to carry on research in plant anatomy, cytology, ecology, morphology, mycology, pathology, physiology and taxonomy, leading to a Master's degree. Total credit allowed: 15.

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

COURSES OFFERED AT THE BIOLOGICAL STATION

100, 124, 349, 381, 363, 365, 366, 368, 369, 549, 559, 600, 699.

BUSINESS ADMINISTRATION is the study of the theory and practice of the world of commerce and industry. Students may take a general course; or they may specialize in accounting, finance, marketing, secretarial work and business teacher training, or industrial organization, production, and management. A combined course is offered in Law and Business Administration; the normal six-year course in Law may be made to include a degree in Business Administration.

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. Practice in the School of Business Equipment may be turned to production and personnel work. Women candidates for the degree are 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 concerns. Others obtain a grade 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.

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

For the first two years of college completing the general university requirements and prerequisite course work for courses to be taken subsequently in the School of Business Administration. A Baccalaureate University Degree in Business Administration requires include the following: English 104-105 or 101-102-103, 9 or 18 cr.; Health and Physical Education 101-102, 3 cr.; Mathematics and Science, 12-15 credits including Math 112: Economics 201-202-203, 9 cr.; History and Political Science (202 recommendations), 4 cr.; general education and Speech 111-115, 12 cr.; Speech 111, 5 cr.; Bus. Ad. 201-202, 10 cr.; ROTC (men), 10 cr.; Bus. Ad. 181 or 182 or have a typing proficiency of 25 words a minute as determined by a test. Secretarial and business teaching courses are not required to complete Pol. Sci. 230 and Speech 111.

Credit will be allowed for the following general courses taken in high school:

 Advanced Algebra

 Numeral Trigonometry

 College Algebra

 College Physics

 College Chemistry

 College Economics

 College Political Science

 College History

 College Geography

 College Drafting

 College Bookkeeping

 College Accounting

 College Typing

 College shorthand

 Additional Credit for Business Education, 10 cr.

 Additional Credit for Business Education, 15 cr.

 Additional Credit for Business Education, 15 cr.

 Available for the following special requirements must be met:

 Foreign Languages

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

 Business Administration

 17

 BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION. To achieve the degree of Bachelor of Science in Business Administration, the student must offer 180 credits (plus 6 credits in Health and Physical Education); successfully complete the general University and Pre-Business Administration requirements; present not less than 96 credits (includes Health and Physical Education) of work taken in schools and departments other than the School of Business Administration; complete core courses.

 42-45

 AREAS OF CONCENTRATION. In addition, a student must select an area of concentration; offer not less than a total of 75 credits in his field of specialization. The area of concentration is listed under each curriculum. Deviations from the prescribed program must have the approval of the adviser in the area of concentration and the Dean of the School.

 Other Than Business Administration

 Economics 301-302-303—Principles of Economics 9

 Financial Accounting and Banking 301—Money and Banking Economics 4

 Public Finance or Labor Economics 4

 BACHelor OF SCIENCE IN BUSINESS ADMINISTRATION. To achieve the degree of Bachelor of Science in Business Administration, the student must offer 180 credits (plus 6 credits in Health and Physical Education); successfully complete the general University and Pre-Business Administration requirements; present not less than 96 credits (includes Health and Physical Education) of work taken in schools and departments other than the School of Business Administration; complete core courses:

 42-45

 AREAS OF CONCENTRATION. In addition, a student must select an area of concentration; offer not less than a total of 75 credits in his field of specialization. The area of concentration is listed under each curriculum. Deviations from the prescribed program must have the approval of the adviser in the area of concentration and the Dean of the School.
Students majoring in Secretarial Science and Business Teaching are not required to take Bus. Ad. 350, 351 or 448 and may substitute 363 for 350.

Students majoring in banking and finance must take economics 301 in place of Bus. Ad. 330.

### ACCOUNTING

**ADVISORS:** Kemper, 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. **Bus. Ad. 203-204—Intermediate Accounting**
2. **Bus. Ad. 301—Advanced Accounting**
3. **Bus. Ad. 401—Income Tax**
4. **Bus. Ad. 322—Business Finance**

(b) Those students preparing for the public accounting profession are required to take the following courses in addition to the basic requirements of the School of Business Administration.

1. **Bus. Ad. 203-204—Intermediate Accounting**
2. **Bus. Ad. 301—Advanced Accounting**
3. **Bus. Ad. 401—Income Tax**
5. **Bus. Ad. 322—Business Finance**

22 credits required

### BANKING AND FINANCE

**ADVISOR:** Chambers

This program is designed to give a major in this area a broad understanding of the role of finance in our economy including private and public financial institutions, money and credit, and security markets and some of 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. **Bus. Ad. 205—Administrative Accounting**
2. **Bus. Ad. 203—Intermediate Accounting**
3. **Bus. Ad. 323—Commercial Banking**
4. **Bus. Ad. 324—Real Estate**
5. **Bus. Ad. 402—Business Finance**
6. **Bus. Ad. 401—Income Tax**
7. **Bus. Ad. 403—Accounting Systems**

### MANAGEMENT

**ADVISORS:** Helbing, Marcus and Peters

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

1. Option A. Industrial Organization and Management (Production)
2. Option B. Personnel Management and Human Relations
3. Option C. Managerial Analysis and Control

### GENERAL BUSINESS

**ADVISORS:** Helbing, Peters, Harris

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

1. **Bus. Ad. 205—Administrative Accounting**
2. **Bus. Ad. 322—Business Finance**
4. **Bus. Ad. 344—Personnel Management**

20-30 credits required

### COMBINED COURSE IN BUSINESS ADMINISTRATION AND LAW

**ADVISOR:** 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 following:

1. Upon completion of the first academic year in the School of Business Administration, must complete Bus. Ad. 330, 340, 345, 350, 360, plus 13 additional credits as electives within the School of Business Administration (other than Bus. Ad. 397-398, 399, 400, 401).

### MARKETING

**ADVISOR:** Wright

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

30 credits in the area of marketing, including the following courses, are required:

1. **Bus. Ad. 301—Industrial and Commodity Marketing**
2. **Bus. Ad. 322—Retailing Principles**
3. **Bus. Ad. 305—Advertising**
4. **Bus. Ad. 301—Industrial and Commodity Marketing**
5. **Bus. Ad. 364—Sales and Sales Administration**
6. **Bus. Ad. 455—Marketing Research**
7. **Bus. Ad. 347—Managerial Economics**
8. **Bus. Ad. 205—Administrative Accounting**

26-29 credits required
SECRETARIAL SCIENCE
Advisers, 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—Tenography
- Bus. Ad. 187—Advanced Shorthand Transcription
- Bus. Ad. 192—Office Machines Practice
- Bus. Ad. 193—Beginning Secretarial Practice
- Bus. Ad. 194—Records Management
- Bus. Ad. 382—Advanced Secretarial Practice
- English 304—Letter and Report Writing

BUSINESS TEACHING MAJORS
Adviser, 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, 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—Tenography
- Bus. Ad. 192—Office Machines Practice
- Bus. Ad. 194—Records Management
- Bus. Ad. 301—Gregg Shorthand Theory for Teachers
- Bus. Ad. 302 Methods of Teaching Shorthand, Typewriting, and Transcription
- Bus. Ad. 305—Beginning Office Machines

ACCOUNTING
For Undergraduates

201-202 (11ab) ELEMENTARY ACCOUNTING. 2 Q. A, W. Su.
5, 5. A student may be exempt from 201 upon passing a placement examination. The course includes bookkeeping principles and problems underlying accounting procedures, including the techniques of recording simple business 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. A, W. Su. A; 204, A, W. 4, 4. Prerequisite: 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 enterprise. Special consideration is given to problems involving the application of the above theories.

205 (14) ADMINISTRATIVE ACCOUNTING. 1 A, Q. A, W. Su.

206-209 (12ab) 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. Basic principles underlying cost information and interpretation of financial statements, internal control and its significance. Cost of goods sold. Cost accounting reports and the relationship to administrative control. Credit not allowed for this course and 203-204.


302-304 (12ab) 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. Basic principles underlying cost information and interpretation of financial statements, internal control and its significance. Cost of goods sold. Cost accounting reports and the relationship to administrative control. Credit not allowed for this course and 203-204.

305 (14) MUNICIPAL ACCOUNTING. 1 A, Q. A, W. Su.


403-404 (115ab) AUDITING. 2 Q. A, W. 4, 4. Prerequisite: Bus. Ad. 302. The general principles and techniques of auditing; financial statements; the audit of financial transactions; use of audit programs and analysis of internal control; techniques for evaluating the reliability of balance sheet and income statement data; examination of audit documents, reports, and use of the auditor's earnings. Long-term audit planning and project management.

405 (14) ACCOUNTING SYSTEMS. 1, Q. 4. Prerequisite: Bus. Ad. 302 and 404. 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 transportation companies, automobile dealers, and lumber companies.

406 (14) MANAGERIAL ACCOUNTING. 1 Q. 4, 4. Prerequisite: Bus. Ad. 202 or 302. For business managers who expect to prepare and interpret accounting reports specifically designed to aid management. The controlling function within the management organization, budgeting and control, and evaluation of business performance. Credit not allowed for this course and 202 or 302.

407 (14) ADVANCED ACCOUNTING. 1 A, Q. W. Su. A; 407, A, W. 4, 4. Prerequisite: Bus. Ad. 302. An abbreviated advanced course for students preparing to take the examinations for the certificate of Certified Public Accountant. A review of the basic principles of bookkeeping and auditing given by the American Institute of Certified Public Accountants.

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

FOR GRADUATES

502 (210) CONTROLLERSHIP PRINCIPLES AND PRACTICE. 1 Q. A, 3. Prerequisite: Bus. Ad. 302 and approval of the graduate committee. Analysis of the controllership function and the role 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 (21) CONTEMPORARY ACCOUNTING THOUGHT AND PRACTICE. 1 Q. W. Prerequisite: Bus. Ad. 302 and approval of the graduate committee. The theories underlying the accounting, valuation, and disclosure 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. Prerequisite for non-Banking and Finance majors: Bus. Ad. 302. The life cycle of a business enterprise. The corporation as a form of business organization; financial analysis of profitability and liquidity; the relationship of the corporation to the laws, rules and regulations with respect to the instruments of long term funds; the working capital position; the structuring of the capital requirements of the corporation. The impact of external financial forces upon the firm.

323 (135) COMMERCIAL BANKING. 1 Q. W. 4, 4. Prerequisite: Bus. Ad. 202 or 302. The principal problems confronting the executives of commercial banks—liquidity, loan and investment policy, credit analysis, loan administration, interbanking, and operating costs, bank earnings, and relations with customers, government, and the public.

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

330 (132) PERSONAL INVESTMENTS. 1 Q. Su. 2 (195). 1, 1. Savings accounts, purchasing a home, purchasing insurance, securities (stocks and bonds), retirement planning, and the planning of estates. Lessons will be graded.

331 (131) LIFE, ACCIDENT AND HEALTH INSURANCE. 1 Q. A, W. 3, 3. Prerequisite: Bus. Ad. 300. The theory and practice of life, accident and health insurance, and practices in the more important branches of the insurance business.

332 (122) PROPERTY AND CASUALTY INSURANCE. 1 Q. 3, 3. Prerequisite: Bus. Ad. 330. Property and casualty insurance theory and practice. The social, economic, legal and scientific bases of insurance and the operation of various lines of insurance.

420 (154) INVESTMENTS. 1 Q. 4, 4. Prerequisite: Bus. Ad. 320 or 330. Investment principles and their application to investment policies for individuals and institutions. Particular emphasis is placed upon considering the value of securities. A background discussion of the mechanics of investment and the operation of security exchanges is included.

421-422 (155ab) BUSINESS CYCLES AND BUSINESS FORECASTING. 2 Q. (421) W. 4 (Su. 3). (422) S. 4, 4. Prerequisite: Bus. Ad. 301. History, measurement, and analysis of fluctuations in business activity; factors influencing employment, production, prices and interest rates; the causes and recognition of economic cycles; the consideration of policies intended to stabilize business conditions.

423 MORTGAGE BANKING. 1 Q. W. 4, 4. Prerequisite: Bus. Ad. 204 or 224. The organization of mortgage credit and auxiliary agencies, private and governmental, in the urban and rural mortgage financing field, and the problems of savings and loan associations, mutual savings banks, and related institutions.

429 (146) MONEY MARKETS AND FISCAL POLICY. 1 Q. 4, 4. Prerequisite: Bus. Ad. 423. The supply and demand for funds in the short-term and long-term money markets, and the influence of the money supply, bank reserves, institutional portfolio policies, treasury cash balances and refunding operations, and the changing needs and instruments of corporate finance. Designed to develop in the student an ability to analyze and appraise current money market developments.

BUSINESS ADMINISTRATION—23
FOR GRADUATES

520 (221) THEORY AND MANAGEMENT OF CENTRAL BANKING. 1 Q. A. 3. The functioning of financial intermediaries in the commercial banking system. The influence of the banking and financial system on the money market and on the general level of business activity.


529 (223) SECURITY ANALYSIS. 1 Q. S. 3. Prerequisite: Bus. Ad. 321. The principles and technique of security analysis. Technical preparation for security analysis work with financial organizations (banks, insurance companies, trust companies, investment banking firms, security dealers and brokers, and others).
SECRETARIAL AND BUSINESS TEACHER TRAINING

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

180-181 (22abc) ELEMENTARY TYPEWRITING. 3 Q. A, W, S. 2, 2, 2. Prerequisite: (180) none; (181) 190 or 195 words a minute in a 5-minute test; (182) 161 or 25 words a minute. Keyboarding, drills, composition, dictation, application of basic skill. Students who present one entrance unit of typewriting may not receive credit in 181.

183 (1) ADVANCED TYPEWRITING. 1 Q. A, W, S. 2, 2. Prerequisite: Bus. Ad. 182 or a minimum of 33 words a minute in a 15-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 one entrance unit of stenography may not receive credit in 186; with two units, no credit in 185.

187-188-189 (23abc) ADVANCED STENOGRAPHY. 3 Q. A, W, S. 5, 5, 5. Prerequisite: Bus. Ad. 183, 186, or 184; or equivalent. Typing a two-thirds of the straight copy typing speed or about 35 words a minute with a mailable letter standard.


193 (530) ADVANCED TYPEWRITING. 1 Q. S, only. 1. Prerequisite: Bus. Ad. 181 or 183. Improvement of skill through the use of electric typewriters.

197 (350) METHODS OF TEACHING SHORTHAND, TYPEWRITING AND TRANSCRIPTION. 2 Q. W, S. Prerequisite: Bus. Ad. 183, 186, or teaching experience in business subjects, or consent of instructor. Required of teaching majors and minors in Business Administration. Methods, materials, objectives, standards, and testing and grading techniques. Lecture and demonstration.

199 (326) METHODS OF TEACHING BOOKKEEPING AND BUSINESS ENGLISH. 2 Q. W, S. Prerequisite: Bus. Ad. 182 or 183. Two or more teaching experience in business subjects or consent of instructor. Required in teaching majors and minors in Business Administration. Methods, materials, objectives, standards, and testing and grading techniques.

201 (100) ADVANCED SECRETARIAL PRACTICE. 1 Q. S. Alternate years. 5. Prerequisite: Bus. Ad. 183, 187, 190, 192, 193, 194. English 304, or consent of instructor. Review and application of shorthand and stenography skills acquired in allee Secretarial activities. Preparation for State Merit and Civil Service Tests. Required in teaching majors.


203 (109) SHORTHAND THEORY FOR TEACHERS. 1 Q. W, S, 3. Prerequisite: Bus. Ad. 185 or teaching experience and consent of instructor. Required of teaching majors and minors in Business Administration unless student can pass a satisfactory test on theory.

206 (510) IMPROVEMENT OF INSTRUCTION IN OFFICE MACHINES PRACTICE. 1 Q. S, 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.

209 (519) IMPROVEMENT OF INSTRUCTION IN SECRETARIAL PRACTICE. 1 Q. S, 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. Emphasis on duplication processes in producing the high school newspaper.

210 (519) PROBLEMS IN TEACHING BOOKKEEPING. 1 Q. S, only. 3. Prerequisite: Bus. Ad. 202 and 381 or teaching experience in bookkeeping and consent of instructor. Methods and materials, grading, standards, and trends in the teaching of bookkeeping.

213 (512) PROBLEMS IN TEACHING GREGG SHORTHAND. 1 Q. S, only. 3. Prerequisite: Bus. Ad. 186, 380, or teaching experience in shorthand and consent of instructor. Methods of presentation and analysis of shorthand materials. Emphasis on the analysis of shorthand and its teaching.

214 (512) PROBLEMS IN TEACHING TYPEWRITING. 1 Q. S, only. 3. Prerequisite: Bus. Ad. 183, 380, or teaching experience in typewriting and consent of instructor. Methods of keyboarding, development of course of study, testing, grading, standards and trends in the teaching of typewriting.

215 (516) UNIT COURSES IN BUSINESS EDUCATION. 1 Q. S, 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 215 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 changes 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 for quality for the higher positions 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, viscose, steel, rubber, organic and heavy chemicals, petroleum products, paper, soaps and detergents, vegetable tanning, wood products, paints, sludge by smelters and mining companies, hospitals and public health institutes, meat packers, pharmaceutical firms, and electronic manufacturers. There is an increasing demand for chemists 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 are in demand in high school teaching. The University of Texas 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.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN CHEMISTRY. In addition to the general requirements for admission to the University, the student needs algebra and geometry plus one additional course. High school preparation include advanced algebra, chemistry and French.

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. 101-102-103—Physical Education
ROTC 101-102-103—Military or Air Science

Sophomore Year

Eng. 251-252—Second Year English
Chem. 261-262—Second Year Chemistry
Math 251, 252—Sophomore Mathematics
Elective, Group II or III
ROTC 201-202-203—Military or Air Science

Junior Year

Math 354—Inorganic Chemistry
Electives

Senior Year

Physics 221-222-223—General Physics
Chem. 345—Intermediate Chemistry
Math 345—Quantitative Analysis
Electives, Group II or III
ROTC 301-302-303—Military or Air Science

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

Advising Courses in Chemistry (see above)
Electives
DRAMA study is designed to train the student in acting, directing, and design, and the technical phases of dramatic production and to give him experience in these areas; to prepare him to teach and direct in the high school theater; to prepare him for graduate work in theater; and to relate through the study of the art of the theater the place of theater in the societies of the past and the present.

Montana State University graduates in theater and drama are presently teaching in high school theater, teaching in college theater, enrolled in graduate schools in other universities, and working in community theater, radio, and the motion picture.

SPECIAL REQUIREMENTS FOR THE 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:

1. Speech 110, 261 and English 342 or 343.

2. Speech 241 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, 1. Students may enroll in this course as an element of the major in Drama. Students engaged in any aspect of production including directing, stagecraft, makeup, costumes, properties, 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.

201 (50) BIBLICAL THEATER. 3 Q. A. W. S. 1, 1, 1. This course is the prerequisite for Drama 202. It is designed for the student preparing for the major in Drama and for students interested in making the denominational and community theater his vocation. Total credit allowed: 4.

202 (50) DRAMA 202. 3 Q. A. W. S. 1, 1, 1. A continuation of Drama 201. Total credit allowed: 4.

231 (50) ELEMENTARY STAGECRAFT. 1 Q. A. 2. Principles of and practice in the construction of stage properties. Students will work on the construction crews of major productions.

232 (125) ADVANCED STAGECRAFT. 1 Q. W. 3. Prerequisite: Drama 231. Principles of and practice in stage lighting. Theatrical lighting equipment and instruments and their use. The elements of electricity.

233 (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.

301 (50) THEATRY STAGECRAFT. 1 Q. A. 2. Principles of and practice in the construction of stage properties. Students will work on the construction crews of major productions.

310 (25) ELEMENTARY THEATRE MANAGEMENT. 1 Q. A. 2. Principles of and practice in the management of theatrical properties and in theatrical makeup. Students will work on makeup for major productions.

FOR UNDERGRADUATES AND GRADUATES

201 ADVANCED STAGECRAFT. 1 Q. W. 3. Prerequisite: Drama 231. Types of stage scenery. Principles of and practice in scenic properties and their construction and painting for major productions.


310 (10) THEATER IN THE COMMUNITY. 1 Q. S. 2. Prerequisite: Consent of the instructor. Students may enroll for credit based on previous experience and consent of the instructor. History of the development of the specialized areas of theatrical professions and the professional responsibilities of the individual in the community and little theater. Recommended for teachers. Given even numbered years.

311 (125) STAGE COSTUMING. 1 Q. A. 2. Prerequisites: Drama 231 or considerable previous experience and consent of the instructor. Principles of and practice in theatrical makeup. Students will work on makeup for major productions.

202 ADVANCED ELECTROCHEMISTRY. 3 Q. A. 2. Prerequisite: Chemistry 253. The principles and applications of electrochemistry to chemical reactions.

203 ADVANCED ORGANIC CHEMISTRY. 3 Q. A. 2. Prerequisite: Chemistry 253 and consent of instructor. Special topics in advanced organic chemistry.
ECONOMICS—27

374 (S176) THEATER FOR CHILDREN. 1 Q. Su. only. 2-10.
Prerequisite: Permission of instructor. The functions, objectives of theater for the child audience; survey of existing professional and community children's theater; critical watching and participating in directing, and producing plays for children to be shown before child audiences in the community.

394 (S180) WORKSHOP IN THEATER. 1 Q. Su. only. 2-10.
Prerequisite: Previous work in theater or drama courses and consent of chairman. Study and experience in the arts of the theater according to the needs of the student. Importance of the role of the director, costume, make-up, lighting, stagecraft, backstage organization, stage design, acting, directing, and the integration of performance, business, and house organization and management.

401-402-403 (190) THEATER PROJECTS. 3 Q. A, W, S. 2-4 each quarter. Prerequisites: 10 credits in Drama courses and successful completion of in Theater 241-242-243 and 341-342-343, and demonstration of ability in theater and drama; to others with consent of the instructor on basis of work done in directing, design, lighting, costume design, direction, playwriting, study of drama.

411-412-413 (191) SEMINAR. 3 Q. A, W, S. 2-4 each quarter. Prerequisites: 6 credits in Drama courses and consent of instructor. Seminar on directing and producing the plays of in Drama 241-242-243 and 341-342-343, and consent of the instructor. The student may study the techniques of the stage director, playwright, and reality of the production setting.

422 (185) ADVANCED DIRECTION. 1 Q. W. 3. Prerequisite: Drama 222, Consent of instructor. Study in directing techniques for their leaders, Prininciples of producing farce, fantasy, comedy, melodrama, tragedy.

423 (197) STAGE DESIGN. 1 Q. A. 3. Prerequisites: Drama 231, Art 125, and 123 or equivalent. The principles of stage design and the relation of the scene to the play. Practice in designing stage settings.

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 materials, with which they will assist them as civic leaders in evaluating economic developments and government economic policies, (2) To introduce students majoring in economics to the various special fields of study within economics. This features an extensive work in the other liberal arts and sciences, intended to instill breadth of intellectual interest, critical habits of thought, a problem-solving attitude, and faculty of expression. (3) To help meet, through graduate work in Economics, the growing demands for highly competent professional economists in teaching, industry, commerce, and government.

Four years of college work are required for the degree of Bachelor of Arts. Further study leads to the Master of Arts degree (see Graduate Studies). Courses cover general economic theory and taxation, labor economics, monetary theory and prices, international economics, public utilities, comparative economic systems, and the economics of Montana.

Graduates take positions in industry, government and education. Some concentrating on labor economics and undertake industrial or personnel work in industry and other fields. Some emphasize international economics, public or private finance, and utility economics. Some plan to go on with graduate work in other universities for their doctor’s degree and become qualified for teaching in college or university or doing specialized work in government or industry.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN ECONOMICS. In addition to the general requirements for graduation listed earlier in the guidebook the following special requirements must be met by the student for his major in Economics: A minimum of 50 credits in economics, and, unless circumstances peculiar to the student make it otherwise (see Economics 201-202-203 and 211, Geography 101; Economics 205 and 203 or Mathematics 125; Political Science 202 or 203; Sociology 101, History 133, 134, 135; Anthropology 132, or Sociology 101. In the junior or senior year Economics 301, 304, 311, 314, 321, 322, and 321. The following may be counted toward a major in Economics: History 323 and 374, Political Science 365, Mathematics 222, Business Administration 322, 341, and 461. It is recommended that the student take Business Administration 201-202. Students may emphasize: general economic theory, labor economics, utility valuation, business cycles, money and banking, economic development, economic analysis of economic systems, or economics of consumption. The foreign language requirement listed earlier in the guidebook may be satisfied by:

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 a legal subject will complete requirements for Bachelor of Arts degree with a major in economics. Students should take their major in Economics only. The complete program is 4 years.

FOR UNDERGRADUATES

101 (10) CULTURAL ECONOMICS. 1 Q. W. Su. Open to all undergraduate students majoring in economics and eligible for (i) an economics minor, (ii) an economics concentration, and (iii) a major in economics. This course will be offered as a seminar in the community and as an economics concentration for students at the University of Montana.


205 ELEMENTARY STATISTICS. 1 Q. Any quarter. 2. Introduction to probability and statistical techniques commonly used in the social studies. Credit not allowed for this course and Sociology 205.

211-212-213 (17ab) ECONOMIC GEOGRAPHY. (See Geography.)

FOR UNDERGRADUATES AND GRADUATES

301 (101) MONEY AND BANKING. 1 Q. A, S. Su. 4. Prerequisite: Economics 203. The role of money in economy as suppliers of medium of exchange. Federal Reserve System, monetary policy, history and policy.

303 (118) SOCIAL SCIENCE METHODS. (See Sociology).

304 (104) PUBLIC FINANCE. 1 Q. W. Su. 4. Prerequisites: Economics 203. Principles and problems of Federal financing.

305 (105) STATE AND LOCAL TAXATION. 1 Q. S. Su. 4. Prerequisite: Economics 203. Revenues and expenditures on state and local levels.

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

316 (119ab) DEVELOPMENT OF ECONOMIC THEORY. 2 Q. A, W, S. 4. Prerequisites: Economics 203, (315) Economic ideas from early times to 1830; (316) Prereq. and consent of instructor. Economic theories from 1830 to the present.

311-321 (113ab) LABOR ECONOMICS. 2 Q. A, W, Su. 3, Prerequisite: Economics 203, or consent of instructor. Labor economics, labor market determination and labor problems.

321 (114) INDUSTRIAL RELATIONS. 1 Q. S. Prerequisite: Economics 203. Principles and problems that govern the relations of management and labor.

322 (115) SOCIAL INSURANCE. 1 Q. S. 3. Prerequisite: Economics 203. Legal, economic and social aspects of the relation of social insurance to collective bargaining and industrial union.

331-332 (117ab) INTRODUCTION TO INTERNATIONAL ECONOMICS. 2 Q. A, W, Su. 3, Prerequisite: Economics 203, (331) Theoretical analysis of problems in international economics. Economic theory and the problems of international economic policy.

339 (109) ECONOMICS OF CONSUMPTION. 1 Q. S. 3. Prerequisite: Economics 203. The nature and analysis of consumers' decision-making within the framework of consumer-economic theory.

400 (103) ECONOMICS OF AGRICULTURAL ACTIVITY. 1 Q. S. Prerequisite: Economics 203. Principles relating to the spatial relations of economic activities, including the selection of locations by private and public factors, economic regionalization, and programs of industrial development.

434 (19) WORLD RESOURCES AND INDUSTRIES. 1 Q. S. Prerequisite: Economics 203. Development of resource theory and a functional appraisal of the availability of agricultural and industrial materials.

450 (105) PUBLIC UTILITY ECONOMICS. 1 Q. A. 3. Prerequisites: 303, 305. Economics of utilities, history, regulation, rate making, public versus private power.


374 (120) COMPARATIVE ECONOMIC SYSTEMS. 1 Q. S. Prerequisite: Economics 203. A comparative study of the leading economic systems of the modern world.

374 MONOPOLY AND COMPETITION 1 Q. S. Prerequisite: Economics 311. The nature of perfect markets and marketable competition, public policy.

378 (115) ECONOMICS OF MONTANA. 1 Q. W. Su. Prerequisite: 303. The economics of Montana. The development of market, economic and political development.

390 (110) AGRICULTURAL ECONOMICS. 1 Q. A. Prerequisite: Economics 203. Agricultural industry, supply and demand for farm products.

382 (107) CONTEMPORARY ECONOMIC PROBLEMS. 1 Q. S. Prerequisite: Economics 203 or equivalent. Current economic problems on a national and international level.

400 (155) MONETARY THEORY. 1 Q. W. 4. Prerequisite: Economics 303. The relationship between money, credit and economic activity.
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 to adjust justly 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, students 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 fields 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 beyond 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 Elementary School 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 specific field of teaching the student expects to do.

Many University graduates 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 and foreign adults find teaching available in foreign lands.

After one has been granted a Bachelor's degree and have been certified to teach, persons in Education may take advanced work at the graduate level which will prepare them for specialization in 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, 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 secondary teaching, either in junior or senior high schools, major in the principal subject to be taught or, in Education, those preparing for counseling, supervising, administering, 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 additional information as 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.

To continue work in Education, at least a C average must be maintained in all course work.

In order to register for student teaching, a student must have at least a C average in his teaching major, in his teaching minor, and in all courses in Education.

ADMISSION. Pre-service education students preparing for secondary teaching should consult with their advisors as to courses to be taken in their freshman and sophomore years. It does not count toward the Education major, is prerequisite to all courses in Education and should be taken in the freshman or sophomore year. Those students preparing to teach in the elementary grades should take Introduction to Psychology during the freshman year.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN EDUCATION. In addition to the general requirements for graduation listed earlier in the guidebook, candidates for the degree of Bachelor of Arts in Education will meet the following requirements:

PREPARATION FOR TEACHING IN THE SECONDARY GRADES. Candidates must earn a minimum of 49 credits in Education, including the following required courses totaling 21 credits: Education 200, 205, 301, 305, 405 (10 credits), 450 and 452 or their equivalents, and elective courses, totaling 9 credits selected from other courses in Education. Students wishing to qualify for the Secondary School General Standard Certificate are required to earn 45 or more credits in a teaching major and 30 or more credits in a teaching minor. Requirements for teaching majors and minors in various fields will be found in the last few pages of the Education section of the guidebook.

Suggested curriculum in secondary education:

**Freshman Year**

- History, Political Science, Sociology or Economics (to fulfill Group II requirements) 4
- Educ. 200—Intro. to Education (any quarter) 4
- Teaching Major Sequence (listed later) 4-5
- Teaching Minor Sequence (listed later) 4-5
- Electives 4-5
- History, 201-202-203—Soph. Physical Education 2-2-2
- ROTC 201-202-203—Military or Air Science 2-2-2

**Sophomore Year**

- History, Political Science, Sociology or Economics (to fulfill Group II requirements) 4
- Educ. 205—Educational Psychology 4
- Educ. 203—Secondary School Teaching Procedures 4
- Educ. Methods Course (in one or both teaching majors) 4
- Teaching Major Sequence (listed later) 4-5
- Teaching Minor Sequence (listed later) 4-5
- Electives 4-5

**Junior Year**

- Educ. 405—Student Teaching: Secondary (any two quarters) 5
- Educ. 450—Guidance in the Elementary and Secondary Schools 5
- Educ. 452—Educational Measurement 5
- Teaching Major or Minor Sequence, or Electives 7-9 7-9 8-10

**Senior Year**

- Graduation courses and student teaching (two years) 3
- Teaching Major or Minor Sequence, or Electives or 3

**Preliminary for Teaching in the Elementary**

- History, Political Science, Sociology or Economics (to fulfill Group II requirements) 4
- Teaching Major, Teaching Minor, or Electives 4-5

**Freshman Year**

- History, Political Science, Sociology or Economics (to fulfill Group II requirements) 4
- Educ. 200—Intro. to Education (any quarter) 4
- Teaching Major Sequence (listed later) 4-5
- Teaching Minor Sequence (listed later) 4-5
- Electives 4-5
- History, 201-202-203—Soph. Physical Education 2-2-2
- ROTC 201-202-203—Military or Air Science 2-2-2

**Sophomore Year**

- History, Political Science, Sociology or Economics (to fulfill Group II requirements) 4
- Educ. 205—Educational Psychology 4
- Educ. 203—Secondary School Teaching Procedures 4
- Educ. Methods Course (in one or both teaching majors) 4
- Teaching Major Sequence (listed later) 4-5
- Teaching Minor Sequence (listed later) 4-5
- Electives 4-5

**Junior Year**

- Educ. 405—Student Teaching: Secondary (any two quarters) 5
- Educ. 450—Guidance in the Elementary and Secondary Schools 5
- Educ. 452—Educational Measurement 5
- Teaching Major or Minor Sequence, or Electives 7-9 7-9 8-10

**Senior Year**

- Graduation courses and student teaching (two years) 3
- Teaching Major or Minor Sequence, or Electives or 3

Suggested curriculum in elementary education:
EDUCATION—29

Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educ. 200—Introduction to Education</td>
<td>4</td>
</tr>
<tr>
<td>Educ. 202—The Elementary School Child</td>
<td>4</td>
</tr>
<tr>
<td>Geog. 101—Elements of Geography</td>
<td>4</td>
</tr>
<tr>
<td>Hist. 251-252—United States History</td>
<td>4</td>
</tr>
<tr>
<td>Music 122-123—Music Educ. in Elementary Education</td>
<td>3</td>
</tr>
<tr>
<td>Pol. Sci. 101—Introduction to Government</td>
<td>3</td>
</tr>
<tr>
<td>Pol. Sci. 202—American Government</td>
<td>4</td>
</tr>
<tr>
<td>Psych. 230—Child and Adolescent Psychology</td>
<td>5</td>
</tr>
<tr>
<td>HPE 201—First Aid</td>
<td>2</td>
</tr>
<tr>
<td>HPE 201—First Aid</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 201-202—Military or Air Science</td>
<td>2</td>
</tr>
</tbody>
</table>

17-19 15-17 14-16

Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 303-304—Elementary School Art</td>
<td>3</td>
</tr>
<tr>
<td>Educ. 301-302—The Child and the Curriculum</td>
<td>4</td>
</tr>
<tr>
<td>Educ. 340—Children and Family</td>
<td>4</td>
</tr>
<tr>
<td>Gen. 300—Conservation of Natural and Human Resources</td>
<td>3</td>
</tr>
<tr>
<td>Hist. 101-II—The Development of Western Civilization</td>
<td>5</td>
</tr>
<tr>
<td>HPE 330—Teaching Phys. Educ. in the Elementary Schools</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educ. 404—Student Teaching: Elementary (Any Q)</td>
<td>1</td>
</tr>
<tr>
<td>Educ. 409—Experience in the Elementary and Secondary School</td>
<td>4</td>
</tr>
<tr>
<td>HPE 323—School Health Problems</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

16 15 15

RECOMMENDATIONS FOR MONTANA TEACHING CERTIFICATES. Montana State University recommends its graduates who meet state certification requirements to the State Department of Public Instruction. All applications for 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 showing that the holder has completed a four (4) year course of elementary education.
2. At least two semesters of university courses in psychology, and mathematics.
3. A teaching major (45 or more credits) and a teaching minor (30 or more credits) in fields commonly taught in high schools (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 showing 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.
3. Students who expect to teach in the elementary grades must make up the required courses in the elementary teaching area.

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 certification, the student must make up the required total of at least 24 credits. A special methods course in one of the student's teaching fields is recommended. Only one methods course in any one field, however, may be included in the 24 credits in Education required for a secondary certification. 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 Higher Soc courses and of the State of Montana.

343, 344, and 345. The student planning a more extended program should consult the library service instructor for advice on additional courses.

FOR UNDERGRADUATES

200 (20) INTRODUCTION TO EDUCATION. 1 Q. A. W. S. Su. 4. Prerequisite: Psychology 110. The American public school and its problems; the development, structure, and function of American schools locally and nationally. Analysis of problems, issues, and trends in education today. Teaching as a profession.

221 (22) THE ELEMENTARY SCHOOL CHILD. 1 Q. A. W. S. Su. 5. Prerequisites: Education 200 and Psychology 230. Child development and growth as it relates to the child in the elementary school. The physical, social, and emotional development. The psychological foundations of learning, individual differences, and the mental health. A study to teach in the elementary environment.

203 (25) EDUCATIONAL PSYCHOLOGY. 1 Q. A. W. S. Su. 4. Prerequisites: Psychology 230 and Education 200. An introduction to educational psychological principles and individual differences and mental hygiene. Applications to the adolescent in the junior and senior high school.

210 (41) OUTDOOR EDUCATION. 1 Q. Su. only. Offered at selected locations. Field trips and activities and materials which will help enrich the elementary science program.

201-202-203 (24abc) THE CHILD AND THE CURRICULUM. 3 Q. A. W. S. Su. 3. Prerequisite: Education 200. Study to register out of sequence must obtain consent of instructor. (301) The language background of reading, reading readiness, psychology of the reading process, reading skills, and related diagnostic and remedial measures. The materials and teaching procedures currently in use for various skills used in the classroom. (302) The place and function of arithmetic and science in the elementary school curriculum. Type of instruction, evaluation, selection, placement, and organization of content in these areas. (303) The relationship of literature and social studies to the achievement of concept and an appreciation in human relationships and community living; evaluating, organizing, and using related materials.

205 (25) SECONDARY SCHOOL TEACHING PROCEDURES. 1 Q. A. W. S. Su. 4. Prerequisites: Education 200 and 205. Methods of planning, presentation, appraisal, discipline, and use of supplementary materials in the high school classroom. Emphasis on demonstrations, observation, and other activities for student participation.

213 (23) ADMINISTRATION OF THE SMALL PUBLIC AND COLLEGE LIBRARY. 1 Q. A. Prerequisite: Consent of instructor. Objectives of library service, library routines and procedures, library buildings and equipment, the library's place in governmental organization, library extension work.

404 (26) STUDENT TEACHING: ELEMENTARY. 1 Q. A. W. S. Su. 10 credits. Methods of teaching in cooperating schools. Preceptor is equivalent of Director of Student Teaching. Observation and teaching in cooperating schools. Secondary Year. Orientation. The state supervisory teaching materials to be used in units of elementary and secondary classroom.

405 (26) STUDENT TEACHING: SECONDARY. 1 Q. A. W. S. Su. Credit variable. Prerequisites: Education 404 or equivalent. Supervision of student teaching during the senior year. Students will meet weekly with the University supervisor to discuss teaching. A minimum of 10 credits of student teaching will be required for the B. A. in Education. Total credit allowed: 16.

408 (26) STUDENT TEACHING: SECONDARY. 1 Q. A. W. S. Su. Credit variable. Prerequisite: Education 404 or equivalent. Supervision of classroom teaching under supervision of critic teachers in cooperating schools. Observation of classroom teaching; teaching under supervision of critic teachers in cooperating schools. Secondary Year. Orientation. The University supervisor. A minimum of 10 credits of student teaching will be required for the B. A. in Education. Total credit allowed: 16.

445 LIBRARY PRACTICE. 1 Q. A. W. S. Su. 5. Prerequisite: 20 or more hours in Library service and consent of Director of Library Service. A laboratory course in which the student performs library practice in a local or state library. Library practice in the University Library. Weekly meeting with director of Library Service.

447 PREPARATION OF INSTRUCTIONAL MATERIALS. 1 Q. Su. only. 2 credits. Prerequisite: Education 205 or consent of instructor. Film strip, photographic and hand-made slides, overhead transparencies, and numerous non-projected teaching materials to be used in units of elementary and secondary classroom.

FOR UNDERGRADUATES AND GRADUATES

311 (121) SUPERVISION AND TEACHING OF THE LANGUAGE ARTS. 1 Q. W. Su. 3. Prerequisites: teaching experience and consent of instructor. The development of language arts curriculum and teaching. Analysis of research findings pertinent to the development of an effective language arts program. Paper and oral presentation, spelling and handwriting (not a course in teaching of reading or literature).

312 (178) SUPERVISION AND TEACHING OF READING. 1 Q. W. Su. 5. Prerequisites: teaching experience and consent of instructor. Intensive analysis of characteristics of good reading program. Techniques of development and evaluation. The language background of reading, reading readiness, psychology of the reading process, reading skills, and related diagnostic and remedial measures. The materials and teaching procedures currently in use for various skills used in the classroom. Objectives of reading and instructional use. The relationship to other areas of the curriculum. Supervisory techniques applied specifically to the improvement of reading instruction.

314 (178) SUPERVISION AND TEACHING OF SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. 1 Q. Su. only. 3. Prerequisite: teaching experience and consent of instructor. The development of social studies curriculum and teaching. Supervision in the elementary grades with emphasis on curriculum trends, instructional practices, teacher-pupil planning and evaluation, unit...
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 observable trends, materials, research, and supervisory techniques relevant to a modern elementary school arithmetic program.

319 (178) 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 and the use of equipment and teaching materials, and use of effective techniques in the science program in primary grades.

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

325 (129) PROBLEMS IN CONSERVATION EDUCATION. 1 Q. Su. only. 3. Prerequisite: be taken concurrently with Education 324 or for 6 credits if Education 324 and 325 are taken concurrently. Analysis of current conservation materials and use of effective techniques in the conservation program in elementary schools.

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

354 (155) REMEDIAL READING. 1 Q. S. Su. 3. Prerequisites: a baccalaureate degree and teaching experience or consent of instructor. Diagnosis and treatment of reading difficulties, use of various techniques and materials designed for classroom teachers, remedial specialists, and for principals who wish to set up a remedial program.


357 (180) THE SCHOOL LIBRARY IN TEACHING. 1 Q. A. S. Su. 3. Prerequisites: Education 241 or 244 or concurrent registration. Methods of utilizing books in the teaching process. Projects extending into various fields, including practices in the use of library materials commonly found in schools. Emphasis is given to techniques of teaching reading under the guidance of a staff member. Designed for part-time teacher-librarians without library training.

344 CATALOGING AND CLASSIFICATION. 1 Q. W. S. Su. 3. Prerequisite: be taken concurrently with Education 241 or for 6 credits if Education 241 and 244 are taken concurrently. Principles of classification and cataloging for small libraries. Practice in working with materials currently found in small school, public, and college libraries.

345 BIBLIOGRAPHY. 1 Q. S. Su. 3. Prerequisites: Education 241 or 244 or concurrent registration. Principles and procedures related to the study and order of library materials. Study of book lists and bibliographic forms.

346 LIBRARY REFERENCE MATERIALS. 1 Q. S. S. Su. 3. Prerequisites: Education 241 or 244 or concurrent registration. Principles and practice in the use of reference books and bibliographies. An introduction to library reference work, with special attention to reference methods, citation, and bibliography.

347 (145) AUDIO-VISUAL AIDS. 1 Q. W. S. Su. 3. Instructional use of audio and visual aids. Use of sound, pictures, exhibits, filmstrips, slides, motion pictures, etc. Operation of film projectors and other equipment. Primary emphasis on classroom use rather than the technical aspects of the equipment. Credit not allowed for this course and Music 363.

350 (150) 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 role in education: organization and planning, and financing of American public education with special emphasis on the social, economic, and political aspects of schools.

407 (127) METHODS OF TEACHING SECONDARY SCIENCE. 1 Q. W. Su. 3. Prerequisite: one year of chemistry and consent of instructor. Teaching of one of the science subjects as a minor one in the science field, and consent of instructor. Systematic study of teaching problems involved in the development of an adequate high school science program; curriculum methods and materials, laboratory procedures.

410 (125) TEACHING AND DRIVER TRAINING. 1 Q. S. and 3. Prerequisite: consent of instructor. Supervised experience in teaching and the administrative aspects of driver education and education for safety education and driver training courses in high schools. Offered in cooperation with the American Automobile Association and the Montana Highway Patrol.

419 (122) ADVANCED SAFETY EDUCATION AND DRIVER TRAINING. 1 Q. W. Su. 3. Prerequisite: basic classroom training or experience in teaching driver training. A second-level course for teachers of these courses. Emphasis on general driver fitness, the use of various techniques essential for safety education and driver training. Offered in cooperation with the American Automobile Association and the Montana Highway Patrol.

423 (121) METHODS OF TEACHING SECONDARY SCHOOLS. 1 Q. W. Su. 3. Prerequisite: 12 credits in Secondary Education. Systematics 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 of teaching materials, research, and supervisory techniques relevant to a modern secondary school academic program.

422 (170) EDUCATION. 1 Q. W. Su. 3. Prerequisites: 12 credits in Education and teaching experience or consent of instructor. An analysis of instructional and organizational problems involved in the education of the educably retarded slow learner. Atoms, purpose, needs, traits, identification and means of identifying him and helping him realize his potentialities.

423 (183) REMEDIAL READING LABORATORY. 1 Q. only. 5. Prerequisites: Education 422 and 241 or consent of instructor. Visually application of the principles of diagnostic and remedial reading instruction. Evaluation of remedial reading in the high school. In addition to class meetings, each student will work one hour daily with an individual child.

436 (159) THE JUNIOR HIGH SCHOOL. 1 Q. S. S. 3. Prerequisite: 12 credits in Education. Objectives, organization, class scheduling, curriculum, and extra-curricular activities of the Junior high school.

424 (192) SELECTION AND PROCESSING OF NON-BOOK LIBRARY MATERIALS. 1 Q. S. Su. only. 3. Prerequisite: 12 credits in library service and consent of director of Library Service. Selection and cataloging of various non-book materials such as photographs, periodicals, newspapers, maps, and audio-visual materials. Sources of such materials and their use in the library program.

425 (196) MANAGEMENT OF SCHOOL LIBRARY SERVICES AND MATERIALS. 1 Q. S. S. 2. Prerequisite: 12 credits in library service and consent of instructor. Use in methods of evaluating and improving school library services. Supervision and organization of school libraries. Special aspects of work in children's libraries, including study of telling and organization of the children's department in libraries.

456 (181) LIBRARY WORKSHOP. 1 Q. S. Su. only. 3. Prerequisite: education 450 or equivalent. Special workshop to deal at an advanced level with the problems of the library service. Sessions and committee work; individual work on problems of special interest. Credit may be taken for 10 credits.

444 LIBRARY SEMINAR. 1 Q. Any quarter. 1-5. Prerequisites: 20 or more course in library service and consent of director of Library Service. Independent study under the guidance of a member of the staff of the University Library. Total credit allowed: 10.

450 (184) EVALUATION OF SCHOOL LIBRARY SERVICES AND MATERIALS. 1 Q. S. Su. 2. Prerequisite: education 301-302-303 or 363 or 365 or 360, or teaching experience. Orientation to organization and administration of guidance programs in elementary and secondary schools.

452 (192) EDUCATIONAL MEASUREMENT. 1 Q. A. W. S. Su. 3. Prerequisites: education 241 or 244 or consent of instructor. Principles and methods of measurement of educational outcomes in elementary and secondary teaching, including application of statistical techniques to educational data; analysis of standardized tests; construction and use of testing instruments, including job analyses and surveys; occupational trends, classification, filing systems, selection, and use of occupational information.

455 (187) TECHNICAL AND PROFESSIONAL SKILLS OF THE INSTRUCTOR. 1 Q. S. Su. 3. Prerequisites: education 430, 439, and consent of instructor. Study and use of more of the more common professional tools. Records, placement and follow-up tests, check lists, inventory, interviewing, and use of referral sources.

461 (191) HISTORICAL FOUNDATIONS OF AMERICAN EDUCATION. 2 Q. W. S. 3. Prerequisite: education 301 or consent of instructor. Historical accounts of the cultural backgrounds of present-day problems in Education. (481 to 1550 A.D. to 1620, 17th century, and 18th century)

480 (190) INDEPENDENT STUDY. Any quarter. Credit variable. Case work under supervision. Weekly in-lab discussion.

450 (184) EVALUATION OF OUTCOMES IN EDUCATION. 1 Q. S. Su. 3. Prerequisite: education 450 or equivalent. Application and discussion of individual 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 elementary school curriculum; major trends in course content, grade placement, organization, and evaluation of outcomes. Of particular value to the school administrator without formal college training who has the responsibility for curriculum, and its impact on evaluation of outcomes.

532 (277) SECONDARY CURRICULUM. 1 Q. A. 4. Su. 3. Prerequisite: teaching experience or consent of instructor. Survey of secondary school curriculum; major trends in course content, grade placement, organization, and evaluation of outcomes. Application of the theoretical knowledge gained in the study of elementary curriculum development to the study of the high school.

533 (273) CURRICULUM WORKSHOP. 1 Q. Su. only. Credit variable. Prerequisite: education 237 or consent of instructor. Total credit allowed toward a graduate degree: 10.

561 (266) COMPARATIVE EDUCATION. 1 Q. S. 4. Prerequisite: consent of instructor. A comparison of the educational systems of England, France, Germany, Italy, the Soviet Union, and the United States.
Students who wish to qualify for the Secondary State Teaching Certificate must, according to the regulations of the State Department of Public Instruction which were in effect during the academic year when this state textbook was prepared, complete a minimum of 45 credits in a major teaching field and a minimum of 30 credits in a minor teaching field. In case the requirements of the various majors and minors set by the State Department of Public Instruction subsequent to the issuance of the guidelines of the University reserves the right to modify according to the requirements listed below.

Major teaching requirements are not necessarily the same as major departmental requirements. Students must earn an average of 3.0 for the state certificate in a subject field by earning 45 credits, but still not meet requirements in the following disciplines: Mathematics, English, History. Students who graduate with a major in a subject field taught in Montana high schools will ordinarily qualify for the certificate, provided other requirements are met.

Students should keep in mind that a course may not be counted in more than one teaching major or minor.

ART

<table>
<thead>
<tr>
<th>Teaching Major</th>
<th>Teaching Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(45 credits)</td>
<td>(30 credits)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 123—Drawing</td>
</tr>
<tr>
<td>Art 125—Color and Design</td>
</tr>
<tr>
<td>Art 135 or 135-Crafts</td>
</tr>
<tr>
<td>Art 135—Sculpture</td>
</tr>
<tr>
<td>Art 156—Painting</td>
</tr>
<tr>
<td>Art 151—Life Drawing</td>
</tr>
</tbody>
</table>

Elections:
- Art 129—Ceramics 2
- Art 129—Drawing 2
- Art 139—Watercolor 3
- Art 151—Life Drawing 1

BUSINESS ADMINISTRATION

<table>
<thead>
<tr>
<th>Teaching Major</th>
<th>Teaching Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(45 credits)</td>
<td>(30-31 credits)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ad. 330—Financial Administration</td>
</tr>
<tr>
<td>Bus. Ad. 333—Principles of Insurance</td>
</tr>
<tr>
<td>Bus. Ad. 337-339-359—Business Law</td>
</tr>
<tr>
<td>Bus. Ad. 360—Marketing Principles</td>
</tr>
<tr>
<td>Bus. Ad. 383—Office Management</td>
</tr>
</tbody>
</table>

Elections:
- Bus. Ad. 194 or 384 may be used to complete the minor. 5 credits from the following:
- Business 211—Cost Accounting 3
- Business 213—Corporate Finance 3
- Business 214—Managerial Accounting 3
- Business 215—Statistical Methods 3

DRAMA (Minor Only)

| Teaching Minor | (30 credits) |

<table>
<thead>
<tr>
<th>Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drama 212—Elementary Acting 2</td>
</tr>
<tr>
<td>Drama 223—Elementary Directing 2</td>
</tr>
<tr>
<td>Drama 231—Elementary Stagecraft 2</td>
</tr>
<tr>
<td>Drama 243—Stage Lighting 5</td>
</tr>
<tr>
<td>Elective Drama 9</td>
</tr>
<tr>
<td>Spch. 111—Principles of Speech 3</td>
</tr>
<tr>
<td>Spch. 118—Voice and Diction 3</td>
</tr>
<tr>
<td>Spch. 261—Beginning Oral Interpretation 3</td>
</tr>
</tbody>
</table>

Elections: Upper division credits 2

ECONOMICS AND SOCIOLOGY (Minor Only)

| (31 credits) |

<table>
<thead>
<tr>
<th>Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anth. 153—Social Anthropology 5</td>
</tr>
<tr>
<td>Econ. 201—Microeconomics—Principles of Economics 5</td>
</tr>
<tr>
<td>Soc. 101—Introductory Sociology 5</td>
</tr>
<tr>
<td>Soc. 202—Social Problems 5</td>
</tr>
</tbody>
</table>

Elections: Upper division credits 2

ENGLISH

<table>
<thead>
<tr>
<th>Teaching Major</th>
<th>Teaching Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(45 credits)</td>
<td>(30 credits)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 201—Adv. Composition 3</td>
</tr>
<tr>
<td>Eng. 211-212—Intro. to Major British Writers 6</td>
</tr>
<tr>
<td>Eng. 232-233—Intro. to Major American Writers 6</td>
</tr>
<tr>
<td>Sp. 111 or 261—Principles of Oral Interpretation 5</td>
</tr>
<tr>
<td>Eng. 342 or 343—Shakespeare and Contemporary 3</td>
</tr>
<tr>
<td>Eng. 373—The English Language 3</td>
</tr>
<tr>
<td>Eng. 481—Methods of Teaching English 4</td>
</tr>
</tbody>
</table>

Elections: The majors must elect at least 10 credits in the related fields below the course for each field. Other electives may be chosen from the English Department. Students should elect one course in American literature, one in British literature, and one in creative writing. RELATED FIELDS: Drama 201, 212, 223, 241, 242, 223, Journalism 127, 270, 316, 390, 399; Speech 111, 112, 115, 214, 251 and 331.
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: 45 credits (30 credits or equivalent) 2 credits
Teaching Minor: 30 credits (15 credits or equivalent) 3 credits

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. L. 101-102-103—Elementary</td>
<td>15</td>
</tr>
<tr>
<td>F. L. 219—Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>F. L. 425—Advanced</td>
<td>4</td>
</tr>
<tr>
<td>F. L. 217—Review of Grammar and Composition</td>
<td>4</td>
</tr>
<tr>
<td>F. L. 301-302-303—Survey of Literature</td>
<td>6</td>
</tr>
</tbody>
</table>

Electives:

Any course numbered 300 or above 13 credits

Classical Languages (Latin)

Teaching Major: 45 credits (30 credits or equivalent) 2 credits
Teaching Minor: 30 credits (15 credits or equivalent) 3 credits

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. L. 101-102-103—Elementary</td>
<td>15</td>
</tr>
<tr>
<td>F. L. 219—Intermediate</td>
<td>4</td>
</tr>
<tr>
<td>F. L. 219—Advanced</td>
<td>4</td>
</tr>
<tr>
<td>F. L. 217—Latin Readings</td>
<td>5</td>
</tr>
</tbody>
</table>

Electives:

F. L. 491—Seminar 17 credits

HEALTH AND PHYSICAL EDUCATION FOR MEN

Teaching Major: 40 credits (35 credits)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;PE 101—Intro. to Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 102—First Aid</td>
<td>2</td>
</tr>
<tr>
<td>H&amp;PE 210, 310, 221—Coaching—Football, Basketball, Track</td>
<td>8</td>
</tr>
<tr>
<td>H&amp;PE 211-212, 311-312—Officiating—Football, Basketball</td>
<td>6</td>
</tr>
<tr>
<td>H&amp;PE 320—Care &amp; Prev. of Athletic Injury</td>
<td>2</td>
</tr>
<tr>
<td>H&amp;PE 326—Dance Methods &amp; Materials</td>
<td>2</td>
</tr>
<tr>
<td>H&amp;PE 335—Methods of Teaching Phys.</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 365—Organization &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 373—School Health Problems</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;PE 389—Applied Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 405—Testing in Phys. Ed.</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 480—Teaching of College Phys. Ed.</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives: Other courses in the department 3 credits

Notes: 1. Majors and Minors substitute courses 115-116-117, 118-119-120 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: 40 credits (35 credits)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;PE 101—Intro. to Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 102—First Aid</td>
<td>2</td>
</tr>
<tr>
<td>H&amp;PE 231-232—Officiating—Volleyball, Basketball</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;PE 301-302—Teaching of Team Sports for Women; Teaching of Individual Sports for Women</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;PE 324-325-326—Dance Methods and Materials</td>
<td>6</td>
</tr>
<tr>
<td>H&amp;PE 335—Methods of Teaching Phys. Ed.</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 335—Organization &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 373—School Health Problems</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;PE 375—Personal Health Problems (Women)</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;PE 389—Applied Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 480—Seminar</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 485—Testing in Phys. Ed.</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 480—Teaching of College Physical Education Activities</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives: Other courses in the department 2 credits

Notes: 1. Majors and minors substitute courses H&PE 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.

HISTORY AND POLITICAL SCIENCE

Teaching Major: 39 credits (35 credits)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hist. 101-102—Dev. of West. Civ.</td>
<td>15</td>
</tr>
<tr>
<td>Hist. 251-252-253—U. S. History</td>
<td>15</td>
</tr>
<tr>
<td>Pol. S. 202-203—American Government</td>
<td>8</td>
</tr>
<tr>
<td>Pol. S. 241—International Relations</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives: Must include 9 credits of upper division courses.

HOME ECONOMICS

Teaching Major: 40 credits (35 credits)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. E. 102—Introduction to Personal and Family Living</td>
<td>3</td>
</tr>
<tr>
<td>H. E. 104—Introduction to Home Management</td>
<td>2</td>
</tr>
<tr>
<td>H. E. 151—Intro. to Foods</td>
<td>4</td>
</tr>
<tr>
<td>H. E. 185—Textile Selection</td>
<td>4</td>
</tr>
<tr>
<td>H. E. 219—Household Equipment</td>
<td>3</td>
</tr>
<tr>
<td>H. E. 245—Meal Management</td>
<td>3</td>
</tr>
<tr>
<td>H. E. 246—Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>H. E. 257—Clothing Construction</td>
<td>4</td>
</tr>
<tr>
<td>H. E. 258—Dining for the Family</td>
<td>3</td>
</tr>
<tr>
<td>H. E. 310—Home Economics</td>
<td>3</td>
</tr>
<tr>
<td>H. E. 311—Home Management</td>
<td>2</td>
</tr>
<tr>
<td>H. E. 321—Methods of Teaching Home Ec.</td>
<td>4</td>
</tr>
<tr>
<td>H. E. 340—Food Conservation</td>
<td>2</td>
</tr>
<tr>
<td>H. E. 366—Human Development</td>
<td>3</td>
</tr>
</tbody>
</table>

JOURNALISM (Minor Only)

Teaching Minor: 31 credits

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jour. 100—Introduction to Journalism</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 127—Elementary Photography</td>
<td>4</td>
</tr>
<tr>
<td>Jour. 150—Introduction to Radio and Television</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 156—Current Affairs</td>
<td>1</td>
</tr>
<tr>
<td>Jour. 270—Reporting</td>
<td>1</td>
</tr>
<tr>
<td>Jour. 270—History and Principles of Journalism</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 316—School Publications</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 326—Principles of Advertising</td>
<td>2</td>
</tr>
<tr>
<td>Jour. 326—Advertising Layout and Copy</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 380—News Editing</td>
<td>3</td>
</tr>
<tr>
<td>Jour. 405—Editorial Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

LIBRARY SERVICE (Minor Only)

Teaching Minor: 25 credits

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed. 341—The School Library in Teaching</td>
<td>3</td>
</tr>
<tr>
<td>Ed. 341—Org. and Admin. of the School Library</td>
<td>4</td>
</tr>
<tr>
<td>Ed. 346—Cataloging and Classification</td>
<td>4</td>
</tr>
<tr>
<td>Ed. 346—Bibliography and Book Selection</td>
<td>4</td>
</tr>
<tr>
<td>Ed. 346—Library Reference Materials</td>
<td>4</td>
</tr>
<tr>
<td>Ed. 347—Audio-Visual Aids</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 381—Literature for the High School Teacher</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: 5 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed. 346—Selection and Processing of Non-Book Library Materials</td>
<td>3</td>
</tr>
<tr>
<td>Ed. 442—Library Work for Children</td>
<td>4</td>
</tr>
</tbody>
</table>

MATHEMATICS

Teaching Major: 30 credits (25 credits)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 151—Freshman Math I</td>
<td>5</td>
</tr>
<tr>
<td>Math 152—Freshman Math II</td>
<td>5</td>
</tr>
<tr>
<td>Math 153—Freshman Math III</td>
<td>5</td>
</tr>
<tr>
<td>Math 251—Sophomore Math I</td>
<td>5</td>
</tr>
<tr>
<td>Math 252—Sophomore Math II</td>
<td>5</td>
</tr>
</tbody>
</table>

Other Electives: Additional courses in mathematics may be selected to complete the 30 credits for the teaching major and the 25 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

Required Courses:
Music 111, 112—Theory I
Music 241, 242—Theory II
Music 123, 124—Intro to Music Lit.
Music 221, 222 or 233—Conducting
Music 323, 324, 325—School Music

Applies Music—Major Field as follows:
9 credits from following the required courses
6 credits from the following the required courses

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

Required Courses:
Teaching Major Teaching Minor
(47-48 credits) (31-32 credits)
Bact. 100—Elementary Bacteriology 3 3
Bot. 121-122—General Botany 3 3
Bot. 123 or 124—Spring or Sum. Flora 3-4
Zool. 225 or 341—Plants or Morph. 3-4
Gen. 300—Conservation of Natural and 3 3
Botanical Resources
Zool. 104—Elementary Zoology 3 3
Zool. 105—Elementary Zoology 3 3
Zool. 106—Field Zoology 3
Zool. 201—Comp. Vertebrate Anatomy 3
Zool. 202—Human Physiology 3

PHYSICAL SCIENCE

Required Courses:
Teaching Major Teaching Minor
(45 credits) (30 credits)
Chem. 101-102-103—General Chemistry 15 12
or 121-122-123—College Chemistry 15 12
Phys. 111-112—General Physics 5 3
or 251-252-253—General Physics 5 3
Electives: From Chemistry 209, 370, 384 if 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)

Required Courses:
(64 credits)
Bot. 121—2—2—General Botany 10
Bot. 125—Spring Flora 3
Chem. 101—102—103—General Chemistry or 121—122—123—College Chemistry 15
Gen. 300—Conservation of Human and Natural Resources 3
Geol. 101—Introduction to Geology 3
Phys. 111—112—113—General Physics 15
Zool. 101—General Zoology 3
Zool. 106—Field Zoology 3
Zool. 202—Human Physiology 3

SOCIAL SCIENCES (Major Only)

Required Courses:
(65 credits)
Econ. 201—202—203—Principles of Economics 15
Hist. 101—102—103—Development of Western Civilization 15
Hist. 201—202—203—U.S. History 15
Pol. S. 202—203—American Government 8
Soc. 101—Introductory Sociology 5
Electives: Limited to upper division courses approved by the advisor; must include one upper division course in Sociology 16

SPEECH (Minor Only)

Required Courses:
(30 credits)
Speech 111—Principles of Speech 5
Speech 117—Voice and Diction 3
Speech 214—Discussion Techniques 3
Speech 241—Radio—Television Speech 3
Speech 261—Beginning Oral Interpretation 3
Speech 277—Debate 3
Speech 329—Teaching of Speech 3
Speech 330—Introduction to Speech Pathology 3
Electives in Speech 5

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 feel 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.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN ENGLISH. In addition to the general requirements for graduation stated earlier in the handbook, the student seeking the degree of Bachelor of Arts with a major in English must complete a minimum of 80 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 graduate work in literature, one for students seeking experience in teaching methodology 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 instructor or 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 491-492-493. The maximum of courses up to 60 credits may include 305 and 401-402-403.

SCHEDULE A: LITERATURE

English 253 (Chaucer): 3 credits from 40-402-403; 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 200. 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 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, 305; 3 credits from 321-322-323, 341-342-343, 491-492-493, 494-495-496; 498. The 5 credits allowed beyond the 50 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 251. English 342 or 313, 373, 381, 381, 498-499.
Electives: 10 credits in the related fields below. Other electives may be approved by the Department of English. Students in General Courses may not be one course in American Literature and one British Literature.

Related Fields: Drama 101, 201, 212, 231, 243, 251; Journalism 127, 270, 272; Speech 122, 211-212-213; History 112, 214, 261, 321. A minimum of 12 credits of study in sociology and history (especially 241-242-243) are strongly recommended.

COMPOSITION, LANGUAGE, AND LITERATURE

FOR UNDERGRADUATES

301 (A) PREPARATORY COMPOSITION 1 Q. A. W. 0 (5-6). For freshmen who fail to establish a competent level of performance in the English placement examination.

NOTE: Other credits or 101-102-II0 (19 credits) is required of all students. Majors in the department complete the 101-102 sequence. A student must complete the sequence he begins, i.e., he may not begin with English 101 and change to 165 etc. (See departmental or school curriculum.)

101-102-103 (15ab) FRESHMAN COMPOSITION, 3 Q. A. W. S. Su. 3,3,3. Students may enter any quarter. Prerequisite: 9 credits of literature. (341) THEORIES OF DRAMA. 2 Q. A. W. S. Su. 2. Students may enter either quarter. Prerequisite: one quarter of English 341-452-483. The critical literature from Aristotle to contemporary critics and the reading of representative plays from Aeschylus to the modern dramatists. (344) Tragedy; (345) Comedy. Given even numbered years.

352-353-354 (16absc) THE ENGLISH LANGUAGE. Chaucer and Contemporaries. 3 Q. A. W. S. Su. 3,3.3. Prerequisite: 9 credits in literature. Major literary works of art in the Middle Ages, particularly in English from 1000 to 1500; (353) Chaucer. Given in 1957-58 and in alternate years.


382 (518) ADVANCED GRAMMAR. 1 Q. A. Su. Only. 3. The grammar of current English with some reference to historical development and social and regional differences. This course attempts to meet the demands of the student whether he is interested in teaching or increasing his own skill.

401-402-403 (16ab) ADVANCED CREATIVE WRITING. 3 Q. A. W. S. Su. 2, 2, 2. Students may enter any quarter. Prerequisites: 301-302-303 or consent of instructor. Writing of fiction, with emphasis on the novel, although work in the short story may be continued with consent of instructor.

411 (192) MAJOR WRITERS, 1 Q. A. W. S. Su. 3. Prerequisite: 12 credits in literature. One major writer, American or British, will be given special attention each quarter. Motion will be given one quarter in even numbered years.

421-422-423 (16ab) THE LITERATURE OF ROMANTICISM. 3 Q. A. W. S. Su. 3,3,3. Prerequisite: 12 credits in literature. The literature of Europe; works of some nineteenth-century poets. The selection of poets will vary from quarter to quarter.

451-452-453 (17ab) RENAISSANCE LITERATURE. 3 Q. A. W. S. Su. 3,3,3. Prerequisite: 12 credits in literature. European literature of the Renaissance, with primary emphasis on British literature.

461-462-463 (18ab) THE LITERATURE OF ROMANTICISM. 3 Q. A. W. S. Su. 3,3,3. Prerequisite: 12 credits in literature. The literature of European Romanticism with primary emphasis on British literature.

481 (105) METHODS OF TEACHING ENGLISH. 1 Q. W. only. 4. Objectives, materials and organization of the program from grades 7 through 12; organization of teaching and learning processes; instruction and practice in teaching and in correcting student themes. Does not include English 241-242-243. The credit is offered from various points of view. (500) A period: (501) A person: (502) A genre. Total credit allowed: 18.

489 (199) SEMINAR. 2 Q. A. W. S. 2, 2, 2. First instruction and practice in research, with creative project permitted, with consent of advisor, for students in schedule B.

FOR GRADUATES

600-501-502 SEMINAR: PROBLEMS IN LITERATURE. Students may enter any quarter. Studies in British and American Literature offered from various points of view. (501) a person: (502) a genre. Total credit allowed: 18.

600 (200) SEMINAR: PROBLEMS IN RESEARCH. Any quarter. Course work in Guidance in graduate subjects and research. Total credit allowed: 6.

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

New Health Center
FOREIGN LANGUAGES—35

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 humanistic 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 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, upon those which have been changed or modified in passing from author to author and country to country.

The requirements in foreign languages are listed earlier in the guidebook.

1. A major in a foreign language may be declared by the student in the Sophomore year, provided that the entrance credit is presented. Students who have one high school unit in a modern language may enter the university with the equivalent of one high school unit in that language. In the Sophomore year, courses numbered two and three units, courses numbered over 300. The 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. At least 19 credits from courses numbered over 300.
4. At least 19 credits from courses numbered over 300.
5. At least 19 credits from courses numbered over 300.

The following are listed for the undergraduate major.

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. A. W. Su. 5. Prerequisite: French 101 or equivalent.
121 (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.
217 (17) FRENCH GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: French 215 or equivalent.

The following are listed for the undergraduate major.

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. A. W. Su. 5. Prerequisite: French 101 or equivalent.
121 (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.
217 (17) FRENCH GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: French 215 or equivalent.

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.

1. German 101 to 217 inclusive, or equivalent.
2. At least 19 credits from courses numbered 300 or over.
3. At least 19 credits from courses numbered 300 or over.
4. At least 19 credits from courses numbered 300 or over.
5. At least 19 credits from courses numbered 300 or over.

The following are listed for the undergraduate major.

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. W. Su. 5. Prerequisite: German 101 or equivalent.
121 (13) INTERMEDIATE GERMAN. 1 Q. A. W. Su. 4. Prerequisite: German 103 or equivalent.
217 (17) GERMAN GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 3. Prerequisite: German 215 or equivalent.

ITALIAN

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

1. Italian 101 to 217 inclusive, or equivalent.
2. At least 19 credits from courses numbered 300 or over.
3. At least 19 credits from courses numbered 300 or over.
4. At least 19 credits from courses numbered 300 or over.
5. At least 19 credits from courses numbered 300 or over.

The following are listed for the undergraduate major.

101 (11a) ELEMENTARY ITALIAN. 1 Q. A. W. Su. 5.
102 (11b) ELEMENTARY ITALIAN. 1 Q. W. Su. 5. Prerequisite: Italian 101 or equivalent.
103 (11c) ELEMENTARY ITALIAN. 1 Q. A. W. Su. 5. Prerequisite: Italian 101 or equivalent.
121 (13) INTERMEDIATE ITALIAN. 1 Q. W. Su. 4. Prerequisite: Italian 103 or equivalent.
217 (17) ADVANCED ITALIAN. 1 Q. W. Su. 4. Prerequisite: Italian 215.
**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.
108 (11b) ELEMENTARY LATIN. 1 Q. W. 5. Prerequisite: Latin 101 or equivalent.
110 (11c) ELEMENTARY LATIN. 1 Q. S. 5. Prerequisite: Latin 103 or equivalent.
215 (15) INTERMEDIATE LATIN. 1 Q. A. Su. 4. Prerequisite: Latin 215 or equivalent.
217 (17) LATIN READINGS. 1 Q. Any quarter. 2-5. Prerequisite: Latin 215, or equivalent. Advanced readings from outstanding Latin writers.

**FOR UNDERGRADUATES AND GRADUATES**

491 (125) SEMINAR. 1 Q. Any quarter. 2-3. Prerequisite: Latin 217. Works of outstanding writers. Total credit allowed: 30.

**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: Foreign Language 217. An introductory study of the development of the Romance languages from Latin to their present-day forms. Given in odd numbered years.

**RUSSIAN**

No major is given in Russian.

101 (11a) ELEMENTARY RUSSIAN. 1 Q. A. 5.
102 (11b) ELEMENTARY RUSSIAN. 1 Q. W. 5. Prerequisite: Russian 101 or equivalent.
103 (11c) ELEMENTARY RUSSIAN. 1 Q. S. 5. Prerequisite: Russian 102 or equivalent.
213 (13) INTERMEDIATE RUSSIAN. 1 Q. A. 4. Prerequisite: Russian 213 or equivalent.
215 (15) ADVANCED RUSSIAN. 1 Q. W. 4. Prerequisite: Russian 213 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 285–290; 286–287 or two quarters of this course and History 326.

**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.
105 (11c) ELEMENTARY SPANISH. 1 Q. S. Su. 5. Prerequisite: Spanish 102 or equivalent.
213 (13) INTERMEDIATE SPANISH. 1 Q. A. W. Su. 4. Prerequisite: Spanish 103 or equivalent.
215 (15) ADVANCED SPANISH. 1 Q. W. S. Su. 4. Prerequisite: Spanish 213 or equivalent.
217 (17) SPANISH GRAMMAR REVIEW AND COMPOSITION. 1 Q. A. S. 2. Prerequisite: Spanish 215 or equivalent.
219 (19) COMMERCIAL SPANISH. 1 Q. S. 3. Prerequisite: Spanish 101 or equivalent. The writing of Spanish commercial letters and a study of commercial practices in Spanish America. Given in even numbered years.

**FOR UNDERGRADUATES AND GRADUATES**

300 (101) SPANISH CONVERSATION. 1 Q. Any quarter. 1. Prerequisite: Spanish 217. Total credit allowed: 3.
301–305 (102–106) SPANISH LITERATURE. 3 Q. A. W. S. 2.2.2. Prerequisite: Spanish 217.
331 (105) CERVANTES. 1 Q. A. 3. Prerequisite: Spanish 217. Don Quixote and other works of Cervantes. Given even numbered years.
335 (107) SPANISH DRAMA OF THE GOLDEN AGE. 1 Q. W. 3. Prerequisite: Spanish 217. Given even numbered years.
336 (108) PICARESQUE NOVEL. 1 Q. S. 3. Prerequisite: Spanish 217. Given even numbered years.
351 (111) 19TH CENTURY SPANISH NOVEL. 1 Q. A. 3. Prerequisite: Spanish 217. Given odd numbered years.
353 (113) 19TH CENTURY SPANISH DRAMA. 1 Q. W. 3. Prerequisite: Spanish 217. Given even numbered years.
361 (117) CONTEMPORARY SPANISH DRAMA. 1 Q. A. 3. Prerequisite: Spanish 217. Given even numbered years.

363 (119) CONTEMPORARY SPANISH NOVEL. 1 Q. W. 3. Prerequisite: Spanish 217. Given odd numbered years.

**THE TEACHING OF FOREIGN LANGUAGES**

301 (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 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**

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 Forest Engineering 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 Food Utilization. A five-year curriculum is offered in Forest Engineering. 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 in camp in the western states and in camp near Thompson Lakes. Those selected 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 examination in United States Forest 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 105 credits of work, not including credits obtained by required work in Military Science and Physical Education.

To continue 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 in all credits for which registered and for which a final grade is received.

Each student is required to spend not less than two summers of at least six weeks each in full-time forestry field experience through some type of approved work pertinent to his major.

**FIELD COURSE EXPENSE DEPOSITS.** The following course expense deposits will be charged for advanced courses in the School of Forestry: 200, $5.00; 210, $5.00; 211, $5.00; 253, $5.00; 290, $5.00; 291, $5.00; 310, $5.00; 315, $5.00; 321, $5.00; 323, $5.00; 370, $5.00; 401, $10.00; 411, $6.00; 445, $30.00; 452, $10.00; 453, $10.00; 455, $15.00;
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 involves 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 from necessity 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 exist 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 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.

CURRICULA LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN FOREST CONSERVATION
(Group requirements 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

FOREST ENGINEERING
FIRST YEAR

SECOND YEAR
Autumn: For. 420*, 441*, 453*; Econ. 202; Elective. Winter: For. 409*, 421*, 230, 280, 468*, 455; Spring: For. 401, 405, 456, 457, 458, 459, 460. Students who are interested in specific areas of forest management may, with the adviser's consent, substitute from the following courses pertaining to these areas: Silviculture, For. 411, 412, 413, 414; Fire Control, For. 331, 399; Forest Recreation: For. 285, 286, 351, 356; Conservation: For. 290, 401, 402, 482; Watershed Management: For. 450, 484; Policy and Administration: 422 and 423.
RANGE CONSERVATION

SECOND YEAR
For 260, 250, 242, 252, 253, Bot. 255, 256, 257; Econ. 261, 262; Phys. 111; Hist. 101, 102, 103, 104; Geol. 101; Electives.

THIRD YEAR
For 308, 309, 310, 311, Bot. 365; Geol. 101; Jour. 334; Electives.

FOURTH YEAR
For 400, 401, 402, 403, 404, 405, 406; 410, 411; Electives.

WILDLIFE CONSERVATION

SECOND YEAR
For 210, 255, 256, 257, 258, 259; Bot. 255, 256, 257; Econ. 261, 262; Phys. 111; Hist. 101, 102, 103, 104; Geol. 101; Math 123; Zoo. 308, 309, 310; Electives.

FOURTH YEAR
For 383, 421, 460, 470, 471, 472, 480, 481, 482, 484; Anthro. 152; Econ. 202; Pol. Sci. 351; Zoo. 308; Electives.

FOR UNDERGRADUATES AND GRADUATES

300-301 (110ab) MENSURATION. 2 Q. A. W. 4, 4 (3-3).
Prerequisite: 200. (300) The application of statistical methods to forest mensuration, including natural forest inventory data for calculating volume tables and methods of yield analysis and their computer applications.

309 (106) FARM FORESTRY. 1 Q. S. 3 (2-4).
Prerequisite: junior standing in the School of Forestry. The application of the principles of forest management, silviculture and soils to small woodland holdings.

310 (106) SILVICS. 1 Q. A. 4 (4-0).
Prerequisites: Botany 225 and 226. The ecological classification and basic physiological facts of the forest as affected by factors of the site, climate, soil, and other factors. Principles of silviculture. Effects of environmental factors on growth and yield of forest trees and forest management for various forest types throughout the country. Evaluation of the effects of climatic, edaphic, and biotic factors on the growth and development of forest trees and stands.silent

311 (106) SILVICULTURAL METHODS. 1 Q. A. 5 (4-4).
Prerequisite: Forestry 310. The production of forest crops; reproduction methods, intermediate cuttings, and cultural operations. Field trips.

312 (106) SEEDING AND PLANTING. 1 Q. S. 3 (2-4).
Prerequisite: Forestry 310 or permission of the instructor. The selection of the forest collection, extraction, storage, and transportation of forest seed; direct seeding; nursery practice; forest planting. Field trips.

313 (110) FOREST DESIGN. 1 Q. A. 5 (4-4).
Prerequisite: Forestry 202. Forest fire prevention, suppression, and control; weather influences, fire behavior, the organization, education, and training of personnel. Mechanics and use of fire control machinery. Theory and use of electrical aids.

314 (110) WOOD TECHNOLOGY. 1 Q. W. 4 (3-3).
Prerequisites: Forestry 202 or permission of the instructor. Identification and properties of the wood, the relationships of the physical, chemical, and mechanical properties to specific uses.

(121) CHEMICAL AND PHYSICAL PROPERTIES OF WOOD PRODUCTS. 1 Q. S. 3 (3-0).
Prerequisites: Chemistry 250 or equivalent and Forestry 346. Generalized classification of wood. Survey of chemically derived products and processes including paper, newsprint, plywood, and modified woods.

315 (122) WOOD GLUING AND PHYSICAL PROPERTIES. 1 Q. S. 3 (3-0).
Prerequisites: Forestry 340 and junior standing in the School of Forestry. Theory and practice of wood gluing. Familiarization with the properties of various woods; structural adhesives for wood and finishing and finishing, holding capacity, insulation values, and other physical and chemical properties.

316 (131) ADVANCED SURVEYING. 2 Q. W. S. 2, 2 (4-0).
Prerequisites: Forestry 250, 252-253, and consent of instructor. 350 (360) introduction to the principles of surveying not covered in Forestry 252-253.

317 (132) AERIAL PHOTOGRAMMETRY. 1 Q. W. 3 (3-1).
Prerequisite: Forestry 250. The principles of aerial photography and their applications with emphasis on the measurement of forest stands. Examination of the principles of photogrammetry and the use of photogrammetry in the measurement of land features, and its application in structural and topographic mapping. Introduction to the principles of photo interpretation.

318 (137) TIMBER MECHANICS. 1 Q. S. 3 (0-8).
Prerequisite: Physics 111. Graphical and analytic studies applied to simple structural members and forest plantations.

319 APPLIED AERIAL PHOTOINTERPRETATION. 1 Q. S. 3 (3-0).
Prerequisite: Forestry 322 and consent of instructor. Correspondence between the photographic information, environmental and economic conditions, and the suitability of the land for timber.

320 (129) GENERAL RANGE MANAGEMENT. 1 Q. A. 5 (4-4).
Prerequisite: consent of instructor. An introduction to the field of wildlife management, including grazing capacity, control and distribution of livestock on range, range improvement factors and range interrelationships.

321 (121) RANGE FORAGE PLANTS. 2 Q. S. 4 (0-8).
Prerequisites: Forestry 200, Botany 308 and consent of instructor. Economic range of forage plants; forage value to different kinds of range animals; management problems in their use.

322 (138) GENERAL WILDLIFE MANAGEMENT. 1 Q. W. 4 (4-0).
Prerequisite: junior standing and consent of instructor. The management of wildlife as a land resource.

323 (121) ALASKAN WILDLIFE. 1 Q. Any Quarter. 0. The main Alaskan mammals, birds, and fish; forage distribution; transportation; hunting methods, equipment, costs and organizing of trips. (Nights school class).

324 (101) THE RENEWABLE RESOURCES AND THEIR CONSERVATION. 1 Q. A. W. 3 (3-0).
Prerequisites: Botany 210 and Botany 211 or equivalent. A study of the use of renewable and non-renewable resources in our civilization. The projects and programs. The need for conservation to maintain our renewable resources. Review of public policies and use to meet the needs of our expanding economy. Conservation practices and policies and the agencies involved in their application. (not open for doctoral credit).

325 INTRODUCTION TO FOREST RECREATION. 1 Q. S. 4 (2-4).
Prerequisites: junior standing and consent of instructor. History and the development of the recreational use of forests and other wild lands. Class and field.

326 RECREATION UTILITIES. 1 Q. S. 3 (1-4).
Prerequisites: fundamentals of recreation in the School of Forestry. Theory and design of service and sanitary utilities for recreational areas Laboratory and field.

327 RECREATIONAL STRUCTURES. 1 Q. W. 2 (1-3).
Prerequisite: consent of instructor. Elementary design, fabrication and construction of recreational wooden and metal structures. Canoes, fishing, boating, hunting, swimming, camping facilities. Laboratory and field.

400-401 (145ab) FOREST MANAGEMENT. 2 Q. W. S. 5 (5-0).
S. 10 (8-2 months fieldwork) (Forest Management trip, 3 cr.; Applied Forest Management 4 cr.; Forest Management 4 cr.; Forest Management 4 cr.; Forest Management 4 cr.) (420 may be taken concurrently) (400) Organization and manage-
ment of forest properties; determination of allowable cut and regulation of the second growth harvest; field survey work in applying forest management, timber cruising, determination of growth, and timber marking.

410 (140) SAVICULTURE. 1 Q. S. 2 (Field). Prerequisites: Forest 310 and 311. Application of silvicultural methods to the principal commercial forest species, types, and regions of the United States.

411 (102) FOREST SOIL CLASSIFICATION AND MAPPING. 1 Q. S. A. 3 (3-4). Prerequisites: Forest 210 and Geology 301. Identification of forest soils, land use classes, and forest site classes.

412 (186) ADVANCED FOREST SOILS. 1 Q. S. 3 (2-4). Prerequisites: Forest 310, Botany 225 and 250. Relationships of the chemical, physical, and biological properties of soils to forest tree growth.

420 (130) VALUATION. 1 Q. A. 4 (3-4). Prerequisite: Forest 310 and 311. Theory and process of estimating value of forest properties and enterprises.

421 (148) FOREST ECONOMICS. 1 Q. W. 5 (5-0). Prerequisites: Economics 201 and Forest 420. Economic problems and principles involved in the forest resource and in the distribution of forest products.

422 (150) LAND USE POLICY. 1 Q. A. 4 (4-0). Prerequisites: Junior standing and consent of instructor. Forest in three dimensions; entry and public land policies, especially in the United States. Policy objectives, programs, and groups.

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.

440 (158) MECHANICALLY DERIVED WOOD PRODUCTS. 1 Q. A. 5 (3-0). Prerequisite: Junior standing in the School of Forestry. History, study and development of forest products in relation between utilization and timber production. Major uses of wood in the round form. Principles of basic sawing, grading, and other primary manufacturing processes and products. Minor forest products.

441 (135) SAWMILLING AND LUMBERING. 1 Q. A. 3 (2-4). Prerequisites: Junior standing in the School of Forestry. Field survey of sawmill and planer operations, their organization and equipment. Lumber grades and uses. By-product utilization. Storag and transportation.

442 (129) SEASONING AND PRESERVATION. 1 Q. W. 3 (3-0). Prerequisite: Junior standing in the School of Forestry. Principles involved in seasoning and preservation treatments of woods. Commercial drying operations.

443 (129) UTILIZATION FIELD. 1 Q. S. Credit variable. Prerequisites: Junior standing, utilization major, and consent of instructor. Study of various products industries on location.

450 (112) HYDRAULICS. 1 Q. W. 2 (2-0). Prerequisites: Junior standing and consent of instructor. Elementary study of the physical properties of water.

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

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


454-455-456 (18etable) FOREST ENGINEERING. 3 Q. A. W. 4 (4-4). Prerequisites: Forest 310, 311, and Forest 420. Field surveys for engineering majors (454) Collection of field data for a logging plan. Location of main and spur roads (455) Field work in connection with the grades and logging costs necessary to complete the logging plan. (456) Application of field logging, methods and techniques, time and cost study. Field work.

457 (1) TIMBER DESIGN. 1 Q. W. 4 (2-6). Prerequisite: Forest 350 and Basic math and chemistry study. Timber feet in three dimensions; combined stresses; columns; design of simple beams for deflection; joint analysis using timber connectors; post and beam construction; and laminated wooden structures.

458 (100) RANGE TECHNIQUES. 1 Q. A. 4 (2-6). Prerequisites: Forest 310, 311, and Forest 420. Survey of range management, including surveys; condition and trend analysis, utilization analysis, damage appraisal. Field trips.

459 (141) RANGE LIVESTOCK NUTRITION. 1 Q. W. 3 (2-3). Prerequisites: Forest 310, 311, and Botany 250. Factors influencing the factors of animal nutrition. The nutritional characteristics of range forage plants. The nutritional requirements of livestock and big game animals.

460 (141) RANGE LIVESTOCK PRODUCTION. 1 Q. S. 2 (2-4). Prerequisites: Forest 310 and consent of instructor. Selection, production, and management of range livestock.

461 (142) RANGE ECONOMICS. 1 Q. S. 3 (3-0). Prerequisites: Forest 310 and Economics 411. Economic factors influencing the ranges from an economic standpoint. Ranch value and income, tenure, taxation, and cultural and economic effects of range management, improvements, ranch organization and appraisal.

461 (142) RANGE ADMINISTRATION. 1 Q. S. 2 (2-4). Prerequisites: Forest 310 and consent of instructor. Legislation and policies developed in the acquisition of federal, state and private range properties, Administration, organization and practices for the regulation of grazing on public lands.

465 (144) REGIONAL RANGE MANAGEMENT. 1 Q. S. 6. Prerequisite: Forest 423. Study of ranges in the United States, problems and situations. Work done on senior trip spring.

470 (169) ADVANCED WILDLIFE MANAGEMENT. 1 Q. A. 5 (2-2) Field (weekends). Prerequisites: Zoology 308, 350, Botany 355 and consent of instructor. Advanced work in the application of population dynamics, ecology, and behavior of birds and mammals.

471 (167) WILDLIFE HABITAT MANAGEMENT. 1 Q. S. 5 (4-field weekends). Prerequisites: Forest 470 and consent of instructor. May be taken concurrently with Forest 473. Principles and techniques involved in wildlife habitat manipulation, the effects of land and forest management practices on wildlife populations, the integration of overall land and wildlife management and the assessment of interrelationships among land use ecosystems.


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

480-481 (117ab) RESOURCE MANAGEMENT AND CONSERVATION PLANNING. 2 Q. W. 4 (3-3), S. 5 (3-3). Prerequisites: Economics 201-202-203, Forest 360, 382 and consent of instructor. Economics of conservation, principles of forest resource management and the determination 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 for choice in conservation planning.

481 (51) 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 (116) FOREST METEOROLOGY. 1 Q. W. 4, (4-0). Prerequisites: Physics 111-112, junior standing in the School of Forestry and consent of instructor. The basic meteorological factors that influence fire behavior, the measurement of weather elements, and the preparation and use of weather forecasts.

491 (193) SENIOR SEMINAR. 2 Q. A. W. Credit variable. Prerequisite: senior standing. A general review of the major 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. Individual problem work. The type of problem will be identified for forestry majors as follows: Management, Silviculture, Soils, Economics, Forest Fire Control, Utilization, Engineering, Range, Management, Wildlife Management, Conservation and Recreation, General.

590 (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.

592 (196) RESEARCH METHODS. 2 Q. A. W. 3. Students may enter any quarter. Prerequisites: at least one course in statistics and one statistical course in forest measurement and consent of instructor. (591) Scientific method, application of statistical methods to the design of experiments, research techniques, organization, and presentation of research results. (692) Analysis and presentation of research results.

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


President Carl McFarland Confers Honorary LL.D. on Russ B. Hart
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 for a degree (see Graduation Requirements), is by no means sufficient. It has also been found desirable to provide certain degree-curricula which overlap courses which the curricula described 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, Secretarial-Home Arts, Pre-Medical Science and Wildlife Technology are examples. They have been found desirable to provide particular courses which overlap two or more fields; these are described below.

15 (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. (See English.)

158 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 BIOLOGICAL SCIENCE. 1 Q. A. W. S. 5, 5, 5. The essential structure and function of living organisms. Principles of heredity and of animal and plant kingdoms. Interpretation and possible evolution of the plant phyla. Comparative morphology and physiology within the principal animal phyla, with emphasis upon man. History and theory of evolution and evidence for evolution from all fields of biology; modern concepts of mechanism of evolution, Principles of heredity, are studied. (See Biology.)

151-152-153 (15abc) INTRODUCTION TO THE HUMANITIES. 1 Q. A. W. S. 5, 5, 5. Students may enter any quarter. Those who have completed 1 or more college courses in literature may not receive credit in this course. A general survey of the field of the Humanities. Acquaintance with 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, Modern Languages, and Foreign Languages.

390 (108) CONSERVATION OF NATURAL AND HUMAN RESOURCES IN MONTANA. 1 Q. S. Su. 5. Prerequisite: consent of instructor. The special need for improved conservation practices. A critical survey of climate, physiography, mineral resources, soil and water, as related to all of agriculture and animal production 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 basic courses in Biology or Zoology or the group requirements in science.

430 (165a) 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 Fr Fr 161, 211, 241-243, 490, and 491-492-493 will be allowed toward a major in foreign languages.

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

221 (151) FOREIGN LITERATURE 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 (171abc) RENAISSANCE LITERATURE. (See English.)

461-462-463 (180abc) 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, in the guidebook the following special requirements must be completed for the Bachelor of Arts degree in Geography. A minimum of 36 credits in Geography including Geography 101, 211, 212, 213, 300, 301, 350, 351, and two of four Geography courses 301, 355, 410, and 345: Economics 201-202-203; Political Science 203-203; and Sociology 101 or Anthropology 152.

The foreign language requirement listed earlier in the guidebook must be satisfied. French or German are strongly recommended unless the student intends to specialize in a part of the world where the use of some other language prevails.

CURRICULUM IN GEOGRAPHY

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>W</th>
<th>S</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eng. 101-102-103</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ForL 101-102-103</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geol. 110-General Geology</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Elective-Group I or III</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>H&amp;PE 101-102-103</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 101-102-103</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>or 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophomore Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Econ. 201-202-203</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ForL 213-Intermediate French or German</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geol. 211-212-213</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Soc. 101—Elementary Sociology</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective-Group I or III</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>H&amp;PE 201-202-203</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 201-202-203</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>or 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geol. 309—Geography of North America</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geol. 305—Geography of Europe</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geol. 306—Climatology</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Geol. 310—Cartography</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Hist. 251-252-253—United States History</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Pol. S. 202-202—American Political Institutions</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Electives in Geography</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>or 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geol. 450—Seminar in Geography</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Electives in Geography</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>or 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOR UNDERGRADUATES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101 (11) ELEMENTS OF GEOGRAPHY</td>
<td>1 Q. A. W. S. 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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, and civilizations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>211-212-213 (Econ. 17ab) ECONOMIC GEOGRAPHY. 3 Q. A. W. S. 3.3.3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(211) The industries producing food and raw materials; (212) the economic, structural, and aesthetic factors in the distribution of industries; (213) service industries with an emphasis on trade and transportation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 CARTOGRAPHY. 1 Q. A. 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FOR UNDERGRADUATES AND GRADUATES

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 relation 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 consultants. Graduates have been successful in all of these fields of professional geology.

CURRICULUM IN GEOLOGY

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Year</td>
<td>49</td>
</tr>
<tr>
<td>Sophomore Year</td>
<td>19-19</td>
</tr>
<tr>
<td>Junior Year</td>
<td>17-17</td>
</tr>
<tr>
<td>Senior Year</td>
<td>17-17</td>
</tr>
</tbody>
</table>

Analysis of Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. University requirements (English, 16 cr.; Group II, 12 cr.; Group III, 12 cr., Foreign Language, 23 cr., of which can be applied toward Group III)</td>
<td>49</td>
</tr>
<tr>
<td>2. Geology course requirements</td>
<td>59</td>
</tr>
<tr>
<td>3. Other requirements (Mathematics, 15 cr.; Chemistry, 15 cr.; Physics, 15 cr.; Zoology, 10 cr.; English, 4 cr.)</td>
<td>59</td>
</tr>
<tr>
<td>4. Military Science</td>
<td>10</td>
</tr>
<tr>
<td>5. Health and Physical Education</td>
<td>8</td>
</tr>
<tr>
<td>6. Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 186 cr.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the student needs four years of algebra. It is also recommended that high school preparation include advanced language courses.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN GEOLOGY. In addition to the general requirements for graduation listed earlier in this catalog, the following special requirements must be completed for the Bachelor of Arts degree with a major in Geology: Geology 110, 120, 130, 200, 205-206, 211-212, 220, 320, 321, 341 for a total of 50 credits. Also required are Mathematics 115, 125, 135; Chemistry 121-122-123; Physics 111-112-113 or 221-222-223; Zoology 104-110; English 394. A foreign language, 23 to 25 credits in one language, or 3 quarters in each of two foreign languages, or a reading knowledge, is required. French German, Russian, or Spanish is recommended.

COMBINATION GEOLOGY AND LAW PROGRAM. Students in the program complete the requirements for both the B.S. degree in geological sciences and the B.A. degree in law. The four-year program involves six quarters of study in the school of law and eight quarters of study in the School of Geology.

FIELD TRIP EXPENSES. Students enrolled in the program pay 201-202, 206, 209, 210, 320-321, and other courses which include field trips share equally the cost of transportation and insurance. Students should consult materials in geology Business Office for a statement of expenses connected with Geology 320 Field Geology.

FOR UNDERGRADUATES

101-102 (11ab)  INTRODUCTION TO GEOLOGY. 2 Q. A. W. (Survey course; 1 cr. per quarter). 110-112, 113, 114, 115. The formation and structure of the earth's crust and the dynamic processes, volcanism, diastrophism, and geologic and physical condition of the earth's surface are illustrated and described. This course is required of all students majoring in geological sciences.

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 geologic time. Geologic time, with emphasis on changes of land and sea and their relation to the evolution of life. Not open to geology majors.
120 INTERPRETATION OF AERIAL PHOTOS AND GEOLOGIC MAPS. 3-2-2. Prerequisite: Geology 110. Interpretation of geologic maps, and correlation of construction of cross-sections, profiles; introduction to geologic illustration, photogeology, and map interpretation.

130 (35) FIELD METHODS. 1 Q. S. 3 (1-3). Prerequisite: Geology 110, 120. Applied geologic map and aerial photo interpretation. Field techniques applied in field study of rocks, including Brunton compass, altimeter, Jacob staff, and chaining; the measurement and description of stratigraphic sections. Some all day field trips on Saturdays chiefly in May.

150 HISTORY OF LIFE ON THE EARTH. 1 Q. Night School only. A discussion of primeval secondaries and the fossil record of interested adults. The general evolutionary advances and history of plants and animals throughout geologic time. Lectures, demonstrations and films. Not counted toward majors or minors in geology degree.

200 GENERAL PALEONTOLOGY. 1 Q. A. 4 (3-2). Prerequisite: Geology 100. Introduction to the general principles of paleontology, evolution, and history of plants and animals.

202-203 (22abc) HISTORICAL GEOLOGY. 2 Q. W. S. 4, 4. (232) The origin of the earth, Precambrian and Paleozoic. (233) Mesozoic and Cenozoic history. Stratigraphic principles and methods, and North American physiographic sequences are considered throughout the course. Laboratories include map, fossil, library, and field study.

211-212 (24ab) MINERALOGY. 2 Q. A. W. 4, 4, (2-4). Prerequisite: Chemistry 121 or concurrent registration. The elements of crystallography and chemical composition of the common minerals by physical and chemical properties, with special emphasis on the more abundant minerals. Laboratory work is included.

220 (26) PETROLOGY. 1 Q. S. 4 (2-5). Prerequisite: Geology 212. The common rocks, their mineral composition and physical characteristics, classification, identification in the field, origin and structural features.

FOR UNDERGRADUATES AND GRADUATES

280 (5) GEOLOGY OF MONTANA. 1 Q. Su. only. 3 (3-2-3). Prerequisite: consent of instructor. Primarily for Montana residents interested in natural science. Lectures will stress general earth science with emphasis on Montana, and will be out of doors. Not applicable by geology majors toward a degree.

305 (5113) MONTANA MINERAL RESOURCES. 1 Q. Su. only. 3 (2-3-3). Prerequisite: consent of instructor. The principal and common minerals of Montana with emphasis on their spatial distribution.

310 (193) GEOMORPHOLOGY. 1 Q. A. 4 (3-3). Prerequisite: Geology 280. Classification of geologic environments according to the landscape, and their origin, development, and classification.

315 (126) GROUND WATER GEOLGY. 1 Q. S. 4 (3-3). Prerequisite: Geology 280. Applied hydrology. The determination of hydraulic conditions controlling the occurrence and development of ground water in Montana and vicinity, with emphasis on special conditions.

320 (5130) FIELD GEOLOGY. 1 Q. Su. only. 8 (1-0-7). (2 weeks for 8 weeks in the field). Prerequisite: Geology 120, 203, 260. Field study trips given by Indiana University Geology Department staff at their field station near Whitehall, Montana. Primarily detailed geologic mapping. Registration must be completed by April 1.

325 (137) ADVANCED GEOLICAL PROBLEMS. 1 Q. Any quarter. (2-5). Prerequisite: 30 cr. in geology and consent of instructor. Supervised investigation of cases of special interest to the student, in which the student has sufficient background to contribute original thought.

330-331 (121ab) STRUCTURAL GEOLOGY. 2 Q. A. W. 3, 3 (2-4). Prerequisite: Geology 203, 220. Mathematics 153; Physics 113 or 253 or equivalent observation. Theoretical and practical aspects of the structure, their origin, classification and geologic environment of structures.

340-341 (121ab) METALLIC MINERAL DEPOSITS. 2 Q. A. W. 4, 4, (3-3). Prerequisite: Geology 203, 220. Theoretical and practical aspects of the nature, origin, classification and geologic environment of metallic mineral deposits. Offered odd numbered years.

360 (108) NON-METALLIC MINERAL DEPOSITS. 1 Q. S. 4 (3-2). Prerequisite: Geology 203, 220. Theoretical and practical aspects of the nature, origin, classification and geologic environment of non-metallic mineral deposits. Offered odd numbered years.

390-391 (111ab) INVERTEBRATE PALEONTOLOGY. 2 Q. A. W. 4, 4, (2-4). Prerequisite: Geology 110, Zoology 104-105 or consent of instructor. An introduction to fossils remains of invertebrate animals with emphasis on methods of classification and determination.

420 (126) OPTICAL MINERALOGY. 1 Q. A. 4 (2-2). Prerequisite: Geology 240, Physics 113 or 223, and Mathematics 153. The use of the polarizing microscope and accessories: the theory of optical phenomena and their observation; the application of the phenomena in identifying mineral fragments and minerals in thin section.

425-426 (124ab) PETROGRAPHY. 2 Q. W. S. 4, 4, (2-4). Prerequisite: Geology 220, 420, 425. The optical examination and identification of igneous, sedimentary and metamorphic rocks. Includes field work.

430 (132) PRINCIPLES OF STRATIGRAPHY. 1 Q. A. 3 (2-3). Prerequisite: Geology 110, 120, 203, or concurrent registration. The interrelationships of environment, tectonic controls, and facies, problems of correlation, unconformities, paleogeography and paleogeologic maps. Includes field work.

435 (154) PALEONTOLOGY. 1 Q. S. 3 (3-0). Prerequisite: Geology 110, 120. The study of the fossil record, origin, of stratiographic and structural controls of occurrence, and of the general relationships of the problems associated with development.

440 INTRODUCTION TO GEOPHYSICS. 1 Q. S. 3 (3-0). Prerequisite: Physics 113, or 223, Mathematics 153 or concurrent registration. Geophysics 331. Theory of the commonly applied geophysical methods, including gravimetric, magnetic, seismic, electric and radiometric fields, with emphasis on the interrelationships of geophysical anomalies and geology, and use in exploration for ore bodies.

445 X-RAY ANALYSIS. 1 Q. A. 3 (2-3). Prerequisite: Physics 220. The principles of X-ray crystallography and their application to the analysis of the microscopic crystal structure of minerals, with emphasis on the Debye-Scherrer powder method and its modifications.

450 X-RAY CRYSTALLOGRAPHY. 1 Q. W. 3 (3-3). Prerequisite: Geology 445. Introduction to x-ray crystallography and structure determination of single crystals by means of the Weissenberg and other methods. Offered in odd numbered years.

455 MARINE GEOLOGY. 1 Q. W. 4, 4 (3-3). Prerequisite: Geology 110, 120. Physical, chemical, biological and geologic aspects of the ocean and its floor.

461 (191) SEMINAR. 1 Q. W. 1 (2-0). Prerequisite: senior standing in Geology.

480-486 Vertebrate Paleontology. 2 Q. W. S. 4, 4, (2-4) Prerequisite: Geology 331. Introductions to the comparative anatomy, morphology, and biology of the fossil vertebrates. The vertebrates of the Mesozoic and Tertiary, and their history.

487-488 Music Education. 2 Q. T. 6 (3-3). Prerequisite: Music 101. A general introduction to the physiology of music sound, with emphasis on the educational and psychological aspects of music learning.

490 HISTORY OF GEOLOGY. 1 Q. A. 1 (2-0) Prerequisite: 30 cr. in geology and consent of instructor. A history and development of the major branches of the earth sciences.

499 (999) THESIS. Any quarter. Credit variable. Total credits allowed: 15.

GRADUATE SCHOOL. The following advanced degrees are conferred by the University:


Master of Science—Major in Bacteriology, Botany, Chemistry, Geology, Health and Physical Education, Home Economics, Mathematics, Physics, and Zoology.

Master of Science in 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 Technology.

Master of Science in Wildlife Management.

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 of 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 academic qualifications and conditions are satisfactory. Provisional graduate standing is granted to students whose records are under question. If, after review of the student's record from which they graduated, who have scholastic deficiencies at the time of admission, or who have substantial academic deficiencies in foreseen courses in which they are enrolled, and after one or more quarters of satisfactory work, be advanced to full graduate standing upon recommendation of the College, and certification of the Dean or school involved by the Dean of the Graduate School.

The applicant must have completed the minimum requirements for the undergraduate degree and have completed 24 credits and must be eligible for a field acceptable to the staff of the major department and to the Dean of the Graduate School. The undergraduate program must be equivalent to the corresponding Bachelor's degree at Montana State University.

Students who hold a Bachelor's degree and who have completed 24 credits may undertake a graduate study in the School of Education, the Master of Arts in Education, and the Bachelor of Education. They are not conferred upon the same individual.

At the discretion of the department or school, qualifying exams, oral or written, or both, may be administered to aid in determining aptitude. The Graduate Record Examination is recommended or required of all students entering graduate programs in the following areas: Education, Foreign Language, Geography, Geology, Health and Physical Education, Art Education, Physics, Chemistry, Psychology, Philosophy, Political Science, Music, and Zoology. Candidates for the Doctoral degree in these fields must register at several announced times during the year. The student must register for the Graduate Record Examination at least four months prior to graduation. The examination must be taken at least two weeks before the time of the examination, and pay the required fee at the Business Office. 

An undergraduate who needs not more than nine quarter credits to complete the requirements for the Bachelor's degree may enroll for graduate credit. Credit is granted to the student in the College of Arts and Sciences who has earned a total of at least 100 undergraduate credits, but still lacks as many as 15 in his major field may be advanced to graduate standing. Applications for such enrollment must be submitted in writing to and approved by the major advisor and the Dean of the Graduate School prior to registration.

Members of the Faculty of Montana State University above the rank of instructor may be invited to hold degrees from this University. This does not prevent such members from taking advanced courses for transfer to an institution other than Montana State University. The Graduate Program an average of B must be maintained in all courses taken for graduate credit. Courses in which grades below C have been recorded are not accepted for credit. A maximum of 8 credits of C or D work may be repeated.

REGISTRATION. At the time of registration for each quarter of the session, the student will consult with his advisor about his program of study and submit the approved program to the Dean of the Graduate School. The advisor assigns courses for each quarter, and the credit depends upon approval of program by the advisor and by the Dean of the Graduate School each quarter.

STUDY AND CREDITS. A maximum of graduate work per quarter is considered a normal study load. In the summer quarter the normal credit load is 8 credits for a five-week session; 15 credits for a nine-week and 20 credits for an intensive 15-week session. The minimum credit load which may be applied toward a degree in the five-week term is nine credits and the minimum load for the eight-week term is 15 credits.

Students employed as instructors or assistants with specific staff responsibilities carry a reduced load, usually 10 to 12 hours during quarter and 12 to 14 hours during summer. Regular full-time employees of the University may carry a maximum of 5 credits per quarter upon approval of the administration. The Graduate Program an independent tentatively course of courses in which work must be pursued may be undertaken by a student during his graduate training must be planned during the student's first quarter of residence. A copy of the program must be filed in the Departmental office and with the Dean of the Graduate School.

RESIDENCE. The minimum residence requirement is enrollment for at least 30 weeks. To satisfy this requirement a minimum of one 10-week residence per academic year must be presented.

The normal summer quarter in the College of Education is the session in which registration of 5 credits per quarter is required for candidates for the Master's degree and 10 credits per quarter for candidates for the Doctoral degree. Students transferring from State College who have one quarter of graduate study in residence at that institution will be required to fulfill only two-thirds of the minimum residence requirement, which must include one ten-week quarter.

TIME LIMIT FOR DEGREE. All requirements for the degree must be completed within the following time limits: A maximum of 10 quarter credits of graduate work and not to exceed three courses, taken prior to the degree. The courses must have been taken within a period of two years of satisfactory teaching experience before the degree is conferred. At least 10 credits of course work offered must be completed following the two years' teaching experience. All candidates for the Master of Education degree must complete a minimum of 15 quarter credits in Education taken as undergraduate and graduate credit shall not be less than 15 in Education.

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

A. Master of Education With Professional Paper. Candidates for this degree must complete 45 credits of graduate work, including credit in Methods of Educational Research, 15-hour program of Education/MA or Education/MA in Education, and 15 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 either research or teaching interest and should comply in mechanical features with those required for the approved paper. The candidate's paper must be bound and submitted to the Dean of the School of Education.

B. Master of Education Without Professional Paper. Candidates who complete at least 45 credits of graduate work, including a total of 15 graduate credits, including Methods of Educational Research (Education 450 or equivalent) and not less than 15 credits of cognate work, will take examinations covering the field of education—such examination to be arranged by the Dean of the School of Education.

The Graduate Program an extension of study load—15 credits in course 699 may be applied toward the Master's degree. No approval is required for course 699. The student will consult with his advisor regarding his program of study. He will also be examined on his thesis or professional paper. The abstract must be approved by the Dean of the Graduate School prior to registration and at least two faculty members in the major field.

THESIS. No more than 15 credits in course 699 may be applied toward the Master's degree. All candidates for the Master's degree must submit a thesis. The thesis must be approved by the major advisor and the Dean of the Graduate School prior to registration. The subject of the thesis must be approved by the major advisor and the Dean of the Graduate School. The thesis may be oral or written or both, covering his field of study. Each candidate for a degree must pass examinations covering his field of study. The candidate must register for the examination term in the quarter in which the degree is to be conferred, and must complete the examination term in the quarter in which the degree is to be conferred. A maximum of 10 quarter credits of graduate work, and not to exceed three courses, taken prior to the degree. The courses must have been taken within a period of two years of satisfactory teaching experience before the degree is conferred. At least 10 credits of course work offered must be completed following the two years' teaching experience. All candidates for the Master of Education degree must complete at least 10 credits of graduate work in which the total number of credits in Education taken as undergraduate and graduate credit shall not be less than 15. 

SPECIAL REQUIREMENTS

MASTER OF ARTS AND MASTER OF SCIENCE DEGREES. To receive either degree candidates must present evidence of intensive study and investigation in his field of special interest. 

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 completed in courses approved by the candidate and the Dean of the Graduate School. A satisfactory thesis must be submitted as indicated above.

MASTERS OF SCIENCE IN BUSINESS ADMINISTRATION. Candidates for this degree must complete 45 credits of graduate work, including 15 credits of cognate work, and 150 quarter credits of graduate work in Business Administration: Bus. Ad. 201-202-220, 351, and 360. A minimum of 10 quarter credits of graduate work must be completed following two years of satisfactory teaching experience. All candidates for the Master of Science degree must complete a minimum of 15 quarter credits in Business Administration. The total number of credits in Business Administration shall not be less than 15. 

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

A. Master of Education With Professional Paper. Candidates for this degree must complete 45 credits of graduate work, including credit in Methods of Educational Research, 15-hour program of Education/MA or Education/MA in Education, and 15 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 either research or teaching interest and should comply in mechanical features with those required for the approved paper. The candidate's paper must be bound and submitted to the Dean of the School of Education.

B. Master of Education Without Professional Paper. Candidates who complete at least 45 credits of graduate work, including a total of 15 graduate credits, including Methods of Educational Research (Education 450 or equivalent) and not less than 15 credits of cognate work, will take examinations covering the field of education—such examination to be arranged by the Dean of the School of Education.
HEALTH AND PHYSICAL EDUCATION

44—HEALTH AND PHYSICAL EDUCATION

MASTER OF ARTS OR MASTER OF SCIENCE IN TEACHING.

These degrees are designed for those in Arts in Teaching, or Master of Science in Teaching, according to the nature of the work to be done. Biological Science is the only field authorized at this time.

1. A teaching certificate and an undergraduate major or teaching major.
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 Graduate Studies.

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

OPTION I

A. 48 graduate credits with a maximum of 17 outside the Biological Sciences. A minimum of 25 graduate credits in Forestry is required. A professional paper must be prepared under the direction of the major professor.

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

B. Final oral and written comprehensive examinations required.

C. 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.

MASTERS OF FORESTRY. Candidates must offer 45 credits in graduate work in the areas of land management, forest protection, conservation, and related fields. 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.

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 for final examination.

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

MASTERS 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 is required.

A professional paper must be prepared under the direction of the major professor. A professional paper must be approved by the Dean of the School of Music and by the Dean of the Graduate School. Three copies of this title 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 this 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 consisting of music written and arranged by the candidate.

All candidates will take an oral examination covering the major field of work and the content of the professional paper. They must be successful in this examination 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 will be developed.)

THE DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is conferred in recognition of breadth of scholarly accomplishment and demonstrated ability to investigate problems independently and to contribute materially to the formulation of a set curriculum in a certain period of residence. This program is designed for students who, before entering the graduate program, have completed at least four years of college work. Students enrolled in this program are expected to participate in scholarly activities in addition to those which will provide both breadth of viewpoint and technical competence.

ADMISSION. The student must receive full admission to the Graduate School. In no case will this degree be granted to an accredited institution and must present evidence of successful teaching or administrative experience. Reference will be requested.

RESIDENCE REQUIREMENTS. A minimum of nine quarter credits of graduate work must be completed in residence during each academic year. Forty-five quarter credits beyond the Master's level, exclusive of the doctoral dissertation, must be taken in residence in the Montana State University. Thirty of these forty-five credits must be taken in continuous residence. For the purpose of the doctoral 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 credits of approved course work. The dissertation must include the following courses: Methods of Educational Research, Data Analysis, Measurement, Philosophy of Education and, if not taken previously, at least one course in each of the following areas: Administration, Measurement, Guidance, Higher Education, History of Education, and Education Research. A minimum of 45 quarter credits of graduate work in cognate areas is required. The dissertation of this work will be determined by the advisor.

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 thesis work upon completion of the degree must have been completed within eight years preceding the granting of the degree.

ADVISORY COMMITTEE. After the applicant has completed at Montana State University a first quarter of graduate work beyond the Master's degree, he may offer a committee of five members to be appointed by the Dean of the Graduate School. Each member of the committee must be a member of the Graduate School of Education and must have been appointed by the Dean of the School of Education. Between the time of appointment of the advisory committee, and the date of the final oral examination, the student will be guided by the advisory committee. The student will be advanced to candidacy for the degree when the dissertation is completed.

COMPREHENSIVE EXAMINATION. After 100 credits of approved graduate courses have been completed, the student will take a comprehensive examination covering the major field of study and the content of the professional paper. This examination may be oral or written. The student will be required to pass this examination before the degree will be granted.

ADVANCEMENT TO CANDIDACY. At least two weeks before the comprehensive examination, the candidate must submit an application for candidacy for the doctor's degree. Application forms must be approved by the Dean of the Graduate School. The candidate must pass the comprehensive examination, the recommendation of the advisory committee, and the Graduate Dean. The student will be advanced to candidacy for the degree when the dissertation is completed.

DISSERTATION. The candidate must submit a dissertation which includes the following requirements: The dissertation will be attributed to the advisor rather than to the candidate, and the dissertation will be attributed to the advisor. The dissertation may be a mature evaluation of existing knowledge or a contribution to knowledge. In either case it must show mastery of related literature and be written in a creditable literary form. Twenty to thirty credits may be allowed for the dissertation. The dissertation will be submitted to the Department of Graduate Education at least three months 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 time of the filing.

FINAL EXAMINATION. A final oral examination dealing primarily with the candidate's dissertation will be held. The candidate may request that the dissertation committee be invited to all members of the dissertation committee. The dissertation committee will be selected from the dissertation committee and from the dissertation committee. The dissertation committee will be selected from the dissertation committee and from the dissertation committee. The dissertation committee will be selected from the dissertation committee and from the dissertation committee. The dissertation committee will be selected from the dissertation committee and the dissertation committee.

THE DOCTOR OF ED. DEGREE (M. S. degree required) (45 credits)

HEALTH AND PHYSICAL EDUCATION deals primarily with recreation and muscular activity to provide individuals with wholesome psychomotor and occupational development. The program at the Universities will be designed to provide (1) instruction in a wide variety of recreational skills for the freshman and sophomore men and women in order to develop the student's ability to compete with one another in such skills as archery, badminton, basketball, bowling, golf, hiking, swimming, tennis, touch football, softball, and volleyball, and (2) preparation for teaching.

Four years are required for a bachelor's degree for those who wish to specialize in Health and Physical Education. The candidate must fulfill all requirements (see Graduate Studies). Undergraduate courses provide the student with the knowledge and theory for the student. Activity courses offer instruction in fundamentals of teaching activities involving team games and individual and dual sports, tumbling and apparatus stunts, swimming, and forms of dance. Theory 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 various handicaps. Such work is designed to meet the needs of approved schools training physical therapy specialists. The health education phase of the program deals with personal as well as school and community health problems and stresses the value of preventive health and 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, from beginner through instructor ratings, are offered in conjunction with swimming and first aid courses.

Many graduates enter the teaching profession. Some specialize in coaching, and some work as leaders in Y.W.C.A., Y.M.C.A., and similar organizations. In recent years, many graduates have been satisfied, and Bachelor of Arts, which requires no courses in foreign languages. Some people specialize in coaching, and some work as leaders in Y.W.C.A., and similar organizations. In recent years, many graduates have been satisfied, and Bachelor of Science, which requires no courses in foreign language. Students electing the Bachelor of Science degree are identical in all other aspects.


208 (S58) ADVANCED COACHING TÉCHNIQUES OF TEAM SPORTS. 1 Q. S. Only. 1. Prerequisite: H&PE 236. Advanced coaching techniques of team sports, with problem in coaching in practice, theory, and administration. (Special coaching school.)

209 (32) FIRST AID. 1 Q. W. Su., odd numbered years. 2. Prerequisite: major or minor in Physical Education or consent of instructor. History and principles of Physical Education, professional opportunities, relationship with other fields and with education in general. Orientation for prospective majors and minors in Physical Education.

210-102-103 (11ab) FRESHMAN AND SOPHOMORE PHYSICAL EDUCATION. 6 Q. A. W. S. Su., 1, 1. Instruction in beginning skills in basketball, intermediate and advanced techniques for Team Sports, Individual and Dual Sports, Competitive Swimming, Dance, and Adapted Activities. The final grade of this work will be withheld until the University swimming test has been passed. A student may not repeat a class in beginning skills of any sport in which he has received a passing grade. 6 credits in these courses may be applied to meet the graduation requirement, and only 1 credit per quarter may be used toward the graduation requirement.


212 (119) MENTORSHIP IN PHYSICAL EDUCATION. 1 Q. A. 1. Prerequisites: H&PE 210, 211. Mentorship in physical education; theory and practice in selecting and teaching activities for children in grades one through six, with special attention given to problems of the graduate teacher. Credit not allowed for this and the identical course in Sociology.


214 (150) ORGANIZATION AND ADMINISTRATION. 1 Q. W. Su., odd numbered years. 4. Prerequisite: H&PE 158. Principles and methods of administration of youth organizations and high school and college physical education programs. Management of the physical plant.

FOR UNDERGRADUATES AND GRADUATES

215 (132) INSTRUCTOR'S FIRST AID. 1 Q. S. Su., odd numbered years. 4. Prerequisite: H&PE 238. First Aid. Techniques and practice in teaching first aid. Red Cross Instructor's Certificate awarded upon successful completion of required course. Ordinance 117 and 120. Required of all teaching majors and minors in Health and Physical Education. Credits not allowed for this and the identical course in Sociology.

216 (37) THE ELEMENTARY SCHOOL PHYSICAL EDUCATION PROGRAM. 1 Q. S. Su., even numbered years. 4. Prerequisite: H&PE 238. Theory and practice in selecting and teaching physical activity programs for elementary school boys and girls. Credit not allowed for this and the identical course in Sociology.

217 (351) CURRICULUM CONSTRUCTION. 1 Q. W. 4. Prerequisite: H&PE 237. Theories and principles of curriculum planning and development. Survey of recreation resources and activities, forces, interests, and resources involved in planning, and curriculum construction. Credit not allowed for this and the identical course in Sociology.

218 (151) SURVEY OF PROFESSIONAL LITERATURE. 1 Q. Su. 2. Prerequisite: equivalent of a course in physical education. Survey of recent research, current development in program content and in tests and measurements; new and useful books and periodicals.


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, rather than exhaustive study 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, this division is designed 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 upon 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 government. It not only prepares teachers, lawyers, journalists, and businessmen with bases for the pursuit of such 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 and the advanced work of 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 at least 20 credits in History numbered 201 or higher. History majors must 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 numbered 201 or higher. History electives must be selected from courses numbered over 300 including either History 491, Political Science 493, or both.

Either the completion of five quarters of a foreign language or the demonstration of a satisfactory reading knowledge of historical, legal, political or social sciences in a foreign language is required. With the consent of the Chairman of the Department the student may substitute a 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 in Economics 206, 301-305, 331, 332 and in Journalism 206 in partial fulfillment of the major requirements 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 academic fields, the student must meet the general University requirements, the major requirements in History 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 suggests that the student offer a more rigid program than is ordinarily required Information from the field is as follows: Latin as many as 40 credits, French or German as many as 40 credits with a minimum of 10 credits per year. Five positive requirements for graduation as possible during his freshman year and each year thereafter.

In addition to the major requirements in History above, elective may be chosen from Economics 304, 305 and History numbered 201, 231, 232, 331, 332, 333, 335, 347, 348, 360, 380, and History 370 and 371, depending on the student's preparation and major program.

SPECIAL REQUIREMENTS FOR UNDERGRADUATES

101-102-103 (12ab) THE DEVELOPMENT OF WESTERN CIVILIZATION. 3 Q. A. W. 5, 5, 5. Open to all students. Students may enter History 101 and 102 for the Medieval period. Greek and Roman civilization, barbarian invasions, the Early Medieval Age to 1030, Age of Absolutism; Period of Enlightenment; French Revolution and Napoleon; Industrial Revolution; Congress of Vienna and Age of Restoration; Socialism, imperialism, First and Second World Wars, The Cold War.

207-208 (3ab) MEDIEVAL EUROPE. 2 Q. A. W. 3, 3. Students may enter either quarter. (207) the political, economic and religious development of Europe from the third to the eleventh century; (208) Continuation of 207 to the fourteenth century. Some attention will be given to cultural and intellectual developments.

301-302 (19ab) RENAISSANCE AND REFORMATION. 1 Q. A. W. 3, 3. The political, economic and social development of Europe from 1500 to 1600.

303-304 (22ab) THE AGE OF ABSOLUTISM. 3 Q. A. W. 3, 3. The political, economic and social development of Europe from 1600 until the outbreak of the French Revolution.

201-202 (30ab) THE AGE OF REASON. 2 Q. A. W. 3, 3. Students may enter either quarter. (201) the political, economic and social development of Europe from 1600 until the outbreak of the French Revolution. (202) The development of the nation state and the National Development of the Nation State in the 18th century. (203) The internal political, economic and social development of Europe from 1600 until the outbreak of the French Revolution.

209-210 (30ab) ENGLISH HISTORY. 2 Q. A. W. 3, 3. Students may enter either quarter. (209) the political, economic and social development of England from the Middle Ages to 1660. (210) Continuation after 1660.

211-212 (14ab) ENGLISH HISTORY. 3 Q. A. W. 3, 3. Students may enter either quarter. (211) the political, economic and social development of Great Britain until 1485; (212) Continuance after 1485.

213-214 (14ab) THE DEVELOPMENT OF WESTERN CIVILIZATION. 3 Q. A. W. 3, 3. Students may enter either quarter. (213) the political, economic and social development of the United States from 1776 to 1860. (214) Continuance after 1860.

215-216 (14ab) THE DEVELOPMENT OF WESTERN CIVILIZATION. 3 Q. A. W. 3, 3. Students may enter either quarter. (215) the political, economic and social development of the United States from 1776 to 1860. (216) Continuance after 1860.

217-218 (14ab) THE DEVELOPMENT OF WESTERN CIVILIZATION. 3 Q. A. W. 3, 3. Students may enter either quarter. (217) the political, economic and social development of the United States from 1776 to 1860. (218) Continuance after 1860.
The page contains a text on the history of the United States, focusing on its development from the early 20th century to the present. It discusses the growth and development of the states of Central Europe and the Balkans from the early modern times to the First World War. The text highlights the internal development and international rivalry prior to the First World War and its aftermath.

The page also mentions the student entry to any quarter, prerequisites, and credit allowed. It includes a section on colonial administration, the growth of the states of Central Europe and the Balkans from the early modern times to the First World War.

The text is part of a broader curriculum that includes courses on colonial and economic development, international diplomacy, and the political, social, and cultural development of the United States. It also references courses on American history, political science, and economics.

In summary, the page provides an overview of the United States' history from its early development to the present, covering various aspects of its growth and international relations.

9. FOOD SERVICE MANAGEMENT: Home Economics 342, 343, 432, 433, 434, 455, 456; Business Administration 201—202, 246, 300, 303 (or Journalism 121-122, 123, 245, 260, 345-346-347; Bacteriology 300).

10. AMERICAN DIETETIC ASSOCIATION: These courses are variable and the student should consult his advisor.

CURRICULUM IN ECONOMICS

WOMEN

Freshman Year

English 101-105 Freshman Composition and Soc. 101 5 5 5
Chem. 101-102-103 General Chemistry 5 5 5

Sophomore Year

English 110—Intro to Biology 5
Chem. 101-102-103 General Chemistry 5 5 5
Art 125—Color and Design 5

Junior Year

Chem. 101-102-103—Intro. to Biol. Sci. 5

Senior Year

H. E. 346—Nutrition (Credit not allowed for this and H. E. 266) 4
H. E. 151—Clothing Selection 3
H. E. 155—Textile Selection 3
H. E. 241—Intro. to Home Education 3

The above curriculums in addition to giving a student a B. S. degree in food service management qualifies the student for American

Dietetic Association Internship. For a B. A. degree sciences listed above, except those required to satisfy group requirements, may be omitted and languages and electives substituted.

FOR UNDERGRADUATES

102 (17a) INTRODUCTION TO PERSONAL AND FAMILY LIVING.

H. E. 241, 242, 243, 244, 245, 246, 247, 248.

FOR UNDERGRADUATES

102 (17a) INTRODUCTION TO PERSONAL AND FAMILY LIVING.

H. E. 241, 242, 243, 244, 245, 246, 247, 248.

FOR UNDERGRADUATES

102 (17a) INTRODUCTION TO PERSONAL AND FAMILY LIVING.

H. E. 241, 242, 243, 244, 245, 246, 247, 248.

FOR UNDERGRADUATES

102 (17a) INTRODUCTION TO PERSONAL AND FAMILY LIVING.

H. E. 241, 242, 243, 244, 245, 246, 247, 248.
plied to designing family clothing. Adaptation of commercial patterns to original designs tested the ability of simple drawings. Socio-economic forces involved in worldwide textile and clothing industries. Given even numbered years.

236 DRAFTING. Prerequisite: Home Economics 390, Art 231-232-233. The relationship of design and construction. First, the translation of original, 45th to fit the individual by means of draping and custom finishes. Given even numbered years.

360-367-368 (124ab) HUMAN DEVELOPMENT. Prerequisite: Psychology 110, Sociology 101. Students may enter any quarter: (360) The infant and young child at home and pre-school. (367) The juvenile and pre-adult in home, school and neighborhood. (368) The adolescent and young adult at home, school, and community. Given even numbered years.

400 (123) NUTRITION IN DISEASE. Prerequisite: Home Economics 346. The symptoms of diseases, prophylaxis and feeding in disease. Given even numbered years.

407 (125) CHILD NUTRITION. Prerequisite: Home Economics 346. The science of human nutrition as it applies to children. Given even numbered years.

421 (183) ADVANCED PROBLEMS IN TEACHING HOME ECONOMICS. Prerequisite: Home Economics 311; Education 405. Problems and procedures dealing with satisfactory homemaking education in the upper grades and in high school.

423 (134) ADVANCED TEXTILES. Prerequisite: Home Economics 311. 1 Credit selected and graded. Problems of meat purchasing in the institution.

433 (153) INSTITUTION ORGANIZATION AND MANAGEMENT. Prerequisite: Home Economics 253 or consent of instructor. Organization and administration of food service units, employment procedures, personnel schedules, records, food cost, and maintenance.

434 (148) FOOD COST CONTROL. Prerequisite: Business Administration 202 and Economics 203. Calculation of food costs in institutions. Precosting menus. Inventory and food control procedures.

435 (137) PRINCIPLES OF MEAT PURCHASING. Prerequisite: Home Economics 422. Selection and grading. Problems of meat purchasing in the institution.

501 SEMINAR IN HOME ECONOMICS. Any quarter 1-5. Prerequisite: Consent of instructor. Selected problems in home economics. Total credit allowed: 5.

699 (399) THESIS. Any quarter. Credit variable. Total credit allowed: 15. (Students taking a Master of Arts degree in Home Economics in addition to satisfying University requirements for the degree will be allowed 15 quarter credits toward a Master's degree, subject to the approval of the faculty in the major recognized journal in the field of home economics.)

**JOURNALISM** is a broad study of the various media of communication, with emphasis on the effects of newspapers, magazines, radio, television, advertising, and similar media on the behavior of the audience. It includes the study of the history, privileges, obligations and responsibilities of the media; methods by which events and ideas are transmitted, and their effects on readers and listeners. It includes instruction in the techniques for professional careers in newspaper work, radio and television, magazines and books, advertising and photography, public relations and promotion, free-lance writing and related fields. Approximately one-fourth of the academic work for a bachelor of arts degree in Journalism will be taken in the School of Journalism. The other three-fourths of the total credits required for graduation will be chosen from a list of courses in liberal arts, with emphasis on history, government, economics, philosophy, literature, foreign languages, psychology, and sociology.

Four years are required for the degree of bachelor of arts in Journalism. The degree of Master of Arts in Journalism is also offered (see Graduate Studies). Undergraduates specialize in a field which may be news-editorial, radio-television, community newspapers, advertising, or magazine. They receive training in reporting, copy editing, advertising, and the history and law of journalism. Depending on their further specialization, they may also take courses in photography, typography, radio-television, magazine and feature writing, and all aspects of journalism, and the international press. Instruction in many courses stresses ethics, legal and social responsibilities, and the opportunities for commercial success and public service.

Graduates obtain positions on newspapers in Montana and in other states, including many metropolitan centers. Some are free-lance 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.

**SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN JOURNALISM.** In addition to the general requirements the candidate for the degree of Bachelor of Arts in Journalism must complete the requirements specified for the degree. In addition, the student must complete a minimum of 45 hours in Journalism courses. The core curriculum in Journalism, required of all majors, shall consist of Journalism 100, 270, 311, 327, 331, 332, 333, 334. The foreign language requirement listed earlier in the guidebook must be satisfied.

**CURRICULUM IN JOURNALISM**

**Freshman Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorn 100—Introduction to Journalism</td>
<td>3</td>
</tr>
<tr>
<td>Eng 101-102-103—Freshman Composition</td>
<td>3</td>
</tr>
<tr>
<td>ROTS 101-102-103—Military Science or Air Sci. (Men)</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 101-102-103—Health and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>Additional courses to meet University requirements</td>
<td>12-14</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorn 270—Reporting</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 290—History and Principles of Journalism</td>
<td>3</td>
</tr>
<tr>
<td>ROTC 201-202-203—Military Science or Air Sci. (Men)</td>
<td>3</td>
</tr>
<tr>
<td>H&amp;PE 201-202-203—Health and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>Additional courses to meet University requirements</td>
<td>12-14</td>
</tr>
</tbody>
</table>

**Junior and Senior Years**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorn 300—Principles of Advertising</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 361—Advancing Sales</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 371—Advanced Reporting</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 390—News Editing</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 381—Advanced Newswriting</td>
<td>3</td>
</tr>
<tr>
<td>Jorn 491-492-493—Senior Seminar</td>
<td>9</td>
</tr>
<tr>
<td>Journalism electives (including sequence requirements)</td>
<td>15-33</td>
</tr>
<tr>
<td>Additional electives</td>
<td>57</td>
</tr>
<tr>
<td>Total recommended hours in Journalism</td>
<td>90-110</td>
</tr>
<tr>
<td>Total recommended hours in General Education</td>
<td>133</td>
</tr>
</tbody>
</table>

**JOURNALISM CURRICULUM**

**NEWS-EDITORIAL SEQUENCE:** An additional 9 hours required to be chosen from Journalism 327, 331, 332, 333.

**ADVERTISING SEQUENCE:** An additional 9 hours required to be chosen from Journalism 348, 364, 365.

**MAGAZINE SEQUENCE:** An additional 9 hours required to be chosen from Journalism 331, 332, 333, 334.

**RADIO-TELEVISION SEQUENCE:** An additional 9 hours required to be chosen from Journalism 327, 331, 332.

**COMMUNITY JOURNALISM:** An additional 9 hours required to be chosen from Journalism 327, 331, 332, 333, 334.

**FOR UNDERGRADUATES**

**100 INTRODUCTION TO JOURNALISM.** Prerequisite: consent of instructor. Open to non-majors. History, organization, techniques and responsibilities of the media of mass communication, with emphasis on the newspaper.

**127 (37) ELEMENTARY PHOTOGRAPHY.** Prerequisite: consent of instructor. Open to non-majors. An introductory course in photography, equipment, materials, and facilities with practice in taking of pictures and in the darkroom development of film and prints.

**129 (38) TYPGRAPHY.** Prerequisite: consent of instructor. Open to non-majors. History of typographical design and application. Elementary work in printing and in the handling of type.

**140 INTRODUCTION TO RADIO AND TELEVISION.** Prerequisite: consent of instructor. History of radio and television, with attention to the social and legal responsibilities, and basic electronic theory of radio and television as media of mass communication.

**156 (36) GROFFER.** Prerequisite: American Literature 1, 2. Consent of instructor. Open to non-majors. Groundwork in gathering, writing and evaluating news.

**200 (49) HISTORY AND PRINCIPLES OF JOURNALISM.** Prerequisite: consent of instructor. Open to non-majors. American Journalism from colonial times to present with emphasis on the struggle for freedom of expression, its meaning, and its champions.

**227 (142) NEWS PHOTOGRAPHY.** Prerequisite: consent of instructor. Open to non-majors. History of news photography, with emphasis on possibility, significance, interest, and impact. Practice with news cameras.
50—LAW

332 (132) MAGAZINE MAKEUP AND EDITING. 1 Q. A. 3. Prerequisite: junior standing and consent of instructor. Open to non-majors. Theory and practice of magazine design and production. Practice includes the use of type and illustrations, and adapting features to content.

333 (133) MAGAZINE ARTICLE WRITING. 1 Q. W. Su. 3. Prerequisite: consent of instructor. Open to non-majors. Techniques of writing and selling magazine articles, techniques of analyzing and selling to magazine markets.

334 (134) TRADE AND TECHNICAL JOURNALISM. 1 Q. A. 3. Prerequisite: consent of instructor. Open to non-majors. The technical writing and production facilities of magazines, newspapers, and business periodicals. Practice includes the use of type and illustrations, and adapting features to content.

335 (135) PROMOTION AND PUBLIC RELATIONS. 1 Q. A. W. Su. 3. Prerequisite: consent of instructor. Open to non-majors. The techniques and marketing of advertising and public relations. Techniques of analyzing and selling to magazine markets.

340 RADIO-TELEVISION CONTINUITY. 1 Q. S. 3. Prerequisite: English 201 and Journalism 140. The techniques of writing for radio, television, and news media. Preparation and delivery of newscasts for broadcast.


346 (146) RADIO-TELEVISION PUBLIC AFFAIRS. 1 Q. W. 3. Prerequisite: Journalism 309 or consent of instructor. Media of information in other countries, with emphasis on newspapers.

350-351 (123ab) COMMUNITY JOURNALISM. 2 Q. A. W. 2. Prerequisite: Journalism 140. The economics and techniques of radio and television advertising, with emphasis on copywriting, programming, and audience impact, the planning of advertising campaigns for broadcast, the role of the local station and national advertising principles of station management and sales.

359-360 (129ab) COMMUNITY JOURNALISM. 2 Q. A. W. 2. Prerequisite: Journalism 140. The economics and techniques of radio and television advertising, with emphasis on copywriting, programming, and audience impact, the planning of advertising campaigns for broadcast, the role of the local station and national advertising principles of station management and sales.

361 (41) ADVERTISING SALES. 1 Q. W. S. 3. Prerequisite: Journalism 309 or concurrent registration. Preparation, promotion, and sales of advertising. Lecture and newspaper staff work.

362 (140b) ADVERTISING MEDIA. 1 Q. W. 3. Prerequisite: consent of instructor. Open to non-majors. Evaluation of advertising media, including the rate structure, the technique, and the ability to reach the producer, the distributor, the consumer.

363 (42) ADVERTISING SALES. 1 Q. W. S. 3. Prerequisite: Journalism 309 or consent of instructor. Open to non-majors. Application of typographical and advertising principles to preparation of layouts and copy.

394 (244) RETAIL STORE ADVERTISING. 1 Q. S. 3. Prerequisite: Journalism 350 or consent of instructor. Open to non-majors. Integration of retail store marketing among advertising media. Technical aspects of advertising schedules for retail stores.

395 (32) ADVANCED REPORTING. 1 Q. A. W. S. 2. Prerequisite: Journalism 270. News coverage, reporting and publishing problems.

396 (30) NEWS EDITING. 1 Q. A. W. S. 3. Prerequisite: Journalism 270. Instruction and practice in revision of copy, headline writing, and references and examples of local and wire news editing.

397 (31) ADVANCED NEWS EDITING. 1 Q. A. W. S. 2. Prerequisite: Journalism 270. Editing and makeup problems.

FOR UNDERGRADUATES AND GRADUATES

316 (126) SCHOOL PUBLICATIONS. 1 Q. S. Su. 3. Prerequisite: consent of instructor. Open to non-majors. For students who plan to teach journalism courses in high schools or as editors and writers to school publications.

317 (126) SCHOOL PUBLICATION RELATIONS. 1 Q. Su. only. 3. Prerequisite: B.A. degree, teaching experience, or consent of instructor. The principles of developing better understanding among the school, the press, and the community. For school administrators and teachers.

399 (129) PUBLIC OPINION. 1 Q. A. W. S. 3. Open to non-majors. Theories of public opinion. Social history and forces influencing public opinion, and methods used in its measurement.

401 (130) LAW OF JOURNALISM. 1 Q. S. 3. Legal guarantees and limitations of the right of the press and public to comment on it.

402 (131) ADVANCED JOURNALISM PROBLEMS. 1-3 Q. A. W. S. Credit variable. Prerequisite: consent of the dean. Training in research in advanced journalism problems.

404 (134) PRACTICUM: Journalism 127 or equivalent, and 12 hours in radio-television courses. Making of motion pictures for educational purposes. Preparation for professional work in the field of film for television and radio.

405 (135) PRACTICUM: Radio-television production and direction. 1 Q. W. Su. 3. Prerequisite: 127 or equivalent, and 12 hours in radio-television courses. Advanced course in producing and directing radio and television programs. (441) emphasizes radio, (442) and (443) emphasizes television.

470 (191) REPORTING PUBLIC AFFAIRS. 1 Q. W. 3. Laboratory work in coverage of political and governmental news at the city, county, state, and federal levels. Broadcasts.

471 (192) SPECIALIZED REPORTING. 1 Q. S. 3. Courses especially suited for students wishing to specialize in a particular field of reporting such as politics, labor, finance, and science.

491-492 (109abc) SENIOR SEMINAR. 2 Q. A. W. S. 2-2. Prerequisite: senior standing in journalism. Investigative methods and techniques of writing about American life and how they may constitute the background for many news stories, and practice in research methods.

494 RADIO-TELEVISION SEMINAR. 1 Q. S. 3. Prerequisite: or corequisite: 441. Radio and television and their effect on society with special emphasis on the role of the media in the broadcasting industry.

495 (125) EDITORIAL WRITING. 1 Q. S. Prerequisite: the editorial pages of leading newspapers; practice in research and the writing of editorials.

496 MASS MEDIA IN MODERN SOCIETY. 1 Q. W. 3. Prerequisite: consent of instructor. Inter-relationships between mass media and modern society.

497 INTERNATIONAL COMMUNICATIONS. 1 Q. S. Prerequisite: consent of instructor. Media of information in other countries, with emphasis on newspapers.

FOR GRADUATES

508 THEORIES OF COMMUNICATION. 1 Q. A. 3. Prerequisite: consent of the dean. Structure, processes and effects of communications.

509 METHODS OF JOURNALISM RESEARCH. 1 Q. A. W. S. 3. Prerequisite: consent of the dean. Problems and techniques in study and research in journalism.

601 (201) RESEARCH IN JOURNALISM. 1-3 Q. A. W. S. Su. Credit variable. Prerequisite: consent of the dean.

THESIS. Any quarter. Credit variable. Total credit allowed: 15.

LAW is the study of the official rules and regulations under which people live in organized American society, and of the methods by which such rules are devised and applied; of the part that lawyers, judges, and public officials play in the application of such rules; and of the specialized techniques, practices, and procedures involved.

Law studies primarily involve preparation and class recitations and lectures on the basis of illustrative court opinions collected in course “casebooks.” Special attention is also given to practice court work, in which the students are required to prepare and try cases as well as argue appeals. There is also training in the use of law books and in legal writing. The curriculum is designed to afford preparation for practice anywhere in the United States, but attention is also given to the law of Montana.

The Supreme Court of Montana admits graduates to practice without examination. Most graduates become practicing attorneys. Others enter government service, business, or finance with or without additional studies in these latter fields. Some take advanced or more specialized studies (such as taxation), and other graduates with the requisite scholarship standing are readily accepted by other law schools specializing in more advanced legal education. They are also to be found in the ranks of leading practitioners in many large cities of the United States.

CALENDAR

FALL SEMESTER, 1958
Sept. 22-24, Monday through Wednesday ------------REGISTRATION
Sept. 24, Wednesday ——————Registration of upperclass law students (excluding transfer students from other schools)
Sept. 25, Thursday ——————Registration of lowerclass law students
Nov. 27, Thursday ——————Thanksgiving Day (no classes)
Dec. 20, Monday ——————Christmas vacation begins after last class
Jan. 5, 1959 ——————Registration classes resume at 8:00 a.m.
Jan. 31, Wednesday through Friday ——————Spring Registration
March 20-31, Monday through Saturday ——————Semester examinations

SPRING SEMESTER 1959
February 2, Monday ——————Registration for Spring Semester
February 3, Tuesday ——————Transfer registration
February 3, Tuesday ——————Classes begin at 8:30 a.m.
March 21, Saturday ——————Spring Vacation begins after last class
March 30, Monday ——————Classes resume at 8:00 a.m.
April 10-17, Wednesday through Friday ——————Pre-registration for pilot classes in the Fall Semester
May 26-June 3, Thursday through Wednesday ——————Summer examinations
June 8, Monday ——————Commencement

GENERAL STATEMENT: The Law School is accredited by the American Bar Association, an agency of the American Bar Association. Organization of instruction is upon the semester basis; the year being divided into two semesters of approximately eighteen weeks each. For detailed information concerning facilities, description of courses, and miscellaneous administrative regulations the applicant should consult the Law School Bulletin.

REQUIREMENTS FOR ADMISSION: The Law Faculty passes on all applications for admission to the Law School. Effective September 1, 1955, each applicant for the Law School must establish...
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 605, Princeton, New Jersey.

The Law School Admission Test must be submitted at least two weeks prior to the contemplated time of entrance. In addition to the Law School Admission Test, any prospective student may obtain and submit to the Law School any other information that the applicant believes may aid the University in deciding whether to permit the student to enter the Law School in the year he applies. The University reserves the right to conduct such examinations as it sees fit to determine the fitness of the applicant as a prospective member of the legal profession, and whether it is likely that, if enrolled as a student, he will be admitted to the Law School.

The provisions of subsections (2) and (3) with the exception that he has completed in a college or university, three-fourths of the work required for an undergraduate degree with an average, in all work for which he has registered and received a grade, equivalent to that required for graduation from the institution attended, on condition, nevertheless, that he has completed a definite program of study prior to receiving a Law degree. Non-theory courses are not acceptable under the provisions of subsections (2) and (3) with the exception that required courses in military education are acceptable to the extent of ten percent of the total credit offered for them. When fulfilling requirements, no applicant will be admitted who has demonstrated a lack of capacity for self expression as evidenced, for example, by failing to achieve satisfactory grades in English composition in 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 Laws must have completed a secure prior approval of their contemplated course of study from the Dean of the School of Law and have obtained from applicant for the Law School complete Latin 101-102-103 and Accounting 201, 202.

**Courses**

<table>
<thead>
<tr>
<th>First Year</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Procedure I, II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Equity</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Law I, II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Property I, II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Property I, II</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Administrative Law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agency and Business Organizations I, II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Civil Procedure III</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Commercial Transactions I, II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Constitutional Law</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Evidence</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Legal Writing I, II</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Trusts and Future Interests</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Conflicts</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Court Room and Office Practice I, II</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Creditors' Rights</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Criminal Procedure</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Federal Taxation, I, II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Labor Law</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Legal Ethics</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Legal Writing III</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Restitution</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Trade Regulations</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Water Law</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

| Labor Law | 1 Sem. S. 2. | McFarland and Van- |
| | 2 | 2 |
| CIVIL PROCEDURE I & II. 2 Sem. A. S. 21. | 2 | 2 |
| COMMERCIAL TRANSACTIONS I & II. 2 Sem. A. S. 32. | 2 | 2 |
| LEGAL ETHICS. 1 Sem. S. 1. | 1 |
| LEGAL WRITING I, II & III. 3 Sem. A. | 1 |
| RESTITUTION I. 1 Sem. A. | 2 |
| SECURED TRANSACTIONS. 1 Sem. A. | 3 |
| SECURITY INTERESTS, Second Edition, 1951; and Smith | 3 |
| SECRECY. 1 Sem. S. 4. | 4 |
| WATER LAW. 1 Sem. S. 2. | 2 |
| WILLS. 1 Sem. A. 2. | 2 |

| PART A: A FOREIGNER. 1 Sem. S. 8. | 1 |
| PART B: A FOREIGNER. 1 Sem. S. 8. | 1 |

| COMMERICAL TRANSACTIONS I & II. 2 Sem. A. S. 32. | 2 | 2 |
| COMMERCIAL TRANSACTIONS I & II. 2 Sem. A. S. 32. | 2 | 2 |
| LEGAL ETHICS. 1 Sem. S. 1. | 1 |
| LEGAL WRITING I, II & III. 3 Sem. A. | 1 |
| RESTITUTION I. 1 Sem. A. | 2 |
| SECURED TRANSACTIONS. 1 Sem. A. | 3 |
| SECURITY INTERESTS, Second Edition, 1951; and Smith | 3 |
| SECRECY. 1 Sem. S. 4. | 4 |
| WATER LAW. 1 Sem. S. 2. | 2 |
| WILLS. 1 Sem. A. 2. | 2 |

| PART A: A FOREIGNER. 1 Sem. S. 8. | 1 |
| PART B: A FOREIGNER. 1 Sem. S. 8. | 1 |

**Requirements for Graduation:** Candidates for the degree of Bachelor of Laws (B.L.L.) must: (1) be graduates of an approved college or university; (2) complete six semesters in residence at an approved college or university, including Montana State University; (3) complete ninety semester hours of law work with an index of 2.0 in Law and Business Administration, with a grade of 3.0 or better in any course he has registered and received a grade in. 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. (4) 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 any law course 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 automatically dropped from the Law School. (5) In order to graduate from the Law School, a student must have received a grade of D or F, and non-required courses in which he has registered and received a grade in, and the student must be in good standing and eligible to continue in the law school. The student must have an index of 2.0 in the law work previously taken and is exceptionally qualified to pursue the study of law.

**Basis of Exclusion:** (1) Failures: 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 any law course 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 any 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 automatically dropped from the Law School. (3) In order to graduate from the Law School, a student must have received a grade of D or F, and non-required courses in which he has registered and received a grade in, and the student must be in good standing and eligible to continue in the law school. The student must have an index of 2.0 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 Laws (B.L.L.) must: (1) be graduates of an approved college or university; (2) complete six semesters in residence at an approved college or university, including Montana State University; (3) complete ninety semester hours of law work with an index of 2.0 in Law and Business Administration, with a grade of 3.0 or better in any course he has registered and received a grade in. 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. (4) 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 any law course 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 automatically dropped from the Law School. (5) In order to graduate from the Law School, a student must have received a grade of D or F, and non-required courses in which he has registered and received a grade in, and the student must be in good standing and eligible to continue in the law school. The student must have an index of 2.0 in the law work previously taken and is exceptionally qualified to pursue the study of law.
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:

University Requirements

English Composition (101-102-103 recommended) 9-10
Group I (Lab sciences and mathematics recommended) 15
Physical Education 6
Military Science (men) 10 30-41

Major Requirements (Courses under 300)
1. Art 231-232-233 9
2. Foreign Language (3 quarters) 23
3. Economics, Psychology, Sociology, Anthropology 20
4. History and Political Science, (History 101-102-103 recommended) 20
5. Humanities (General 151-152-153) 15
7. Philosophy 15 122

Major Requirements (Courses 300 and above)
In two of the following three fields the student elects upper division courses equal to the number of credits indicated for those fields:
8. Economics, Psychology, Sociology, Anthropology 15
9. History and Political Science 12
10. Literature or Philosophy 12 24

Free Electives 10-0 187

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 library 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.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 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 100—Introduction to Psychology</td>
<td>5</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>

Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 124—Introduction to Concert Music</td>
<td></td>
</tr>
<tr>
<td>French or German 213, 215—Intermediate and Advanced</td>
<td>8</td>
</tr>
<tr>
<td>Sociology 252—United States History</td>
<td></td>
</tr>
<tr>
<td>English 211, 212, 213—Intro. to Major British Writers</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201-202-203—Principles of Economics</td>
<td>9</td>
</tr>
<tr>
<td>Health &amp; P. E. 201, 202, 203</td>
<td>3</td>
</tr>
<tr>
<td>ROTC 201, 202, 203</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>49 or 54</td>
</tr>
</tbody>
</table>

Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 232, 233—Intro. to Major American Writers</td>
<td>6</td>
</tr>
<tr>
<td>Political Science 101—Intro. to Government</td>
<td></td>
</tr>
<tr>
<td>Sociology 351—Social Science History</td>
<td></td>
</tr>
<tr>
<td>Education 341—Public Library Administration</td>
<td>4</td>
</tr>
<tr>
<td>Education 345—Bibliography and Book Selection</td>
<td>4</td>
</tr>
<tr>
<td>Education 348—Book Catalogues</td>
<td></td>
</tr>
<tr>
<td>Education 349—Reference Materials</td>
<td>4</td>
</tr>
<tr>
<td>Education 351—Audio-Visual Aids</td>
<td></td>
</tr>
<tr>
<td>Art 231, 232, 233—History of Art</td>
<td></td>
</tr>
<tr>
<td>Electives (selected from upper division courses)</td>
<td>5 to 8</td>
</tr>
<tr>
<td>Total</td>
<td>51 to 54</td>
</tr>
</tbody>
</table>

Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 340—Children’s Literature</td>
<td>3</td>
</tr>
<tr>
<td>Education 449—Non-book Library Services</td>
<td></td>
</tr>
<tr>
<td>Education 442—Library Work with Children</td>
<td>3</td>
</tr>
<tr>
<td>Education 444—Library Seminar</td>
<td></td>
</tr>
<tr>
<td>Education 445—Library Practice</td>
<td></td>
</tr>
<tr>
<td>English 480—Seminar (bibliography)</td>
<td>2</td>
</tr>
<tr>
<td>Journalism 253—Promote Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>History 491—Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>Electives (Selected from upper division courses)</td>
<td>22 to 25</td>
</tr>
<tr>
<td>Total</td>
<td>51 to 54</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).

Graduates find a growing range of occupations open to them—in engineering, the sciences, librarians, or business. They may teach in high schools or, with further training, in colleges and universities. Industry and government make increasing use of skilled mathematicians. Such positions may involve work ranging from elementary computation to highly complicated statistical procedures and research.

Modern high speed computing devices, instead of replacing mathematicians, have increased their usefulness. A high degree of mathematical skill is required to put a problem into a form in which the machine can handle it.

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 all of the mathematics possible.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN MATHEMATICS. 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 Mathematics. A minimum of 45 credits in Mathematics including Mathematics 151, 152, 153, 251, 252 or Mathematics 113, 114, 121, 122, 123; 15 credits in Mathematics courses numbered above 300 and 10 credits in mathematics statistics (beyond the minimum of 45 credits in mathematics). Mathematics 120 is not approved for the Mathematics major. Requirements listed earlier in the guidebook must be satisfied; French or German preferred.

No candidate will be accepted for graduation with honors who does not have credits in Mathematics 308-311.

For Undergraduates

601 (A) PRE-FRESHMAN ALGEBRA. 1 Q. A. 0. For students who do not qualify for Mathematics 100.

110 INTERMEDIATE ALGEBRA. 1 Q. A. W. S. S. 2. Prerequisite: satisfactory performance in an examination in elementary algebra.

112 MATHEMATICS FOR BUSINESS STUDENTS. 1 Q. A. W. S. 5. Prerequisite: Mathematics 100 or satisfactory performance in an examination in intermediate algebra.

113 (13) PLANE TRIGONOMETRY. 1 Q. A. W. S. S. 5. Prerequisites: plane geometry, and Mathematics 100, or satisfactory performance in an examination in intermediate algebra. This is not high school trigonometry.

125 (23) STATISTICS. 1 Q. A. W. S. S. 5. Prerequisite: Mathematics 100 or 112 or satisfactory performance in an examination in intermediate algebra.
A ST R O N O M Y

FOR GRADUATES

M E D I C A L TECHNOLOGY — a combined study of the sciences of biochemistry, physics, physiology, and bacteriology. It involves the various biochemical, physical, and physiological reactions of the human body as well as the isolation and identification of various micro-organisms which cause disease in humans. Medical technicians must become proficient in determining abnormalities in the blood by biochemical tests and by microscopic evaluation; become X-ray technicians.

Four years are required to earn the degree of Bachelor of Science in Medical Technology. The first two years are devoted to the development of a sound foundation in physics, chemistry, and zoology as well as in obtaining an understanding of social science and cultural subjects. The last two years are designed to develop efficiency in the various aspects of bacteriology, parasitology, hematology, and applied biochemistry.

Medical technicians are in great demand in the laboratories of hospitals, in doctors' offices, research institutions, and in federal and state health departments. Upon completion of the work at the University, the student should spend a year in a hospital which has been recognized by the American Association of Clinical Pathologists. Following this year's work in the hospital, the student must pass the examination given by the American Association of Clinical Pathologists in order to qualify as a registered medical technician. Since the number of hospital internships available is limited, the deficient candidate who is unable to get one must take an internship for these internships largely on the basis of superior scholarship.

HIGH SCHOOL PREPARATION. In addition to the general requirements for admission to the University, the following prerequisites are recommended. For further details on beginning college work in algebra and chemistry, it is also recommended that the high school preparation include advanced algebra.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN MEDICAL TECHNOLOGY. At least the fourth year of the following prescribed courses must be taken in residence at the University, and preferably the third and fourth years. In addition to the general requirements for graduation listed earlier in the guidebook the following courses in the several curricula noted below comprise the professional curriculum leading to the degree of Bachelor of Science in Medical Technology. For further details concerning the completion of these courses, see the detail given elsewhere in the guidebook.

To be certified by the Board of Registry, a student must have had an internship of at least three months in an approved School of Medical Technology endorsed by the American Medical Association. There must be at least two interns from each school, located in every state in the Union, the District of Columbia, Hawaii, Puerto Rico, and the Canal Zone. All of the approved schools are connected with hospitals, medical schools, or state and federal boards of health. After completing college and technical training, the student can apply for certification in medical technology with the Registrar of Medical Technologists of the American Society of Clinical Pathologists. At the successful completion of the internships, the student must earn a diploma certifying his qualification as a medical technician.

MEDICAL TECHNOLOGY CURRICULUM

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 1</td>
<td>3-4</td>
</tr>
<tr>
<td>Eng 1</td>
<td>1-2</td>
</tr>
<tr>
<td>Math 1</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Math (courses depend on preparation and selection of course)

CR: Credit Hours

For a complete list of courses and their prerequisites, please consult the University catalog.
SOPHOMORE YEAR

Music 111-112-113—Theory I
Music 114, 115, 116 (Piano in Class)
Music 125, 126, 127 or 129 (Strings or Winds in Class)
English 104-105 & Psych. 110
Spanish 101, 102, 103 (Applied Music)
Music 106-110 (Organization)
Music 111-112-113 (Theory I)
Music 114, 115, 116 (Piano in Class)
Music 125, 126, 127 (Introduction to Music Literature)
English 104-105 & Psych. 110
Health & Physical Educ. 101-102-103
R.O.C.T. 101-102-103 (Men)

JUNIOR YEAR

Music 201, 202, 203 (Applied Music)
Music 106-110 (Organization)
Music 341, 342, 343 (Theory II)
Music 315, 316, 317 (Piano in Class)
Music 117, 118, 119 (Voice in Class)
Music 251, 252, 253 (Compositions)
Electives (Non-Music)
Health & Physical Educ. 201-202-203
R.O.C.T. 201-202-203 (Men)

SENIOR YEAR

Music 301, 302, 303 (Applied Music)
Music 106-110 (Organization)
Music or Educ. 233, 334, 335 (School Music)
Music 125, 126, 127 or 129 (Strings or Winds in Class)
Education 200, 205, 305
Electives (Non-Music)

SOPHOMORE YEAR

A W S
Bact. 206—General Bacteriology
Chem. 207, 208—Inorganic Comp.
Zoo. 201—Comp. Vert. Anatomy
Physics 111-112-113—General Physics
Group II requirements
ROTC 201-202-203—Military or Air Science (Men)

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) careers 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 & 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 freshmen student of 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, accomplishment 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 fall high school period by correspondence or by interviews on the campus.

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREES IN MUSIC. In addition to 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 choral choir every quarter. Piano and organ majors must fulfill this requirement in the fall and spring quarters. Exception to 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 6 credits in Piano 100 or completion of Piano in Class 217.

APPLIED MUSIC FEES

Non-music majors pay $24 for two lessons per week, or $12 for one lesson per week. Quarter music majors will pay a $20 fee 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 music and non-music majors applied for applied music for less than a full quarter or who withdraw before the end of the quarter, a charge of $1.75 per private lesson will be made. Refunds are paid if the number of weeks elapsed since the beginning of the quarter.

Lessons in applied music missed by the instructor will be made up within the quarter. Lessons missed by students or lessons falling on a legal holiday will not be made up.

RENTALS, PER QUARTER

Practice room without piano, one hour daily $2.00
Additional hour daily 1.00
Piano and practice room, one hour daily 3.00
Organ and practice room, one hour daily 2.00
Additional hour daily 1.00
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 bachelor degree background includes experience in musical organizations, Montana State University offers three major or minor sequences in Music education leading to the degree of Bachelor of Music with a major in Music Education. Students desiring of teaching and directing both vocal and instrumental music, may enroll for the General Supervisor's Course. Separate courses for vocal and instrumental majors are available. The course of study must meet the state requirements for certification for public school teaching (see Requirements for certification for public school teaching.)

GENERAL SUPERVISOR MAJOR

FRESHMAN YEAR:

Music 101, 102, 103 (Applied) 1.1.1.
Music 106-110 (Organization) 1.1.1.
Music 111-112-113 (Theory I) 3.3.1.
Music 114, 115, 116 (Piano in Class) 1.1.1.
Music 125, 126, 127 or 129 (Strings or Winds in Class) 1.3.3.
English 104-105 & Psych. 110 1.1.1.
Speech 101 & 102 2.1.1.
R.O.C.T. 101-102-103 (Men) 2.1.1.

SOPHOMORE YEAR

Music 201, 202, 203 (Applied Music) 1.1.1.
Music 106-110 (Organization) 1.1.1.
Music 341, 342, 343 (Theory II) 1.3.3.
Music 315, 316, 317 (Piano in Class) 1.4.4.
Music 117, 118, 119 (Voice in Class) 1.1.1.
Music 251, 252, 253 (Compositions) 1.1.1.
Electives (Non-Music) 3.3.3.
Health & Physical Educ. 201-202-203 3.3.3.
R.O.C.T. 201-202-203 (Men) 2.2.1.

JUNIOR YEAR

Music 301, 302, 303 (Applied Music) 1.1.1.
Music 106-110 (Organization) 1.1.1.
Music or Educ. 233, 334, 335 (School Music) 3.3.3.
Music 125, 126, 127 or 129 (Strings or Winds in Class) 1.1.1.
Electives 3.3.3.
Education 200, 205, 305 4.4.4.
Electives (Non-Music) 6.6.6.

SENIOR YEAR

Music 401, 402, 403 (Applied) 1.1.1.
Music 106-110 (Organization) 1.1.1.
Music 434, 435, 436 (Higher Music) 1.1.1.
Music 239, 240, 251 (Orchestration) 2.2.2.
Music Electives (upper division) 2.2.2.
Education 409 (Practicum Teaching) 4.4.4.
Electives (Non-Music) 4.4.4.

VOCAL MAJOR

Vocal majors in Music Education follow Curriculum A with the following substitutions: Music 125, 126, 127 and 129, 223 and 166 are not required. Music or academic electives may be substituted.

INSTRUMENTAL MAJOR

Instrumental majors in Music Education follow Curriculum A with the following substitutions: Music 125, 125, 127, 129, 223 and 166 are not required. Music or academic electives may be substituted.

B. CURRICULUM FOR BACHELOR OF MUSIC DEGREE WITH A MAJOR IN APPLIED MUSIC

The second instrumental or vocal 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-
MAJOR IN THEORY AND COMPOSITION

FRESHMAN YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 101, 102, 103 (piano)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 103</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110 (Organization)</td>
<td>3.3.</td>
</tr>
<tr>
<td>Music 111, 112, 113 (Theory I)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (Introduction to Music Literature)</td>
<td>1.1.</td>
</tr>
<tr>
<td>English 101, 102, 103 (English and Psych. 110)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Health &amp; Physical Educ.</td>
<td>1.1.</td>
</tr>
<tr>
<td>ROTC 101-102-103 (men)</td>
<td>2.2.</td>
</tr>
</tbody>
</table>

SOPHOMORE YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 201, 203, 204 (piano)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 103</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110</td>
<td>4.4.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (Theory II)</td>
<td>3.3.</td>
</tr>
<tr>
<td>Music 211, 212, 213 (Conducting)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Electives (non-music)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Health &amp; Physical Educ.</td>
<td>1.1.</td>
</tr>
<tr>
<td>ROTC 201-202-203 (men)</td>
<td>2.2.</td>
</tr>
</tbody>
</table>

JUNIOR YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 201, 203, 204 (piano)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 201, 203, 204 (Orchestration)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Electives (upper division)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Electives (non-music)</td>
<td>5.5.</td>
</tr>
</tbody>
</table>

SENIOR YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 401, 402, 403 (piano)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (History of Music)</td>
<td>3.3.</td>
</tr>
<tr>
<td>Music 379, 380, 381 (16th Century Counterpoint)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Music 469 (Composition)</td>
<td>5.5.</td>
</tr>
<tr>
<td>Electives (non-music)</td>
<td>7.7.</td>
</tr>
</tbody>
</table>

C. CURRICULUM FOR BACHELOR OF ARTS DEGREE WITH A MAJOR IN MUSIC

Talented students who are especially interested in obtaining a broad liberal arts education, with thorough musical training may elect to follow a course leading to the Bachelor of Arts degree with a major in music. This course is not designed for teacher preparation, but provides a liberal arts background for advanced study in musicology or the humanities. A minimum of 56 credits should be in music. A minimum of 42 credits must be taken in the college of Arts and Sciences. This includes credits in Art and drama.

FRESHMAN YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 101, 102, 103 (Applied)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104-110 (Organization)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (Theory I)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (Introduction to Music Literature)</td>
<td>1.1.</td>
</tr>
<tr>
<td>English 101, 102, 103 (English and Psych. 110)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Health &amp; Physical Educ.</td>
<td>1.1.</td>
</tr>
<tr>
<td>ROTC 101-102-103 (men)</td>
<td>2.2.</td>
</tr>
</tbody>
</table>

SOPHOMORE YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 201, 203, 204 (Applied)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (Theory II)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Electives (upper division)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Health &amp; Physical Educ.</td>
<td>1.1.</td>
</tr>
<tr>
<td>ROTC 201-202-203 (men)</td>
<td>2.2.</td>
</tr>
</tbody>
</table>

JUNIOR YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 201, 203, 204 (Applied)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 105-110</td>
<td>2.2.</td>
</tr>
<tr>
<td>Music 201, 203, 204 (Orchestration)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Electives (upper division)</td>
<td>5.5.</td>
</tr>
</tbody>
</table>

SENIOR YEAR:  
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music 401, 402, 403 (History of Music)</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 104</td>
<td>1.1.</td>
</tr>
<tr>
<td>Music 113, 114, 115 (History of Music)</td>
<td>3.3.</td>
</tr>
<tr>
<td>Music 379, 380, 381 (16th Century Counterpoint)</td>
<td>2.2.</td>
</tr>
<tr>
<td>Music 469 (Composition)</td>
<td>5.5.</td>
</tr>
<tr>
<td>Electives (non-music)</td>
<td>7.7.</td>
</tr>
</tbody>
</table>

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 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 vacuum for performance. Prerequisite: Consent of instructor. May be repeated for a maximum of 6 credits in same or related area.

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. Individual instruction in voice, piano, organ, string or wind instruments. The student together with his primary major, e.g., Music Education. A student entering in Music 101 should show evidence of the equivalence of two 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)
FOR UNDERGRADUATES

011 MUSIC FUNDAMENTALS. 1 Q. A. 0. Freshmen who are lacking in general music education.

106 (10)-C A K ELL PIANO
107-CH ORAL UNION
108-CH AMBER MUSI C
109- SYMPHONIC BAND
110- MARCHING BAND

106-110 courses with musical organizations. 3 Q. A. W. S. Su. 1, 1. Music majors take a minimum of 12 credits; non-music majors take a minimum of 9 credits, equivalent of instructor. A senior recital must be given before graduation.

FOR UNDERGRADUATES

011 MUSIC FUNDAMENTALS. 1 Q. A. 0. Freshmen who are lacking in general music education.

106 (10)-CAKELL PIANO
107-CHORAL UNION
108-CHAMBER MUSIC
109-SYMPHONIC BAND
110-MARCHING BAND

106-110 courses with musical organizations. 3 Q. A. W. S. Su. 1, 1. Music majors take a minimum of 12 credits; non-music majors take a minimum of 9 credits, equivalent of instructor. A senior recital must be given before graduation.

FOR UNDERGRADUATES

011 MUSIC FUNDAMENTALS. 1 Q. A. 0. Freshmen who are lacking in general music education.

106 (10)-CAKELL PIANO
107-CHORAL UNION
108-CHAMBER MUSIC
109-SYMPHONIC BAND
110-MARCHING BAND

106-110 courses with musical organizations. 3 Q. A. W. S. Su. 1, 1. Music majors take a minimum of 12 credits; non-music majors take a minimum of 9 credits, equivalent of instructor. A senior recital must be given before graduation.

FOR UNDERGRADUATES

011 MUSIC FUNDAMENTALS. 1 Q. A. 0. Freshmen who are lacking in general music education.

106 (10)-CAKELL PIANO
107-CHORAL UNION
108-CHAMBER MUSIC
109-SYMPHONIC BAND
110-MARCHING BAND

106-110 courses with musical organizations. 3 Q. A. W. S. Su. 1, 1. Music majors take a minimum of 12 credits; non-music majors take a minimum of 9 credits, equivalent of instructor. A senior recital must be given before graduation.

FOR UNDERGRADUATES

011 MUSIC FUNDAMENTALS. 1 Q. A. 0. Freshmen who are lacking in general music education.

106 (10)-CAKELL PIANO
107-CHORAL UNION
108-CHAMBER MUSIC
109-SYMPHONIC BAND
110-MARCHING BAND

106-110 courses with musical organizations. 3 Q. A. W. S. Su. 1, 1. Music majors take a minimum of 12 credits; non-music majors take a minimum of 9 credits, equivalent of instructor. A senior recital must be given before graduation.
Investigation of research in fields of individual interest. Total credit allowed: 15.

509 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 to such requirements. 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 pharmacology, special attention is paid to the basis of the texts and readings, and much laboratory work. Pharmacy proper involves studies of the various types of pharmaceutical and dosage forms—their preparation, compounding, and dispensing on physicians' prescriptions.

Pharmaceutical chemistry is the application of the principles of chemistry to substances used in pharmacy and medicine with emphasis on preparation, identification, 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 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 graduation must complete one year of "practical experience" or internship in pharmacy under the direction of a registered pharmacist and must pass an examination by the State Board of Pharmacy. To be qualified for this examination, the applicant shall be of good moral character, shall have reached the age of twenty-one years of age, and shall be a graduate of an accredited school of pharmacy. However, the candidate need not have completed an internship of at least one year, following graduation, in an approved pharmacy in the state of residence.

GRADUATE STUDIES. Candidates for the degree of Master of Science in Pharmacy must comply with the regulations governing graduate study and must complete a program satisfactory to the Faculty of the School of Pharmacy.

PHARMACY CURRICULUM

First year: Bacteriology 303-304; Business Administration 201; Pharmacy 306, 314, 320, 324-325, 352, 361, and Zoology 340-341.

Second year: Bacteriology 305; Chemistry 394; Health and Physical Education 109; Pharmacy 414-415-416, 426, 441, 452, 462, 463, and electives.

Third year: Pharmacy 503, 505-506, 516, 517-518, 519, 540-541, 550, 557, and electives.

FOR UNDERGRADUATE

306 (36) SURVEY OF PHARMACY. 1 Q. A. 3 (3-0). A survey of career opportunities, literature, history and terminology, library orientation, introduction to personnel and equipment of pharmacy.

314 (14) INORGANIC PHARMACEUTICAL CHEMISTRY. 1 Q. A. 4 (3-0). Prerequisite: Chemistry 123 or equivalent. The inorganic chemicals of medicinal and pharmaceutical importance. Laboratory work.

320 (10) PRINCIPLES OF PHARMACY. 1 Q. W. 3 (3-0). Metabolism, pharmaceutical arithmetic, pharmaceutical Latin, and the forms of presentation of pharmaceuticals.

324-325 (24ab) PHARMACOGENY. 2 Q. W. 2 (3-2); S. 4 (3-2). Prerequisites: Botany 124 and Chemistry 263 or equivalent. The plant and animal products used in pharmacy and medicine.

352 (52) DRUG ANALYSIS I. 1 Q. S. 5 (5-0). Prerequisite: Pharmacy 391. Identification, purity tests, and incompatibilities of typical organic medications.

361 (21a) OPERATIVE PHARMACY. 1 Q. S. 3 (3-3) Prerequisite: Pharmacy 320. Fundamental techniques and procedures and the various classes of pharmaceutical preparations.

414-415-416 (114abc) ORGANIC MEDICINAL PRODUCTS. 3 Q. A. W. S. 2, 2, 2 (3-0). Prerequisites: Chemistry 263 and Pharmacy 320. The various organic substances used medicinally with special emphasis on the correlation of chemical structure with therapeutic activity and incompatibility.


426 (24a) PHARMACOGENY. 1 Q. A. 3 (2-2). Prerequisite: Pharmacy 235. A continuation of 325.

430 (130) MANUFACTURING PHARMACY. 1 Q. On demand. 3 (1-0). Principles of operations in the formulation and production of pharmaceuticals.

441 (141) BIOASSAY. 1 Q. S. (0-6). Prerequisite: Zoology 341. The calculation of the potency of drugs by biological means.

452 (152) DRUG ANALYSIS II. 1 Q. W. 4 (2-6). Prerequisite: Pharmacy 352. Special advanced pharmaceutical methods used in the analysis of pharmaceutical preparations.

453 (21b) OPERATIVE PHARMACY. 1 Q. A. 5 (3-0). Prerequisite: Pharmacy 361. Identification of medicinal plants and processes and the various classes of pharmaceutical preparations.

463 (121) PHYSICAL PHARMACY. 1 Q. W. S. 4 (3-0). Prerequisites: Physics 101 and 102, and Chemistry 391. Physical principles and laws to the preparation and study of pharmaceutical products.

472 (102) MEDICINAL PLANTS. 1 Q. On demand. 2 (0-6) Prerequisite: Pharmacy 426 or consent of instructor. The collection, identification, drying, grading, milling of crude drugs.

477 (101) IDENTIFICATION OF MEDICINAL PLANTS. 1 Q. Any quarter on demand. 3 (0-0) Prerequisite: Pharmacy 498 or consent of instructor. The herbarium study of medicinal plants.
PHARMACY 463. The fundamental principles of prescription compounding by means of library study and laboratory research in pharmacy, chemical pharmacy, pharmacology, or pharmacology. Total credit allowed: 6.

PHARMACY 481. SPECIAL PROBLEMS IN PHARMACY. Any quarter. 2-5 credits (0-4). Prerequisite: senior standing in pharmacy. Research problems selected in pharmacy and to vary from quarter to quarter. Students are assigned to the Montana State University Prescription Pharmacy and to various pharmacy firms in Missoula in order to acquaint them with current retail practices.

PHARMACY 501. ADVANCED MANUFACTURING PHARMACY. 1 Q. Any quarter. 3-5 credits (0-9). Prerequisite: Pharmacy 430. The more complex production techniques.

PHARMACY 505. TECHNICAL PRACTICE. 1 Q. Any quarter. 2-5 credits (0-3). Prerequisite: senior standing in pharmacy. The management of a retail pharmacy with emphasis on the professional problems of the drug store.

PHARMACY 516. PHARMACOECONOMICS. 1 Q. Any quarter. 2-5 credits (0-2). Prerequisite: senior standing in pharmacy. The more sophisticated dosage forms and special forms of medication. Fundamental principles involved in product formulation.

PHARMACY 555. PESTICIDES. 1 Q. Any quarter. 4 credits (4-0). Prerequisite: Pharmacy 460. The use of pesticides in the treatment of diseases of animals.

PHARMACY 569. ADVANCED PHARMACOCOMPUTATIONAL TECHNIQUES. 1 Q. Any quarter. 2 credits (2-0). Prerequisite: Pharmacy 460. Solution of systems of simultaneous linear equations by matrix methods. Fundamentals of computer applications in pharmacy.

PHARMACY 583. HOSPITAL PRACTICE. 1-2 Q. On demand. Prerequisite: senior standing in pharmacy. Participation in the routine of a hospital pharmacy.

PHARMACY 601. RESEARCH. 1 Q. Any quarter. 2 credits (2-0). Prerequisite: senior standing in pharmacy. Research studies in pharmacy under the direction of a faculty member.

PHARMACY 602. ADVANCED PHARMACOTHERAPEUTICS. 1 Q. Any quarter. 2 credits (2-0). Prerequisite: Pharmacy 460. The use of drugs in the treatment of disease.

PHARMACY 603. ADVANCED ORGANIC MEDICINAL PRODUCTS. 3 Q. Any quarter. 9 credits (9-0). Prerequisites: Pharmacy 460 and 583. Techniques in investigative pharmacognosy.

PHILOSOPHY 301. INTRODUCTION TO PHILOSOPHY. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: 10 credits in Philosophy or an equivalent. Introduces students to the major fields of philosophy, ethics, political theory, religious belief, logic, and scientific method. Course is designed for the non-majors who are interested in philosophy as an academic discipline.

PHILOSOPHY 302. HISTORY OF PHILOSOPHY. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. A brief survey of the main developments in the history of philosophy, emphasizing the contributions of major philosophers.

PHILOSOPHY 303. MODERN ETHICS. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An introduction to moral philosophy, focusing on the nature of moral concepts, the existence of moral values, and the justification of moral judgments.

PHILOSOPHY 304. PHILOSOPHY IN THE MODERN WORLD. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An examination of the relationship between philosophy and other disciplines, including science, literature, and art.

PHILOSOPHY 305. PHILOSOPHY IN THE TWENTIETH CENTURY. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An examination of the relationship between philosophy and other disciplines, including science, literature, and art.

PHILOSOPHY 306. AESTHETICS. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An introduction to aesthetic theory, focusing on the nature of beauty, art, and the aesthetic experience.

PHILOSOPHY 307. PHILOSOPHY IN LITERATURE. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An examination of the relationship between philosophy and literature, focusing on the nature of literature and its role in the development of ideas.

PHILOSOPHY 308. THEORY OF KNOWLEDGE. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An examination of the nature of knowledge, including the role of evidence, testimony, and reason in the formation of beliefs.

PHILOSOPHY 309. METAPHYSICS. 3 Q. Any quarter. 4 credits (4-0). Prerequisite: Philosophy 101. An examination of the nature of reality, including the role of language, perception, and causality in the development of ideas.
PHYSICAL SCIENCES are those sciences which concern themselves primarily with the innate 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 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 also 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>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
</tr>
<tr>
<td>Military Science (men)</td>
</tr>
</tbody>
</table>

**Group Requirements**

<table>
<thead>
<tr>
<th>Group</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group II</td>
<td>12</td>
</tr>
<tr>
<td>Group III</td>
<td>12</td>
</tr>
<tr>
<td>Group IV</td>
<td>24</td>
</tr>
</tbody>
</table>

**Requirements outside Major**

**Biological Science 131-132-133 or 15 credits in Biological Science selected from Zoology 101, 202, 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.**

**Foreign Language (23-25 credits or a reading knowledge)**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
</tr>
</tbody>
</table>

**Major Requirements**

**Mathematics through Analytical Geometry or Math**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-17</td>
</tr>
<tr>
<td>15-17</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

**Chemistry 121-122-123**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

**Physics 111-112-113 or 221-222-223**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

**Geology 110, 120, 130**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

**Astronomy**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
</tr>
</tbody>
</table>

Fifteen credits from one of the following sequences

| Mathematics 201, 202, 300, 311-312 |
| Physics 314-315, 322, 346, 352 (requires Math 253) |
| Chemistry 265, 266 or 261-262-263, 370 |
| Geology 201-202-203 or 211-212, 220, 310 |

**PHYSICS** is the basic science out of which have come such discoveries as the structure of atoms, artificial radioactivity, 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, doctors, and scientists of all kinds. It appears 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 a career 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 constitute choice employment. Larger industrial organizations as well as food, drug, rubber, paper and fabric makers require well-trained and able physicists to do research on their methods and products. The federal government employs large numbers 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. Non-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 with a major in physics. In preparation for advanced courses, a student should take Physics 222 and 223 in the freshman year. In other departments: Mathematics 151, 152, 153, 251, 252, 253; Chemistry 121-122. 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. (6-4). Prerequisite: Mathematics 100, 111 is prerequisite for 112 and 113, but 112 is not prerequisite to 113. This course satisfies mechanics, and wave motion in general physics, and 111 is prerequisite to 112. 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.

121-122 (Radio 3ab) RADIO ELECTRONICS. 2 Q. W, S. 5, 5. (5-5). Prerequisite: Physics 112 or consent of instructor. Vacuum tubes, radio circuits, high frequency, electronics, electronic measurements. Credit not allowed toward a physics major.

221-222-223 (29abc) GENERAL PHYSICS. 3 Q. A, W, S, 5, 5, 5. (6-6). Prerequisite: 221 for 222, 222 for 223. This course satisfies physics and technical school requirements in general physics. (221) Mechanics and wave motion: (222) sound, electricity, and magnetism. (223) Heat and light.

251-252-253 (51abc) LABORATORY ARTS. 3 Q. A, W, S, 5, 5, 5, (5-6). Prerequisite: Physics 115 or 122 or Mathematics 251. Graduate level. Students who have completed Physics 223. Students may enter any quarter. Credit allowed for credit in 251-252. 3 credits.

370 (70) GEOMETRICAL OPTICS. 1 Q. S, 2-1. (3). Prerequisite: Physics 113 or 223 and Mathematics 153. Given odd numbered years.

FOR UNDERGRADUATES AND GRADUATES

312 (112) VECTOR ANALYSIS. 1 Q. A, 5 (3-0). Prerequisites: Physics 223 and Mathematics 252.


322 (122) LIGHT. 1 Q. A, 5 (4-4). Prerequisites: Physics 223 and Mathematics 251. Graduate level. Given even numbered years.

431 (131) SELECTED TOPIC. Any quarter. 1-5 variable. Prerequisites: Consent of instructor and 15 credits in physics. Total credit allowed: 15.

345 (146) HEAT. 1 Q. W, 5 (5-5). Prerequisite: 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 odd numbered years.

360 (160) INTRODUCTION TO NUCLEAR PHYSICS. 1 Q. S, 5 (3-4). Prerequisite: Given even numbered years.

396 (166) ELECTRONICS. 1 Q. S, 3-3. (3-3). Prerequisite: Physics 315 or concurrent registration. Given odd numbered years.


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). Prerequisites: Consent of instructor. Graduate level. Only one student may be registered. Only one may satisfy as many requirements for graduation as is possible during his last year of residence. Given subject to demand.

512-513-514 (312abc) ADVANCED EXPERIMENTAL PHYSICS. 3 Q. A, W, S, 2, 2, 2. (6-6). Given subject to demand.

552 (223) RADIATION AND ATOMIC STRUCTURE. Given subject to demand. 5 (5-5). Prerequisite: Physics 332.

554-555 (354ab) QUANTUM MECHANICS. 2 Q. W, S, 5, 5. (6-6). Prerequisites: Physics 332 and 471.

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

POLITICAL SCIENCE

POLITICAL SCIENCE and History are combined in a single department for administrative purposes. In either field, 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 major must present credits in at least four of the following fields: American Political Institutions, Comparative Government, International Organizations, Public Administration, Public Law, and Political Theory.

In 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 an understanding of the origin, development, present status, and future possibilities of the international, national, and local governmental problems with the object of aiding him to become an effective citizen. To the person there who has an opportunity to study the practical as well as the theoretical in 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 both the domestic and foreign 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. Students majoring in Political Science are accepted for advanced work by universities in the United States and in Europe and they frequently obtain 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 earlier in the guidebook, the following specific requirements must be met. The Bachelor of Arts degree with a major in Political Science. A minimum of 12 additional credits in Political Science is required, with 20 credits from courses numbered over 300 and including Political Science 491. A student may offer a combination major in Political Science and History with a minimum of 20 credits selected from the two fields. In all courses, a minimum of 20 credits must be selected from courses numbered 200 and above, or other Political Science 491 or History 491.

All students majoring in Political Science will complete the integrated introductory sequence 101, 200, 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 major in Political Science and Economics with a minimum of 50 credits selected from the two fields. These credits must be in each discipline. Required courses are: Political Science 331, 332; 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 an upper division course in foreign language or the demonstration of a satisfactory reading knowledge of political or legal science materials in such a language is required. With the consent of the Department, 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 365, 366, 368, 201, 202, 203, and 204 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 the 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 desiring to enter the law school immediately. A student must satisfactorily complete all course work listed in the guidebook with a grade of C or better before registering for History 241, 242, 243, 251, 252 and 253, and Political Science 201. No more than approximately seven hours per quarter for the completion of requirements and for electives. As a junior, the student will select a minimum of 30 hours from the offerings of the Department with Political Science 332, 333, 331, 332, and 335 and also History 376 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 364, 365, and History 366, Political Science 60—POLITICAL SCIENCE
PRE-MEDICAL SCIENCES—61

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 cases prefer four. For the latter the University offers the degree of Bachelor of Arts with a major in pre-medical 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 requirements have been standardized by licensing 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 an interview with the principal medical and dental schools who have more applicants than they can accept, for which reason, as well as the exacting nature of those professions, high scholarship is a prime qualification.

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 recommended that the student complete 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 those they receive as applicants. The student who receives his Bachelor's degree is not important provided he has the minimal course requirements, but demonstrates a high level of competence and has demonstrated 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 pre-medical sciences course requirements listed below, and (3) the major requirements in his selected ancillary field. The student should consult with the pre-medical sciences advisor during the freshman year, and consult with both the pre-medical sciences advisor and the advisor in the selected major beginning not later than the sophomore year in residence.

MINIMUM COURSE REQUIREMENTS FOR THE PRE-MEDICAL SCIENCES. A complete pre-medical sciences program requires a total of 135 credits of appropriate courses, plus other University requirements listed earlier in the guidebook; Chemistry through Organic Chemistry and Quantitative Analysis; Mathematics through Mathematics I; one of the following physics: Zoology through comparative anatomy and embryology, (Genetics recommended); A reading knowledge of 25 credits in French or German.

SPECIAL REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE. A Bachelor of Arts degree in pre-medical sciences requires fulfillment of the following requirements. Satisfy the minimum course requirements listed immediately above. Plus: Psychology 5-10 credits; Physical Chemistry; 15 credits in Bacteriology; Genetics; 15 credits in Advanced Zoology; 15 credits in Advanced Organic Chemistry; 15 credits in Advanced Parasitology; 15 credits in Advanced Pharmacology; 15 credits in Advanced Physiology; and any other advanced courses selected from the non-sciences to complete University credit requirements for graduation.

Clinical preparation is an integral part of the pre-medical work (plus six credits of Physical Education) at Montana State University, complete all requirements for the B. A. degree with a major in the pre-medical sciences and present evidence of satisfactory completion of the first year of medical school may be granted a B. A. degree in the Pre-medical Sciences.
### PRE-MEDICAL SCIENCES CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Medicine, Dentistry, Veterinary Medicine)</td>
<td></td>
</tr>
<tr>
<td>English 140-145 Freshman Composition</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics (depends on placement)</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 121-122-123 College Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Psychology 110 Introduction to Psychology</td>
<td>5</td>
</tr>
<tr>
<td>R.O.T.C. 101, 102, 103 Mil. or Air Science</td>
<td>2</td>
</tr>
<tr>
<td>or 1</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong> 15-16-18</td>
<td></td>
</tr>
</tbody>
</table>

#### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoology 104-105 Elementary Zoology</td>
<td>5</td>
</tr>
<tr>
<td>Zoology 201 Comparative Vertebrate Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>Foreign Language 101, 102, 103 (Fr. or Ger.)</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 241-242 Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 245 Quantitative Analysis</td>
<td>1</td>
</tr>
<tr>
<td>Resil&amp; P.E. 201, 202, 203 Sophomore P. E.</td>
<td>1</td>
</tr>
<tr>
<td>R.O.T.C. 201, 202, 203 Mil. or Air Science</td>
<td>2</td>
</tr>
<tr>
<td>or 1</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong> 15-15-16</td>
<td></td>
</tr>
</tbody>
</table>

#### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 111-112-113 or 121-122-123 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>Zoology 302 Vertebrate Embryology</td>
<td>4</td>
</tr>
<tr>
<td>Science sequence as elected by student</td>
<td>5</td>
</tr>
<tr>
<td>Group requirements</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total:</strong> 15-15-15</td>
<td></td>
</tr>
</tbody>
</table>

#### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 370 Elementary Physical Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Science Sequence or electives</td>
<td>5</td>
</tr>
<tr>
<td>Group requirements or electives</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total:</strong> 15-15-15</td>
<td></td>
</tr>
</tbody>
</table>

### PSYCHOLOGY

The science concerned with principles of human behavior. It deals with problems of motivation, emotion, perception, learning, thinking, organization, and intelligence. Four years are required for a Bachelor of Arts degree. A Master of Arts degree is also offered (see Graduate Studies).

Two programs lead to the MA degree: (1) a program in general and theoretical psychology, requiring a minimum of one school year of graduate work; and (2) a program in clinical psychology, requiring a minimum of two school years of graduate work.

Minimum preparation for professional work in psychology requires an MA degree, and full professional competence requires the Ph. D. degree. The fully trained student may select from a variety of positions in clinics, hospitals, schools and colleges, business and industry, and governmental agencies. At present it is the foreseeable future that the number of jobs far exceeds the number of trained persons who can fill them.

### SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN PSYCHOLOGY

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 psychology: at least 45 credits in psychology, including Psychology 110, 210, 211, 212, 290, 400, and 430, with at least 25 credits in psychology courses numbered above 299; and a reading knowledge of five quarters (23 to 25 credits) in modern language. Other courses recommended for psychology majors include Mathematics 123; Philosophy 210 and 333; and Zoology 101 or 202.

### RECOMMENDED COURSE SEQUENCE

**Freshman Year**
- PSYCHOLOGY 110—Introduction to Psychology                              | 5      |
- Mathematics 100—Intermediate Algebra                                    | 5      |
- Mathematics 123—Statistics                                             | 2      |
- Modern Language 101-102-103                                            | 5      |
- English 104—105—Language in Action                                    | 5      |
- Elective from Group II                                                 | 5      |
- elective                                                               | 1      |
- **Total:** 15-15-15                                                   |        |

**Sophomore Year**
- PSYCHOLOGY 210-211-212—General Psychology                             | 5      |
- Modern Language 213, 215                                              | 5      |
- Elective from Group II                                                 | 4      |
- Psychology 200—Psychological Statistics                                | 5      |
- Psychology 240—Social Psychology                                       | 5      |
- elective                                                               | 3-5    |
- **Total:** 15-15-16                                                    |        |

**Junior Year**
- Choice of 300—level Psychology courses                               | 4-3    |
- Philosophy 210 or Elective                                             | 4-5    |
- Zoology 202—Human Physiology                                           | 4-5    |
- Electives                                                              | 3-2    |
- **Total:** 15-15-15                                                   |        |

**Senior Year**
- PSYCHOLOGY 490—Intro to Scientific Method in Psychology               | 5      |
- Psychology 480—Systematic Psychology                                   | 5      |
- Choice of 400—level Psychology Courses                                 | 4-5    |
- **Total:** 15-15-15                                                   |        |

### SPECIAL REQUIREMENTS FOR THE MASTER OF ARTS DEGREE IN PSYCHOLOGY

A special two-year program is provided for students who plan to earn a doctorate in psychology with specialization in clinical psychology.

Upon successful completion of this program, the student will be prepared for the practice of clinical psychology in hospitals and clinics, and other institutions where professional supervision of a fully 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 must complete Psychology 699, 646, and 656, and nine credits of 600.

### FOR UNDERGRADUATES

110 (11) INTRODUCTION TO PSYCHOLOGY. 1 Q. A. W., Su. 5 (3-0). An introduction to psychological methods and principles, and their application to human adjustment.

190 PSYCHOLOGICAL INVESTIGATION. 1 Q. A. W. 1956 only. 2. Prerequisites: Psychology 110 and permission of instructor. Supervised investigation of 290 Objective tests of personality.


220 (17) PSYCHOLOGICAL STATISTICS. 1 Q. A. W. 5 (5-0). Prerequisite: Psychology 110 and Mathematics 123 or equivalent. Application of statistical techniques to psychological data. Interpretation and theory stressed.

230 (13) CHILD AND ADOLESCENT PSYCHOLOGY. 1 Q. W. 3 (5-0). Prerequisite: Psychology 110. An introductory study of the factors which influence group memberships and other forms of social influence upon human behavior.

241 (32) PSYCHOLOGY OF BUSINESS. 1 Q. A. W. 5 (5-0). Prerequisite: Psychology 110.

### FOR GRADUATES AND GRADUATES

330 CORRELATIONAL ANALYSIS. 1 Q. W. S. 5 (3-4). Prerequisite: Psychology 220. An introduction to correlational analysis, with particular reference to psychological applications. Offered odd numbered years.

340 GROUP DYNAMICS. 1 Q. W. S. 5 (3-4). Prerequisite: Psychology 220. Social psychology of small groups with a survey of research concerning the effects of social structure of small groups upon individual behavior. Offered even numbered years.

341 SOCIAL PSYCHOLOGY OF LARGE ORGANIZATIONS. 1 Q. W. S. 5 (5-0). Prerequisite: Psychology 220. Effects of membership in large organizations upon individual behavior. Offered odd numbered years.

342 PERSONNEL PSYCHOLOGY. 1 Q. W. S. 3 (3-0). Prerequisite: Psychology 110. Selection and placement procedures: the development and usefulness of tests, rating scales and other technical personnel selection methods; and training of personnel; psychological techniques in worker efficiency and adjustment problems.

343 (140) INDUSTRIAL PSYCHOLOGY. 1 Q. S. 3 (3-4). Prerequisite: Psychology 110. Applications of psychology in industry: job analysis; accident prevention; development of skill; fatigue; motives in industry; psychological problems of supervision and management.

350 PSYCHOMETRICS. 1 Q. S. 5 (3-4). Prerequisite: Psychology 220. Kinds of scales; psychophysical scaling and psychological scaling. Offered odd numbered years.

351-353 (210, 220, 230) PSYCHOLOGICAL TESTING. 3 Q. A. W. S. 4,4,4, (2-3). Prerequisite: Psychology 220; 352 is not a prerequisite for 353. (210) Theories and test construction techniques (325) Intelligence, aptitude, and ability tests (326) Group techniques (327) Personality, interests, attitudes, and values.

360 (116) PERSONALITY DYNAMICS. 1 Q. A. W. S. 5 (5-0). Prerequisite: 10 credits in psychology. Principles of motivation, frustration, conflict, and the mechanisms of defense. Major emphasis on personality dynamics. More emphasis on their emphasis on their psychological dynamics.

369 (117) DESCRIPTIVE AND EXPERIMENTAL METHODS IN PSYCHOLOGY. 1 Q. W. 3 (5-0). Prerequisite: Psychology 210-211-212. An introduction to the methods of science in psychology, with particular reference to psychology. Systematic consideration of descriptive methods, concept definition, natural law, theory, induction, deduction, verification, etc.

380 (104) SYSTEMATIC PSYCHOLOGY. 1 Q. S. 3 (3-4). Prerequisite: Psychology 210-211-212. Evaluation of the major psychological systems: Structuralism, Functionalism, Behaviorism, Gestalt, Psychoanalysis, etc.
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, reporters, 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 Television. 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 studios 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-televisio sequence in Journalism. The College of Arts and Sciences also has offerings in the College of Arts and Sciences. Production of programs for broadcast from the University's studios is included in the course of study. Modern equipment of professional quality in new studios and an adherence to high standards of performance prepare students to make significant contributions and successful careers in the broadcasting profession.

University Requirements:

   English Composition, 101-102-103 recommended 9
   Physical Education
   R.O.T.C. (men) Mil. or Air Science 101-102-103, 201-202-203 15
   Group I 12
   Group II 13
   Group III 5

Major Requirements:

   Group II
   Group III
   Group IV
   English Language
   Speech-118
   Drama-212, 231
   Journalism-270, 371
   Total-90-92

32 hours from the following courses:

   Journalism-140, 340, 345, 346, 348, 440, 441, 442, 443, 494

   Speech-241
   Drama-212
   Total-32

Free Electives 25-27

Total-189-198

REXERTS 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, reporters, 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 Television. 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 studios 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-televisio sequence in Journalism. The College of Arts and Sciences also has offerings in the College of Arts and Sciences. Production of programs for broadcast from the University's studios is included in the course of study. Modern equipment of professional quality in new studios and an adherence to high standards of performance prepare students to make significant contributions and successful careers in the broadcasting profession.

University Requirements:

   English Composition, 101-102-103 recommended 9
   Physical Education
   R.O.T.C. (men) Mil. or Air Science 101-102-103, 201-202-203 15
   Group I 12
   Group II 13
   Group III 5

Major Requirements:

   Group II
   Group III
   Group IV
   English Language
   Speech-118
   Drama-212, 231
   Journalism-270, 371
   Total-90-92

32 hours from the following courses:

   Journalism-140, 340, 345, 346, 348, 440, 441, 442, 443, 494

   Speech-241
   Drama-212
   Total-32

Free Electives 25-27

Total-189-198

REXERTS 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, reporters, 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 Television. 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 studios 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-televisio sequence in Journalism. The College of Arts and Sciences also has offerings in the College of Arts and Sciences. Production of programs for broadcast from the University's studios is included in the course of study. Modern equipment of professional quality in new studios and an adherence to high standards of performance prepare students to make significant contributions and successful careers in the broadcasting profession.

University Requirements:

   English Composition, 101-102-103 recommended 9
   Physical Education
   R.O.T.C. (men) Mil. or Air Science 101-102-103, 201-202-203 15
   Group I 12
   Group II 13
   Group III 5

Major Requirements:

   Group II
   Group III
   Group IV
   English Language
   Speech-118
   Drama-212, 231
   Journalism-270, 371
   Total-90-92

32 hours from the following courses:

   Journalism-140, 340, 345, 346, 348, 440, 441, 442, 443, 494

   Speech-241
   Drama-212
   Total-32

Free Electives 25-27

Total-189-198
### 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.

**University Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101-103 or 101-102-103</td>
<td>9-10</td>
</tr>
<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>Air Science 101-102-103, 202-202-203</td>
<td>25-26</td>
</tr>
</tbody>
</table>

- **Major Requirements**
  - (Group requirements satisfied herein)
  - Mathematics 108, 118, or equivalent: 12
  - Physics 111-112-113 or 221-222-223: 15
  - English: 15
  - Political Science 101, 202-203, 331, 339: 19
  - Geography, 201: 12
  - General 131-132-133 or other Group III subjects: 12
  - French Language (French, German or Spanish): 15
  - International Law: 12
  - Air Science 301-302-303, 364 (required): 401-402-403: 16

**Electives**

- (60% must be in upper division courses. A second major is recommended)
  - 44-45
  - 185

### AIR SCIENCE

**HIGH SCHOOL PREPARATION.** In addition to the general requirements in the sciences, 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**

<table>
<thead>
<tr>
<th>University Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101-103 or 101-102-103</td>
<td>9-10</td>
</tr>
<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>Air Science 101-102-103, 202-202-203</td>
<td>25-26</td>
</tr>
</tbody>
</table>

**Major Requirements**

- (Group requirements satisfied herein)
  - Mathematics 108, 118, or equivalent: 12
  - Physics 111-112-113 or 221-222-223: 15
  - English: 15
  - Political Science 101, 202-203, 331, 339: 19
  - Geography, 201: 12
  - General 131-132-133 or other Group III subjects: 12
  - French Language (French, German or Spanish): 15
  - International Law: 12
  - Air Science 301-302-303, 364 (required): 401-402-403: 16

**Electives**

- (50% must be in upper division courses. A second major in one of the areas listed above is recommended)
  - 54-55
  - 186

### MILITARY 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 MILITARY SCIENCE**

<table>
<thead>
<tr>
<th>University Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101-103 or 101-102-103</td>
<td>9-10</td>
</tr>
<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
</tbody>
</table>

**Major Requirements**

- (Group requirements satisfied herein)
  - Mathematics 108, 118, or equivalent: 12
  - Physics 111-112-113 or 221-222-223: 15
  - English: 15
  - Political Science 101, 203: 10
  - General 131-132-133 or other Group III subjects: 12
  - Geography: 10
  - Foreign Language (French, German or Spanish): 15
  - Military Science 301-302-303, 401-402-403, 413: 10

**Electives**

- (50% must be in upper division courses. A second major in one of the areas listed above is recommended)
  - 54-55
  - 186
BASIC COURSE: MILITARY TRAINING FOR CITIZENSHIP

101-102-103 (1abc) INTRODUCTION TO THE ARMY. 3 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 responsibility 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 our 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 A, W, S, 3,3,3. 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 functions, 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 Reserve or Army Reserve. Admission is on application of the student and selection by the Professor of Military Science and the President of the University. Once begun, successful completion of the six quarters and summer camp is a requirement for all bachelor degrees, unless sooner honored by special permission. The advanced course is divided into the following sections:

301-302-303 (111abc) PRINCIPLES AND TECHNIQUES OF THE MILITARY LEADER. 3 A, W, S, 3,3,3. Prerequisite: 301-302-303. 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 instructing 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 of August. Practical military training, and field exercises with emphasis on the development of discipline and qualities of leadership.

401-402-403 (112abc) MILITARY MANAGEMENT. 3 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 of a command under drill and Army Ceremonies, (402) Military Administration and Logistics, including personnel and supply management and processes, troop movement by foot and motor, motor pool management; military justice and court-martial procedure with practical work in moot court. (403) Continuation of Military Administration of terror in life in active duty, military service, continuation of Leadership, Drill and Command from 401.

SECRETARIAL - HOME ARTS

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 vacation 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 (20-25 credits), three 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 Credits
English Composition (104, 105 recommended) 9-10
Physical Education 6 15-16

Group Requirements Credits
Group I (Physical Education recommended) 9-10
Group II (Mathematics recommended) 24-30

Major Requirements Credits
Home Economics 102, 104, 141, 151, 155 12-15

Special Electives Credits
Business Administration 182 (Placement test required) 2
Business Administration 183 (Placement test required) 2

Home Economic courses with credit toward major with 186 total credits not to exceed 39 credits

Business Administration 182 (Placement test required) 2
Business Administration 183 (Placement test required) 2

Special requirements outside major.

Foreign Language (3 quarters or placement test) 15
Economics 201 3
Psychology 10 10
History 101, 102, 103 (2 quarters) 10
Political Science 101 4 37

Free Electives 25

R. O. T. C. Annual Awards Presentation

Home Economics Planning Class in Design
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 students, this preparation is 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 work workers are to be found 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 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 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, or reading knowledge of the level of a student who has passed five quarters in a language.

General Information: The undergraduate major in Social Work is available in those analyzing a practical orientation toward social problems. Both theory and practical training are necessary for effectiveness needed on the job. Those wishing to enter graduate schools of social work should be well trained in this purpose as well as for effective citizen participation.

The undergraduate program features the interdisciplinary approach—courses selected from the several social sciences to serve as a foundation for training which present Social Work content and method. Group methods are freely used.

Major requirements: A minimum of 30 credits in Social Work courses is required. For the first two years of study, the following courses should be taken in order to form a foundation for education in Social Work. Anthropology 101 or 152; Economics 251 or 252; History 103 or 252-253; Political Science 202-203; Psychology 110; Sociology 101 and 102; and Social Work 181.

During the second year, one course numbered 300 or above must be taken in each of the following fields: Anthropology, Economics, History, Political Science, Psychology, and Sociology. Work in the Community Services Laboratory during the senior year is required up to a maximum of 12 credit hours.

FOR UNDERGRADUATES

181 (20) 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

361 (170b) INTRODUCTION TO RECREATION LEADERSHIP. 1 Q W. 5. Prerequisite: Sociology 101. Philosophy of recreation 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.

362 (170a) RECREATION LEADERSHIP (SOCIAL RECREATION). 1 Q W. 5. Sociology 101. Philosophy of social recreation, theory and practice of group leadership and recreation 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 of recreation, the development of group recreation program. Credit not allowed for this course and for the identical course in Health and Physical Education.

381 (S124) JUVENILE DELINQUENCY. 1 Q S. 3. Nature and extent; studies of courts, social agencies, and schools in its prevention and treatment.

382 (S125) GROUP METHODS IN TEACHING. 1 Q W. 5. 3 weeks. Prerequisite: Social Work 181. Use of group methods in the teaching of content and skill subjects and the principles recognized as basic in their use.

383 (S132) GROUP METHODS IN SOCIAL SERVICE. 1 Q S. 3. Prerequisite: Social Welfare 181. Use of group methods in teaching of content and skill subjects and the principles recognized as basic in their use.

SOCIOLoy 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. The major in Sociology is also offered (see Graduate Studies). Sociology courses for undergraduates involve mainly preparation on the basis of texts and readings following by seminars, discussions, and lectures.

For those who plan to go into work that requires a background in both sociology and economics, the following special departmental requirements should be completed: Sociology 101, 204, 308, and 401; Economics 201-202-203, 301, 304, 311, and 315. Students majoring in Sociology for graduate work are required to take, in addition to the general departmental courses, 50 credits in sociology courses, including Sociology 101, 201, 205, and 300. Anthropology 152 or 153 and Social Welfare 181 may be taken for the major but 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 special departmental requirements should be completed: Sociology 101, 204, 308, and 401; Economics 201-202-203, 301, 304, and 315. The remainder of necessary credits will depend according to the student's interest. A minimum of 60 credits is required for the combined major.

FOR UNDERGRADUATES

101 (16) INTRODUCTORY SOCIOLOGY. 1 Q W. 5. A general study of interpersonal relations.

102 (17) CULTURAL RELATIONS. 1 Q W. 5. Sociology 101. A general study of sociological and personal disorganization.

201 (25) DEVELOPMENT OF SOCIAL THOUGHT. 1 Q W. 4. Development of social thought from earliest times to the establishment of sociology.

202 (26) COLLECTIVE BEHAVIOR. 1 Q S. 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 consideration of the sociology of courtship and marriage.

205 ELEMENTARY SOCIAL STATISTICS (1 q. any quarter. 3. Introduction to simple statistics and graphic techniques commonly used in the social sciences. Credit not allowed for this course and the identical course Economics 205.

FOR UNDERGRADUATES AND GRADUATES

311 (116) SOCIAL MOVEMENTS. 1 Q S. 3. Prerequisite: Sociology 101. Selected reform and other movements with emphasis on their organization, functional, and behavioral characteristics. Offered odd numbered years.

312 (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.
309 (19) SOCIAL SCIENCE METHODS. 1 Q. A. 3. Prerequisite: 10 credits in Social Science courses. Interviews procedures and social science research; guided experiences in interviewing related to actual research programs.

390 (59a) 600-609 (59abc) SEMINAR. 3 Q. A. W. S. 2, 2, 2. Students may enter any quarter. Prerequisite: 10 credits in sociology.

FOR GRADUATES

501 (201) GRADUATE RESEARCH. Any quarter. Credit variable.

590 (259) THESIS. Any quarter. Credit variable. Total credit allowed: 15.

SPEECH includes courses in the field of General Speech, and advanced courses in specialized fields. For the speech major, emphasis in one or more of five areas of concentration: Public Address and Forensics, Speech Pathology and Audiology, Speech Education, Interpersonal Speech, and Mass Communication. Speech Graduates teach Speech (including the coaching of forensics) in high school or college, enter employ-

SPECIAL REQUIREMENTS FOR THE UNDERGRADUATE DEGREE IN SPEECH

In addition to the general requirements for graduation listed earlier in the guidebook, the following requirements must be completed for the B.A., B.S., or B.S. in Mass Communication: 10 credits in Speech including Speech 111, 112, 118, 214, 219, 330, "and 353; Drama 240 and 241; and English 304. The language requirement listed earlier in the guidebook must be satisfied. A special comprehensive examination is required of all candidates for the honors degree in Speech.

FOR UNDERGRADUATES

411 (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.

412 (21) ARGUMENTATION. 1 Q. A. W. S. 5. The principles by which sound and persuasive arguments are constructed, and the logical, and psychological principles of the delivery of arguments.

413 (22) PARLIAMENTARY PROCEDURE. 1 Q. S. 1. The principles and practice of parliamentary procedures used in the conduct of business meetings, legislative meetings, and debate.

414 (23) VOICE AND DICTION. 1 Q. A. W. S. 3. Principles of phonation and enunciation. Analysis of speech sounds, utilizing the articulate and non-articulate sounds of the individual voice and the enunciation of words and sentences, to achieve vocal flexibility.

415 (24) DISCUSSION TECHNIQUES. 1 Q. A. 3. A study of and practice in the techniques in making inquiries and solving problems through the means of group thinking.


420 (60a) BEGINNING ORAL INTERPRETATION. 1 Q. A. 3. Prerequisite: Speech 118 or 218. An analysis and synthesis of sound and sound in literature. Application of these principles in creating patterns spoken dialogues.

421 (60b) INTERMEDIATE ORAL INTERPRETATION. 1 Q. W. 3. Prerequisite: Speech 118 or 218. Practice in communicating all forms of drama, fiction, and poetry in speech. Emphasis on special consideration of melody, rhythm, tempo, and quality as factors in interpretation.

430-431-432 (67abc) DEBATE. 3 Q. A, W. S. 2,2.2. Prerequisites: Speech 112. (268) The techniques, strategy and style of debate; (269) Intercollegiate debate. Prerequisites: Speech 112. (269a) The techniques, strategy and style of debate; (269b) Intercollegiate debate.

435 (130) INTERPERSONAL COMMUNICATION. 1 Q. W. 3. Prerequisite: 5 credits in Speech. The principles of group dynamics as they affect public behavior, with emphasis on the use of sociometry as a means of discovery of lines of communication; and certain formulations in general semantics as tools of evaluation.

FOR UNDERGRADUATES AND GRADUATES

436 (121) BUSINESS AND PROFESSIONAL SPEECH. 1 Q. A. W. S. 3. Prerequisite: 5 credits in Speech. The methods, techniques, and applications of speech for leaders in business, labor, education, and the professions.

437 (123) SPEECH IN TEACHING AND LEARNING. 1 Q. A. 3. For the Speech major. A study of the effective use of speech as a teaching device, and the principles by which the teacher works with the speech class.

438 (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.

439 (151) 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.

440 (150) ADVANCED PUBLIC SPEAKING. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of theories of speech composition and of models of effective public speaking.

441 (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, Quintillian, Longinus, St. Augustine, Ward, Campbell, Blair, White, and John Quincy Adams to modern rhetoric.

442 (149) HISTORY OF PUBLIC ADDRESS. 1 Q. S. 3. Prerequisite: 10 credits in Speech. A study of the biographies and speeches of representative speakers, the issues which they were identified, and their influence on the history of their period.

443 (153) THE MODERN FORENSICS PROGRAM. 1 Q. S. only. Prerequisites: Speech 118, 218. Emphasis on interpretation and direction of debate, oratory, declamation, extemporaneous speech, and other aspects of forensics. Prerequisites: Speech 118, 218.

444 (154) ADVANCED PUBLIC ADDRESS. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of theories of speech composition and of models of effective public speaking.

445 (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, Quintillian, Longinus, St. Augustine, Ward, Campbell, Blair, White, and John Quincy Adams to modern rhetoric.

446 (149) HISTORY OF PUBLIC ADDRESS. 1 Q. S. 3. Prerequisite: 10 credits in Speech. A study of the biographies and speeches of representative speakers, the issues 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.

447 (153) THE MODERN FORENSICS PROGRAM. 1 Q. S. only. Prerequisites: Speech 118, 218. Emphasis on interpretation and direction of debate, oratory, declamation, extemporaneous speech, and other aspects of forensics. Prerequisites: Speech 118, 218.

448 (154) ADVANCED PUBLIC ADDRESS. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of theories of speech composition and of models of effective public speaking.

449 (155) THE PSYCHOLOGY OF SPEECH. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of the psychological and sociological aspects of speech, and the relationship of speech to the individual and to society, with a comparison of modern theories on the factors affecting that relationship.

450 (156) GENERAL SEMANTICS. 1 Q. S. 3. Prerequisite: 5 credits in Speech. A study of human relations as affected by language; special attention to the study of function, order, relations, institutions, and abstractions in language.

451 (159) ADVANCED ORAL INTERPRETATION OF LITERA- TURE. 1 Q. S. 3. Prerequisites: 10 credits in Speech. Preparation for interpreting various literary and historical works for various occasions. Concentration on the oral interpretation of one major piece of literature.

452 (151) THE MODERN FORENSICS PROGRAM. 1 Q. S. only. Prerequisites: Speech 118, 218. Emphasis on interpretation and direction of debate, oratory, declamation, extemporaneous speech, and other aspects of forensics. Prerequisites: Speech 118, 218.


454 (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, Quintillian, Longinus, St. Augustine, Ward, Campbell, Blair, White, and John Quincy Adams to modern rhetoric.

455 (149) HISTORY OF PUBLIC ADDRESS. 1 Q. S. 3. Prerequisite: 10 credits in Speech. A study of the biographies and speeches of representative speakers, the issues which they were identified, and their influence on the history of their period.

456 (153) THE MODERN FORENSICS PROGRAM. 1 Q. S. only. Prerequisites: Speech 118, 218. Emphasis on interpretation and direction of debate, oratory, declamation, extemporaneous speech, and other aspects of forensics. Prerequisites: Speech 118, 218.

457 (154) ADVANCED PUBLIC ADDRESS. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of theories of speech composition and of models of effective public speaking.

458 (155) THE PSYCHOLOGY OF SPEECH. 1 Q. A. 3. Prerequisite: 10 credits in Speech. A study of the psychological and sociological aspects of speech, and the relationship of speech to the individual and to society, with a comparison of modern theories on the factors affecting that relationship.

459 (156) GENERAL SEMANTICS. 1 Q. S. 3. Prerequisite: 5 credits in Speech. A study of human relations as affected by language; special attention to the study of function, order, relations, institutions, and abstractions in language.

460 (159) ADVANCED ORAL INTERPRETATION OF LITERA- TURE. 1 Q. S. 3. Prerequisites: 10 credits in Speech. Preparation for interpreting various literary and historical works for various occasions. Concentration on the oral interpretation of one major piece of literature.

461 (151) THE MODERN FORENSICS PROGRAM. 1 Q. S. only. Prerequisites: Speech 118, 218. Emphasis on interpretation and direction of debate, oratory, declamation, extemporaneous speech, and other aspects of forensics. Prerequisites: Speech 118, 218.
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. Prerequisite: Speech 343 or equivalent. Theory and principles of persuasion.

542 ADVANCED SUGGESTION. 1 Q. Prerequisite: Psychotherapy and Audiology 342 or equivalent. Advanced study of therapeutic techniques, with emphasis on the principles of suggestion.

543 ORGANIC DISORDERS OF SPEECH. 1 Q. Prerequisite: Speech 342 or equivalent. Theory and research pertaining to the various physical, neurological, and organic pathological conditions of the speech mechanism.

544 MEASUREMENT OF HEARING. 1 Q. Prerequisite: Speech 342 or equivalent. Techniques employed in the measurement of hearing, with emphasis on their differential and neurological aspects.

545 CLINICAL AUDIOLOGY: REHABILITATION. 1 Q. Prerequisite: Speech 342 or equivalent. Theory and research pertaining to the various methods of speech and language rehabilitation of hearing and speech disorders.

546 ADVANCED PROBLEMS. Any Quarter. Credit variable. Prerequisite: consent of advisor and instructor. Total credit allowed: 9.

547 RESEARCH METHODS. 1 Q. Prerequisite: Speech 342 or equivalent. Techniques employed in the research pertaining to the various methods of speech and language rehabilitation of hearing and speech disorders.

548 EXPERIMENTAL DESIGN. 1 Q. Prerequisite: Speech 342 or equivalent. Theory and research pertaining to the various methods of speech and language rehabilitation of hearing and speech disorders.

549 ADVANCED PROBLEMS. Any Quarter. Credit variable. Prerequisite: consent of advisor and instructor. Total credit allowed: 9.

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
531 STUTTERING. 1 Q. Prerequisite: Speech 352 or equivalent. Theory and principles of stuttering.

532 ADVANCED PROBLEMS. Any Quarter. Credit variable. Prerequisite: consent of advisor and instructor. Total credit allowed: 9.

533 RESEARCH METHODS. 1 Q. Prerequisite: Speech 352 or equivalent. Techniques employed in the research pertaining to the various methods of speech and language rehabilitation of hearing and speech disorders.

534 EXPERIMENTAL DESIGN. 1 Q. Prerequisite: Speech 352 or equivalent. Theory and research pertaining to the various methods of speech and language rehabilitation of hearing and speech disorders.

535 ADVANCED PROBLEMS. Any Quarter. Credit variable. Prerequisite: consent of advisor and instructor. Total credit allowed: 9.

STUDENT SELECTION
Students electing the Aquatic option should elect additional courses from the following: Zoology 306, 309, 320, 321; Botany 306; Chemistry 129, 134; General 469; Geology 100; Bacteriology 200; General 450.
ZOOLOGY 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 Flathead 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 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 Zoology: 45 credits in Zoology including Zoology 101-105, 106, 201, 202, 203, 204, 241, 281, 1 credit of 429.

The following must also be completed: Botany 121-122, 123 or 100 and 124 or 265; Chemistry 101-105 or 121-122 and 125 or 260; and Physics 111-112-113 or 221-222-223.

Students who contemplate graduate work in Zoology should elect during their Junior or senior years, bacteriology 200 and Zoology 303, 305.

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 ZOOLOGY

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>A</th>
<th>W</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bot. 111-112—General Botany</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 101-102-103—General Chemistry</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Eng. 104-105—Freshman Composition</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Math. 106 or 110 (if required by placement) Intermediate Alg. or Plane Trig.</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>H. &amp; P.E. 101-102-103—Physical Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 101-102-103—Military or Air Science (Men)</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>or</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16-18</td>
<td>16-18</td>
<td>16-18</td>
<td></td>
</tr>
</tbody>
</table>

Sophomore Year

| Zool. 104-105, 201—Elem. Zoology, Comparative Vertebrate Anatomy | 5 | 5 | 5 |
| Zool. 111 or 112—General Physics | 5 | 5 | 5 |
| Group Requirements (5 or 10 credits) | 5 | 5 | 5 |
| H. & P.E. 201-202-203—Physical Education | 1 | 1 | 1 |
| ROTC 201-202-203—Military or Air Science (Men) | 2 | 2 | 1 |
| or | 2 | 1 | 2 |
| 16-18 | 16-18 | 16-18 |

Junior Year

Aquatic Option

| For. 232, 235—Surveying, Mapping | 5 | 2 | 5 |
| Bot. 236—Plant Physiology, General Systematic Botany | 5 | 5 | 5 |
| Aq. 1—Vertebrate Biology | 5 | 5 | 5 |
| Math. 122—Statistics | 5 | 5 | 5 |
| Group requirements | 5 | 5 | 5 |
| 15 | 15 | 15 |

Terrestrial Option

| For. 232, 235—Surveying, Mapping | 5 | 2 | 5 |
| Bot. 236, 335—Plant Physiology, General Systematic Botany | 5 | 5 | 5 |
| Zool. 309, 310—Vertebrate Embryology, Ecology of Wildlife Populations, Ornithology | 5 | 5 | 5 |
| Math. 122—Statistics | 5 | 5 | 5 |
| Group requirements | 5 | 5 | 5 |
| 15 | 15 | 15 |

Senior Year

| For. 470, 360—Advanced Wildlife Management, General Range Management | 5 | 5 | 5 |
| Bot. 366, 365, Agrostology, Plant Ecology | 5 | 5 | 5 |
| Zool. 302—Human Physiology | 10 | 5 | 5 |
| Electives | 10 | 5 | 5 |
| 15 | 15 | 15 |

| Zool. 104-105-106—Elem. Zool. Field Zool | 5 | 5 | 5 |
| Eng. 104-105—Freshman Composition | 5 | 5 | 5 |
| Math. 106 or 110 (if required by placement) Intermediate Alg. or Plane Trig. | 5 | 5 | 5 |
| For. Lang. 101-102-103—Elem. French or German | 5 | 5 | 5 |
| H. & P.E. 201-202-203—Physical Education | 1 | 1 | 1 |
| ROTC 201-202-203—Military or Air Science (Men) | 2 | 2 | 1 |
| or | 2 | 1 | 2 |
| 16-18 | 16-18 | 16-18 |

Sophomore Year

| Zool. 340, 341—Vertebrate Physiology | 5 | 5 | 5 |
| Bot. 121-122—Gen'l Botany, Classification of Flora | 5 | 5 | 5 |
| Zool. 302—Vertebrate Embryology | 5 | 5 | 5 |
| Group requirements or electives | 5 | 5 | 5 |
| 15 | 15 | 15 |

Junior Year

| Zool. 303, 304—Genetics, Animal Ecology | 5 | 5 | 5 |
| Phys. 111-112-113 or 221-222-223—Gen'l Physics | 5 | 5 | 5 |
| Zool. 425—Biological Literature | 5 | 5 | 5 |
| Electives | 5 | 5 | 5 |
| 15-16 | 15 | 15 |
### DEGREES CONFERRED 1956-1957

#### Honorary Degrees

<table>
<thead>
<tr>
<th>Degree</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor of Science</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Doctor of Laws</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Honorary Degrees</strong></td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Master of Arts:

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Economics</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Education</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>French</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>History and Political Science</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Home Economics</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Psychology</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Sociology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Spanish</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Speech</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Zoology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Master of Arts Degrees</strong></td>
<td>50</td>
<td>10</td>
<td>60</td>
</tr>
</tbody>
</table>

#### Master of Science in Wildlife Management

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Master of Science in Wildlife Management</strong></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

#### College of Arts and Sciences

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Arts:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Arts</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Bacteriology and Hygiene</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Botany</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Chemistry</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Economics</td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>English</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Geology</td>
<td>9</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>20</td>
<td>8</td>
<td>28</td>
</tr>
</tbody>
</table>

#### Bachelor of Arts (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History</strong></td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>History and Political Science</td>
<td>11</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Home Economics</td>
<td>17</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Law</td>
<td>9</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Physics</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Political Science</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Pre-Medical Sciences</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Psychology</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Psychology and Philosophy</td>
<td>8</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Social Work</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Sociology</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Spanish</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Speech</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Bachelor's degrees,</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>112</td>
<td></td>
<td>170</td>
</tr>
</tbody>
</table>

#### Bachelor of Science in Wildlife Technology

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Science in Wildlife Technology</strong></td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Bachelor of Arts:

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Fine Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drama</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Bachelor of Music</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarinet</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>French Horn</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Education</td>
<td>11</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Piano</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Voice</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Bachelor's degrees,</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Fine Arts</td>
<td>13</td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

#### Bachelor of Science in Business Administration

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Science in Business Administration</strong></td>
<td>109</td>
<td>28</td>
<td>137</td>
</tr>
</tbody>
</table>

#### Bachelor of Arts in Education

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Arts in Education</strong></td>
<td>25</td>
<td>47</td>
<td>72</td>
</tr>
</tbody>
</table>

#### Bachelor of Science in Forestry

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Science in Forestry</strong></td>
<td>32</td>
<td>1</td>
<td>33</td>
</tr>
</tbody>
</table>

#### Bachelor of Science in Pharmacy

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Science in Pharmacy</strong></td>
<td>11</td>
<td>1</td>
<td>12</td>
</tr>
</tbody>
</table>

#### Bachelor of Laws

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bachelor of Laws</strong></td>
<td>15</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

#### Recommendations for:

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary School Standard General</td>
<td>27</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>Secondary School Standard Special</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Secondary School Standard Advanced</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Elementary Advanced Certificate</td>
<td>14</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

### MONTANA STATE UNIVERSITY

**SUMMARY OF REGISTRATION, 1956-57**

<table>
<thead>
<tr>
<th>College or School</th>
<th>Graduates</th>
<th>Seniors</th>
<th>Juniors</th>
<th>Sophomores</th>
<th>Freshmen</th>
<th>Unclassified</th>
<th>Special</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Sciences</td>
<td>87</td>
<td>27</td>
<td>114</td>
<td>108 69 267</td>
<td>234</td>
<td>69 303</td>
<td>435 189</td>
<td>615 382 242 624</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>9</td>
<td>9</td>
<td>13</td>
<td>16  12 28</td>
<td>20 15 35</td>
<td>20 19 39</td>
<td>23 28 51</td>
<td>686 399</td>
</tr>
<tr>
<td>Education</td>
<td>34</td>
<td>16</td>
<td>50</td>
<td>34 38 72</td>
<td>33 49 82</td>
<td>33 49 82</td>
<td>33 49 82</td>
<td>33 49 82</td>
</tr>
<tr>
<td>Forestry</td>
<td>12</td>
<td></td>
<td>12</td>
<td>51 51</td>
<td>97 79 79</td>
<td>97 79 79</td>
<td>97 79 79</td>
<td>97 79 79</td>
</tr>
<tr>
<td>Journalism</td>
<td>2</td>
<td></td>
<td>2</td>
<td>16  9 25</td>
<td>19 3 22</td>
<td>19 3 22</td>
<td>19 3 22</td>
<td>19 3 22</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>24 4 28</td>
<td>26 3 29</td>
<td>26 3 29</td>
<td>26 3 29</td>
<td>26 3 29</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>159</td>
<td>57</td>
<td>216</td>
<td>494 147 641</td>
<td>566 164 760</td>
<td>552 206 760</td>
<td>509 282 781</td>
<td>3 10 13 2313</td>
</tr>
<tr>
<td>Law</td>
<td>60</td>
<td>1</td>
<td>61</td>
<td>12 1 13</td>
<td>12 1 13</td>
<td>12 1 13</td>
<td>12 1 13</td>
<td>12 1 13</td>
</tr>
<tr>
<td><strong>TOTALS (Academic Year)</strong></td>
<td>219</td>
<td>58</td>
<td>277</td>
<td>506 148 654</td>
<td>566 164 760</td>
<td>552 206 760</td>
<td>509 282 781</td>
<td>3 10 13 2385</td>
</tr>
</tbody>
</table>

#### Summer Session, 1956

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Duplicates</td>
<td>217</td>
<td></td>
<td>217</td>
</tr>
</tbody>
</table>

#### Total Enrollment of Resident Students

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTALS</strong></td>
<td>2709</td>
<td></td>
<td>2709 4044</td>
</tr>
</tbody>
</table>

#### Correspondence and Extension Students

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Duplicates</td>
<td>205</td>
<td></td>
<td>205</td>
</tr>
</tbody>
</table>

#### TOTAL FOR YEAR 1956-57

<table>
<thead>
<tr>
<th>Field</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTALS</strong></td>
<td>3097</td>
<td></td>
<td>3097 5073</td>
</tr>
</tbody>
</table>