

*Charles J. Thompson*

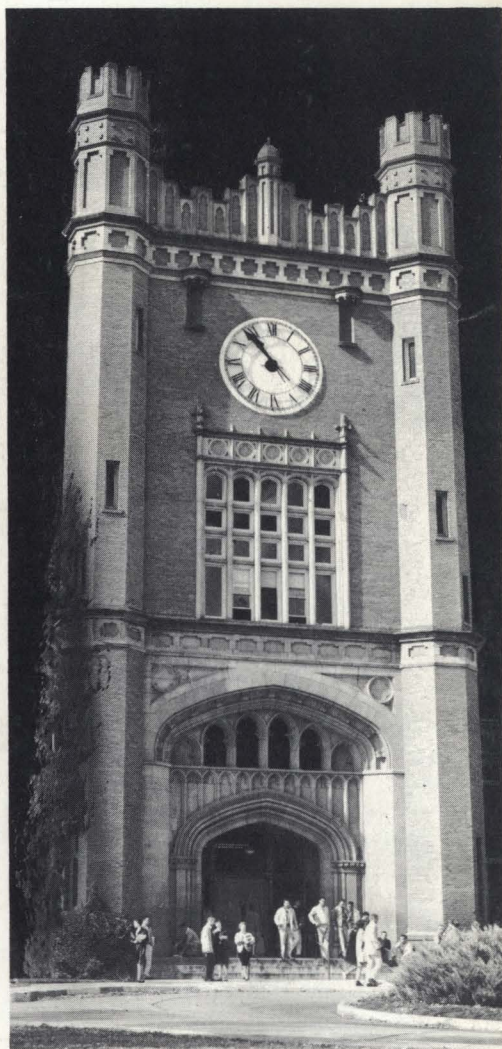
# UNIVERSITY OF IDAHO

Bulletin Volume LXIII

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**CATALOG ISSUE**

**1967-69**



**FACULTY COPY**

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The  
University  
of Idaho

An  
Inspirational  
Campus





# THE UNIVERSITY

## Teaching—

COLLEGE OF LETTERS AND SCIENCE  
COLLEGE OF AGRICULTURE  
COLLEGE OF ENGINEERING  
COLLEGE OF LAW  
COLLEGE OF MINES  
COLLEGE OF FORESTRY, WILDLIFE AND RANGE SCIENCES  
COLLEGE OF EDUCATION  
COLLEGE OF BUSINESS ADMINISTRATION  
GRADUATE SCHOOL

## Research—

AGRICULTURAL EXPERIMENT STATION  
ENGINEERING EXPERIMENT STATION  
BUREAU OF MINES AND GEOLOGY  
(Cooperative with the State of Idaho)  
FOREST, WILDLIFE, AND RANGE EXPERIMENT STATION  
BUREAU OF BUSINESS AND ECONOMIC RESEARCH  
BUREAU OF PUBLIC AFFAIRS RESEARCH  
SPECIAL RESEARCH PROGRAM  
BUREAU OF EDUCATIONAL RESEARCH AND SERVICE

## Service—

AGRICULTURAL EXTENSION SERVICE  
EDUCATIONAL FIELD SERVICE  
CENTRAL PLACEMENT SERVICE

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# CALENDAR 1967-68

This calendar primarily governs academic activities. Announcements of holidays for administrative and operational personnel will be made in the Staff Letter at appropriate times during the year.

1967

Forestry Summer Camp Classes ..... June 5-July 28, Inc  
 Geology-Mining Summer Camp Classes Begin (Monday) ..... June 12

## SUMMER SCHOOL 1967

Registration Day (Monday) ..... June 12  
 University Classes Begin (Tuesday) ..... June 13  
 Last Day for Removal of Incompletes ..... June 30  
 Independence Day (Holiday) (Tuesday) ..... July 4  
 Summer School Closes (Friday) ..... Aug. 4

## FIRST SEMESTER

Date for New Faculty to Report for Duty (Wednesday) ..... Sept. 6  
 General Faculty Meeting (Friday) ..... Sept. 8  
 University Residence Halls Open for All Students (Saturday) ..... Sept. 9  
 Official Opening Date for First Semester (Monday) ..... Sept. 11  
 Pre-Registration Conferences (Monday) ..... Sept. 11  
 Registration Days (Tuesday and Wednesday) ..... Sept. 12-13  
 University Classes Begin (Thursday) ..... Sept. 14  
 Last Day for Graduate Student Registration Without Late Reg. Fee ..... Sept. 14  
 Last Day for Faculty-Staff Registration Without Payment of Late Reg. Fee ..... Sept. 20  
 Last Day for Adding New Courses for Credit (Wednesday) ..... Oct. 4  
 Last Day for Changing Course Sections ..... Oct. 4  
 Last Day for Removal of Incompletes (Wednesday) ..... Oct. 4  
 Last Day for Change of Study List without Penalty for Failing Work (Wed.) ..... Oct. 4  
 Mid-Semester Reports Due (Monday, 12:00 Noon) ..... Nov. 13  
 Thanksgiving Holiday (Thursday and Friday) ..... Nov. 23-24  
 Last Day for Undergraduate Students to Drop Courses (Friday) ..... Dec. 8  
 Christmas Vacation Begins (Wednesday, 5:00 p.m.) ..... Dec. 20

1968

Christmas Vacation Ends (Wednesday, 8:00 a.m.) ..... Jan. 3  
 Field Trips Must be Completed By (Wednesday) ..... Jan. 3  
 Final Examinations (Wednesday through Wednesday, Inc.) ..... Jan. 17-Jan. 24  
 Intercession (Thursday through Sunday) ..... Jan. 25-Jan. 28

## SECOND SEMESTER

Official Opening Date for Second Semester (Monday) ..... Jan. 29  
 Registration Days (Monday and Tuesday) ..... Jan. 29-30  
 University Classes Begin (Wednesday) ..... Jan. 31  
 Last Day for Graduate Student Registration Without Late Reg. Fee ..... Jan. 31  
 Last Day for Faculty-Staff Registration Without Payment of Late Reg. Fee ..... Feb. 2  
 Last Day for Filing Applications for 1968 Baccalaureate Degrees ..... Feb. 20  
 Last Day for Adding New Courses for Credit (Tuesday) ..... Feb. 20  
 Last Day for Changing Course Sections (Tuesday) ..... Feb. 20  
 Last Day for Removal of Incompletes (Tuesday) ..... Feb. 20  
 Last Day to Change Study List Without Penalty for Failing Work (Tuesday) ..... Feb. 20  
 Washington's Birthday (Holiday) (Thursday) ..... Feb. 22  
 Last Day for Filing Applications for 1968 Graduate Degrees ..... Mar. 1  
 Mid-Semester Reports Due (Monday, 12:00 Noon) ..... Mar. 25  
 Spring Vacation (Monday through Friday, Inc.) ..... March 25-29  
 Last Day for Undergraduate Students to Drop Courses (Friday) ..... April 19  
 Field Trips Must be Completed By (Friday) ..... May 10  
 Final Examinations (Thursday through Friday, Inc.) ..... May 23-May 31  
 Memorial Day (Thursday) (Holiday) ..... May 30  
 Baccalaureate and Commencement (Sunday) ..... June 2

## SUMMER SCHOOL 1968

Forestry Summer Camp Classes Begin (Monday) ..... June 3  
 Geology-Mining Summer Camp Classes Begin (Monday) ..... June 10  
 Summer School Opens (Monday) ..... June 10

# CALENDAR 1968-69

This calendar primarily governs academic activities. Announcements of holidays for administrative and operational personnel will be made in the Staff Letter at appropriate times during the year.

1968

Forestry Summer Camp Classes ..... June 3-July 26, Inc.  
 Geology-Mining Summer Camp Classes Begin (Monday) ..... June 10

## SUMMER SCHOOL 1968

Registration Day (Monday) ..... June 10  
 University Classes Begin (Tuesday) ..... June 11  
 Last Date for Removal of Incompletes ..... June 28  
 Independence Day (Holiday) (Thursday) ..... July 4  
 Summer School Closes (Friday) ..... Aug. 2

## FIRST SEMESTER

Date for New Faculty to Report for Duty (Wednesday) ..... Sept. 4  
 General Faculty Meeting (Friday) ..... Sept. 6  
 University Residence Halls Open for All Students (Saturday) ..... Sept. 7  
 Official Opening Date for First Semester (Monday) ..... Sept. 9  
 Pre-Registration Conferences (Monday) ..... Sept. 9  
 Registration Days (Tuesday and Wednesday) ..... Sept. 10-11  
 University Classes Begin (Thursday) ..... Sept. 12  
 Last Day for Graduate Student Registration Without Late Reg. Fee ..... Sept. 12  
 Last Day for Faculty-Staff Registration Without Payment of Late Reg. Fee ..... Sept. 18  
 Last Day for Adding New Courses for Credit (Wednesday) ..... Oct. 2  
 Last Day for Changing Course Sections (Wednesday) ..... Oct. 2  
 Last Day for Removal of Incompletes (Wednesday) ..... Oct. 2  
 Last Day for Change of Study List Without Penalty for Failing Work (Wed.) ..... Oct. 2  
 Mid-Semester Reports Due (Monday, 12:00 Noon) ..... Nov. 11  
 Thanksgiving Holiday (Thursday and Friday) ..... Nov. 28-29  
 Last Day for Undergraduate Students to Drop Courses (Friday) ..... Dec. 6  
 Christmas Vacation Begins (Friday, 5:00 p.m.) ..... Dec. 20

1969

Christmas Vacation Ends (Monday 8:00 a.m.) ..... Jan. 6  
 Field Trips must be Completed By (Monday) ..... Jan. 6  
 Final Examinations (Wednesday through Wednesday, Inc.) ..... Jan. 15-Jan. 22  
 Intersession (Thursday through Sunday) ..... Jan. 23-Jan. 26

## SECOND SEMESTER

Official Opening Date for Second Semester (Monday) ..... Jan. 27  
 Registration Days (Monday and Tuesday) ..... Jan. 27-28  
 University Classes Begin (Wednesday) ..... Jan. 29  
 Last Day for Graduate Student Registration Without Late Reg. Fee ..... Jan. 29  
 Last Day for Faculty-Staff Registration Without Payment of Late Reg. Fee ..... Jan. 31  
 Last Day for Adding New Courses for Credit (Tuesday) ..... Feb. 18  
 Last Day for Changing Course Sections (Tuesday) ..... Feb. 18  
 Last Day for Removal of Incompletes (Tuesday) ..... Feb. 18  
 Last Day to Change Study List Without Penalty for Failing Work (Tuesday) ..... Feb. 18  
 Last Day for Filing Applications for 1969 Baccalaureate Degrees ..... Feb. 20  
 Last Day for Filing Applications for 1969 Graduate Degrees ..... Mar. 1  
 Mid-Semester Reports Due (Monday, 12:00 Noon) ..... Mar. 24  
 Spring Vacation (Monday through Friday, Inc.) ..... March 24-28  
 Last Day for Undergraduate Students to Drop Courses (Friday) ..... April 18  
 Field Trips Must be Completed By (Friday) ..... May 9  
 Final Examinations (Thursday through Thursday, Inc.) ..... May 22-May 29  
 Memorial Day (Holiday) (Friday) ..... May 30  
 Baccalaureate and Commencement (Sunday) ..... June 1

## SUMMER SCHOOL 1969

Forestry Summer Camp Classes Begin (Monday) ..... June 2  
 Geology-Mining Summer Camp Classes Begin (Monday) ..... June 9  
 Summer School Opens (Monday) ..... June 9

## ATTENTION PROSPECTIVE NEW STUDENTS

**FINAL DATES FOR MAKING APPLICATIONS.**—All applications for admission to the University of Idaho for the first semester must be received by the Admissions Office on or before August 1st.

Applications received after the above date will be held and the students will be accepted in order of receipt of their applications only if the University can accommodate them.

The final date for making application for admission for the second semester is January 15.

**ENROLLMENT PROCEDURE.**—Prospective students, both Idaho residents and those in other states, should write to the Admissions Office, University of Idaho, Moscow, for blanks upon which to apply for admission. Enrolling in the University is neither difficult nor complex if the steps outlined in this folder are taken in the proper order.

**OUT-OF-STATE STUDENTS.**—Within its capacity after accommodating Idaho students, the University admits out-of-state students on a selective basis. Special consideration is given to sons and daughters of out-of-state alumni. Other factors considered in selecting out-of-state candidates are scholarship, scores received on nationally administered tests associated with college entrance, special abilities, and the need of Idaho industries for graduates in certain fields such as forestry, mining and agriculture.

Out-of-state students should write the Admissions Office, giving the reasons for their interest in the University of Idaho, stating what they desire to study, and indicating their scholastic achievements in high school and any colleges attended.

A \$25 application fee is required for all out-of-state undergraduate students. This fee must accompany the application.

**PERMIT-TO-REGISTER.**—When accepted by the University, an applicant is issued a letter of acceptance. This is the applicant's official authority to enter the University as a student. The Permit-to-Register will be held in the Office of the Dean of the college the applicant is going to enter. The permit and other registration materials will be made available to the applicant on the first day of registration. This permission to register, however, **does not carry with it any assurance, direct or implied, of living quarters in a University residence hall.** Finding a place to live is the applicant's responsibility.

**LIVING QUARTERS.**—For complete information on "Living Accommodations and How to Get Them" see page



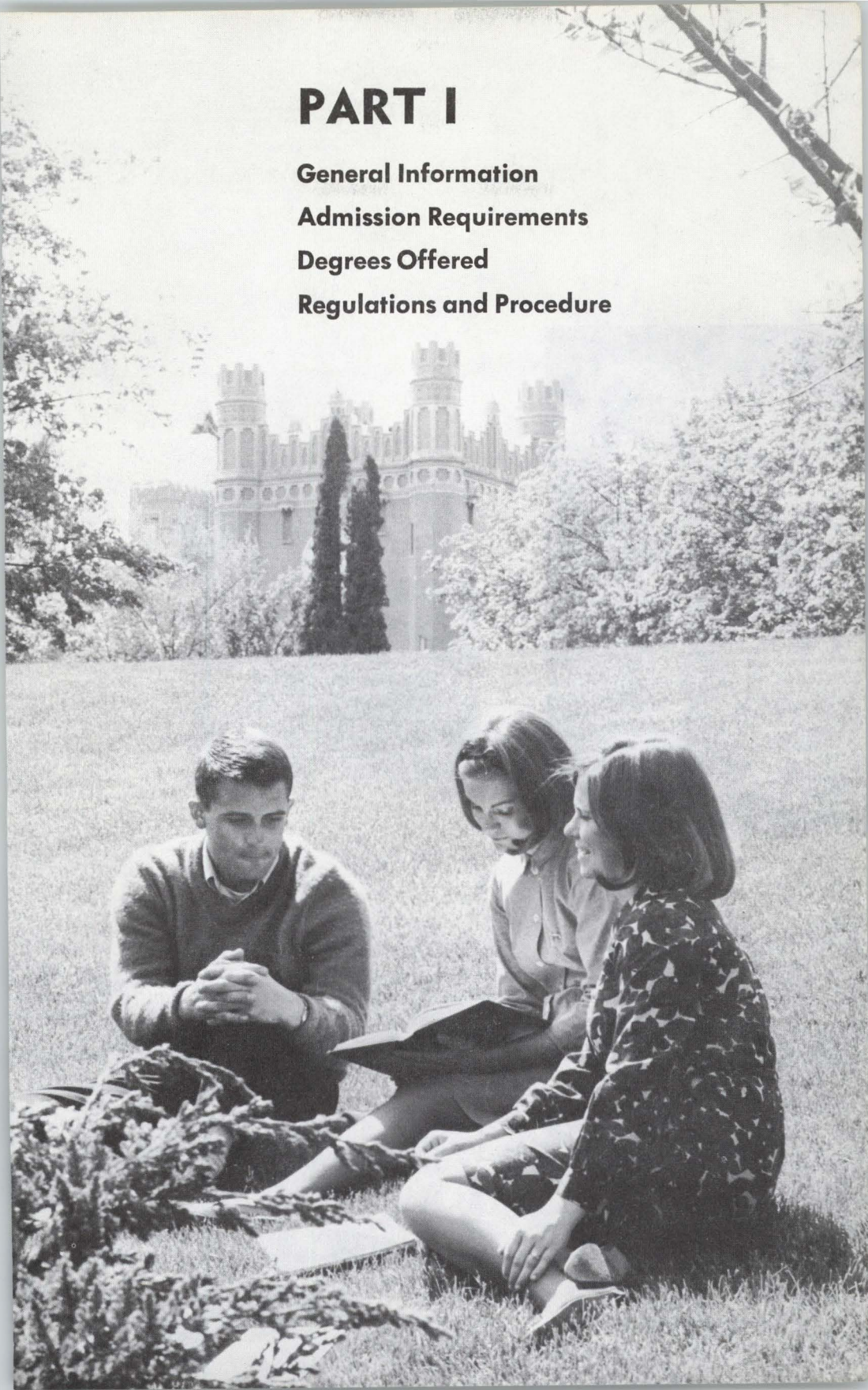
# **PART I**

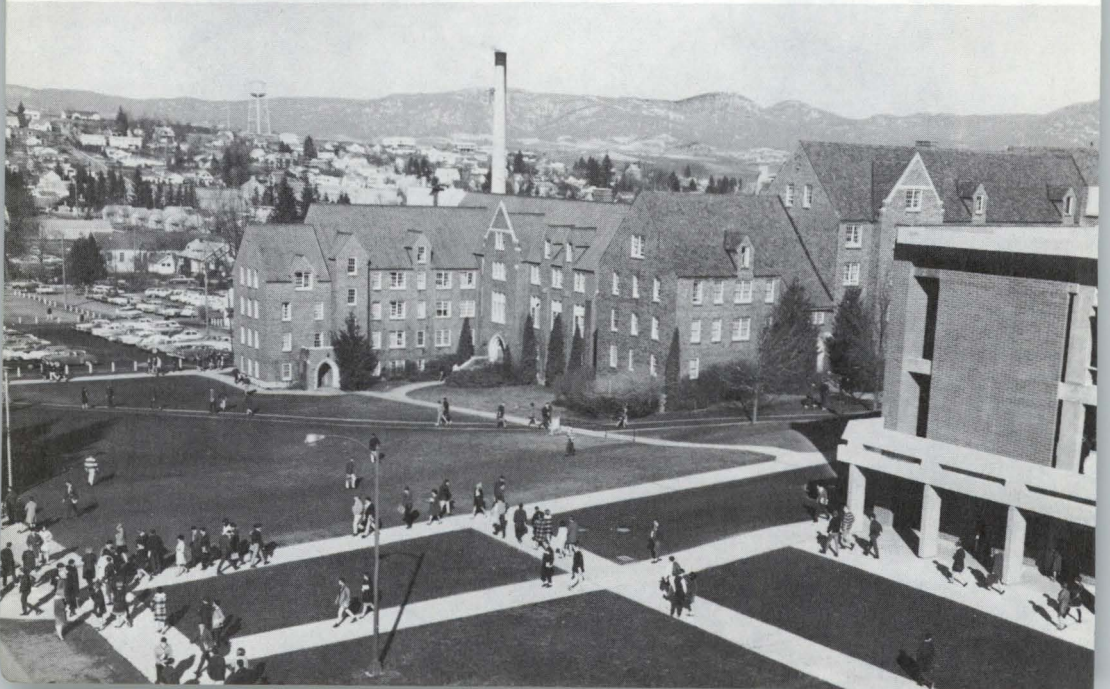
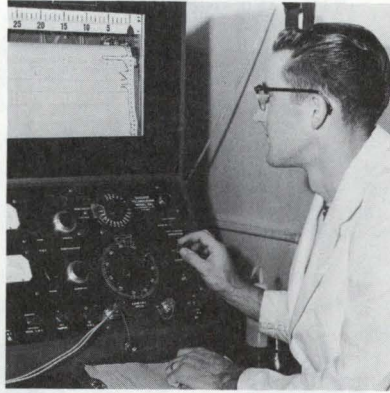
**General Information**

**Admission Requirements**

**Degrees Offered**

**Regulations and Procedure**





### FOR THE GUIDANCE OF ALL STUDENTS:

The provisions of this catalog are not to be regarded as an irrevocable contract between the student and the University of Idaho. The University reserves the right to change any provision or requirement at any time within the student's period of attendance. The University further reserves the right, at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.

## THE UNIVERSITY

The University, located in an attractive, mountain fringed town of 13,703 population, is often described as one of the West's most beautiful campuses. University buildings and the student owned fraternities and sororities are outstanding examples of architecture which blend into the beautifully landscaped grounds and the pleasant, green-covered rolling hills.

The campus and the adjoining 800 acre University experimental farm total approximately 1,450 acres. Additional University land includes 1,800 acres of Agriculture Branch Station Farms, and 7,120 acres of experimental forest land located in the Moscow Mountains at a distance of 17 to 35 miles from the Campus. The location of the many modern buildings, excluding the College of Agriculture farms, can be identified from the map on the back of the colored picture of the Campus preceding page 1 of this bulletin. It can be noted that the massive Administration Building and the Administration Office Building, in close proximity, are centrally located on the Campus. Together they house most of the administrative offices, College of Law, the College of Business Administration, College of Education, the College of Letters and Science and the Auditorium.

Following a building replacement program to assure efficiency and continued modernization, the University has constructed a number of new buildings within the last fifteen years. These facilities may be identified on the map as buildings for Physical Sciences, Agricultural Science, Mines, Music, Engineering Classroom, Home Economics, General Classroom Building, Art and Architecture Building, attractive residence halls including the 1966 addition to the Wallace Residence Center, and major additions to the Student Health Center, Kirtley Laboratory, Administration Building, Student Union and Memorial Gymnasium.

Idaho is also justly proud of its fine student residences which number eleven for single men, and ten for single women. In addition to these there are the houses for 17 fraternities and nine sororities. Provided for married students are 64 one-bedroom apartment units and 73 small houses and apartments. All the accommodations for living are conveniently located within five minutes walking distance from any facility on the campus. Their carefully grouped locations foster the development of friendships among the various groups as well as providing quick and easy access to classrooms, laboratories and recreation areas.

University land, buildings, and equipment, including the 25 student-owned fraternity and sorority residences, currently have a replacement value of about \$42,000,000. Also, plans have been made and priorities established to add and replace facilities to provide the increasing student population with a Campus which will enhance their ability to successfully complete the demanding requirements for a college degree.

## FIELDS OF SERVICE

### TEACHING

Resident courses on the main campus at Moscow are given by nine colleges and schools—the Colleges of Letters and Science (the liberal arts college), Agriculture, Engineering, Law, Mines, Forestry, Education, and Business Administration, and the Graduate School. Non-resident instruction is provided in more than 150 courses. The University's Summer School brings to the campus some of the nation's foremost educators. For the practical training of students in forestry, the University maintains a forestry summer camp on Payette Lake, near McCall. To give training in field geology and mine mapping, a College of Mines field camp is operated. Short courses given on the campus are in addition to the regular resident teaching.

### RESEARCH

On the farms and livestock ranges, in the forests and the mines, on the highways and in the industries of the State of Idaho, University of Idaho research has, through the years, contributed greatly to the State's development. Active research agencies at the University include the Graduate School; Agricultural Experiment Station; Engineering Experiment Station; Idaho Bureau of Mines and Geology; Forest, Wildlife, and Range Experiment Station; Bureau of Business and Economic Research; Bureau of Public Affairs Research; and the General and Special Research Programs. These are coordinated through the University Research Council. Descriptions of the various research agencies at the University will be found in Part IV of this catalog.

### SERVICE

Through various service divisions, the benefits of University research are carried to every corner of the State. Principal service agencies include the federal-state cooperative Agricultural Extension Service, which conducts educational programs with farmers in every county, and the Educational Field Service division. (See Part IV for details on both these divisions.) Through 4-H clubs, the College of Agriculture and its Agricultural Extension Service serve the State's farm youth. The Idaho Bureau of Mines and Geology at the College of Mines analyzes hundreds of ore samples submitted by miners and prospectors. Thousands of trees go annually to farmers of the State from the University's Clarke-McNary nursery operated by the College of Forestry in cooperation with the U.S. Forest Service. The College of Education cooperates with schools of the State in organizing teaching programs. Through music clinics and summer camps, the University's music department performs a special service for thousands of high school musicians. Copies of plays from the dramatics library are sent on loan to schools and groups throughout the State. Motion picture films, slides, etc., are serviced to state organizations by both the Audio-Visual Center on the campus and the Agricultural Extension Service film library in Boise. The Radio-Television Center provides programs and other recordings for radio and TV stations. News stories are serviced to both press and radio by the Publications Office, which also furnishes the press with photographs processed by the Photo Center. Residents of the State continually write to the University for information, making it a large scale question-and-answer agency.

## GENERAL INFORMATION

Since its founding by Territorial Legislature on January 30, 1889, which Act was later incorporated in the State Constitution, the University of Idaho has had three functions:

1. To train the State's future citizens to their highest usefulness in private life and public service.
2. To conduct research in all fields that promise to assist in development of the State's resources.
3. To carry the fruits of that research and University Service to all parts of the State.

The University of Idaho is the chief unit in the State's higher educational system. The University is composed of eight (8) colleges and a graduate school as follows:

1. College of Letters and Science (the liberal arts college)
2. College of Agriculture and Agricultural Experiment Station
3. College of Engineering and Engineering Experiment Station
4. College of Law
5. College of Mines and Idaho Bureau of Mines and Geology
6. College of Forestry and Forest, Wildlife and Range Experiment Station
7. College of Education with complete programs for elementary and secondary teachers and school administrators in all common subject-matter fields.
8. College of Business Administration
9. Graduate School with masters' programs in most of the subject matter fields covered by the eight (8) undergraduate colleges and doctoral programs leading to the Ph.D. and Ed.D. in a number of disciplines.

Through its many research and service agencies, the University extends technical and professional services to every community of the State and reaches hundreds of thousands through Agricultural Extension, Non-Residential Instruction, the Summer School, Education Field Services (see complete description in Part IV), and special short courses. The University also has Reserve Officers Training Corps units in Army, Navy and Air Force.

The naval unit is designated as a regional one to serve surrounding states as well as Idaho.

Created by an Act of the Fifteenth, and last, session of the Territorial Legislature in January, 1889, Idaho's State University has the distinction of being eighteen months older than the State itself, which was admitted to the Union July 3, 1890. Control of the University, together with all other public schools of the State, is in the hands of the State Board of Education and Board of Regents of the University of Idaho.

## ACADEMIC STANDINGS AND ASSOCIATION AFFILIATIONS

### ACCREDITATION

The University of Idaho is a member of the National Commission on Accrediting and is accredited by the Northwest Association of Secondary and Higher Schools. This accreditation embraces the entire University including all its colleges and the Graduate School. In addition to this general accreditation, the following organizations have given additional approval or accreditation:

- American Medical Association—the pre-medical curriculum.
- American Dietetics Association—the home economics food and nutrition curriculum.
- American Chemical Society—the chemistry curriculum.
- State Department of Public Assistance—the social science curriculum.
- Engineers' Council for Professional Development—selected engineering curricula of the College of Engineering and the College of Mines.
- American Bar Association's Committee on Legal Education — the College of Law.
- Society of American Foresters—the College of Forestry.
- National Council for Accreditation of Teacher Education.
- American Association of University Women.
- National Association of Schools of Music—the Music Curriculum.

The University of Idaho has long possessed nationally recognized marks of excellence:

1. A chapter of Sigma Xi, national honorary scientific society, since 1922.
2. A chapter of Phi Beta Kappa, national honorary scholarship society, since 1926.
3. A chapter of Phi Kappa Phi, national honorary scholastic society, since 1960.
4. Chapters of national honorary and scholarship societies in practically every field.

### ASSOCIATION MEMBERSHIP

The University of Idaho holds memberships in the following organizations:

Adult Education Association of the United States  
 Air Pollution Control Association  
 American Choral Foundation  
 American College Health Association  
 Alpha Sigma Rho  
 American Alumni Council  
 American Association for Health, Physical Education, and Recreation  
 American Association of Colleges for Teacher Education  
 American Association of Collegiate Registrars and Admission Officers  
 American Association on Emeriti  
 American Association of Land-Grant Colleges and Universities  
 American Association of Law Libraries  
 American Association of Law Libraries Committee on Exchange of Duplicates  
 American Bar Association's Committee on Legal Education  
 American Choral Foundation  
 American College Public Relations Association  
 American College of Sports Medicine  
 American Concrete Institute  
 American Congress on Surveying and Mapping  
 American Council on Education  
 American Fisheries Society  
 American Institute of Chemical Engineers  
 American Institute of Electrical Engineers  
 American Library Association  
 American Mathematical Society  
 American Road Builders Association  
 American Shorthorn Breeders Association  
 American Society for Engineering Education  
 American Society of Journalism School Administrators  
 American Society for Testing Materials  
 American Society of Agricultural Engineers  
 American Society of Civil Engineers  
 American Society of Mechanical Engineers  
 American Studies Association  
 American Symphony Orchestra League  
 American Waterworks Association  
 American Yorkshire Club, Inc.  
 Associated Collegiate Press  
 Associated Rocky Mountain Universities, Inc.  
 Association for Professional Broadcasting Education  
 Association of American Law Schools  
 Association of College and University Housing Officers  
 Association of College Unions  
 Association of Collegiate Schools of Architecture  
 Association of Governing Board of State Universities and Allied Institutions  
 Association of N.R.O.T.C. Colleges  
 Association of Official Seed Analysts  
 Association of State College and University Forestry Research Organizations  
 Association of State Geologists  
 Athletic and Recreation Federation of College Women  
 Audit Bureau of Publications  
 Augustan Reprint Society  
 Bibliographical Society of the University of Virginia  
 Big Sky Athletic Conference  
 Book Club of California  
 Champlain Society  
 Canadian Library Association  
 Canadian Political Science Association  
 College Athletic Business Managers Association  
 Council for Agricultural and Chemurgic Research  
 Council of Arts and Science  
 Council on Consumer Information  
 Council of Graduate Schools in the United States  
 Council On Social Work Education

Forest Farmers Association Cooperative  
Forest History Society  
Hudson's Bay Record Society  
Idaho Academy of Science  
Idaho Broadcasters Association  
Idaho Federation of Music Clubs  
Idaho Holstein-Friesian Breeders  
Idaho Ice Cream Manufacturers Association  
Idaho Press Association  
Idaho Milk Processors Association  
Idaho Jersey Cattle Club  
Idaho State Golf Association  
Idaho State Library Association  
Indiana Historical Society  
Inland Empire Association Amateur Athletic Union  
Institute of International Education  
Intercollegiate Association of Women Students  
Intercollegiate Broadcasting System  
Intercollegiate Press  
International Congress of University Adult Education  
Mathematical Association of America  
Mountain-Plains Adult Education Association  
National Association of Accountants  
National Association of Basketball Coaches  
National Association for Business Teacher Education  
National Association of College Stores  
National Association of Educational Broadcasters  
National Association of Educational Buyers  
National Association of Departments of English in Colleges and Universities  
National Association of College and University Attorneys  
National Association of College and University Summer Schools  
National Association of College and University Business Officers  
National Association of Foreign Student Advisors  
National Association of Secondary School Principals  
National Association of Schools of Music  
National Association of State Universities  
National Association of Student Personnel Administrators  
National Collegiate Athletic Association  
National Collegiate Athletic Association Golf Coaches Association  
National Commission on Accrediting  
National Council on Crime and Delinquency  
National Education Association of the United States  
National Farm Chemurgic Council  
National Fire Protection Association  
National Intramural Association  
National Institutional Teacher Placement Association  
National Microfilm Association  
National Probation and Parole Association  
National Research Council  
National Rifle Association  
National Safety Council  
National Student Association  
National Track and Field Association  
National University Extension Association  
Northwest Institutional Teacher Placement Association  
Northwest Association of Colleges and Universities for Scientific Studies  
Northwest Association of Secondary and Higher Schools  
Northwest College Lectures and Concerts Association  
Northwest Scientific Association  
Northwest University Business Administration Conference  
Oxford Bibliographical Society  
Pacific Coast Association of Collegiate Registrars and Admission Officers  
Pacific Coast Association of Physical Plant Administrators of Universities and Colleges  
Pacific Coast College Health Association  
Pacific Forensic League  
Pacific Northwest Association for College Physics  
Pacific Northwest Bibliographic Center  
Pacific Northwest Conference of Foreign Language Teachers  
Pacific Northwest Conference on Higher Education  
Pacific Northwest Library Association  
Pacific Northwest Newspaper Advertising Executives Association  
Pacific Northwest Pollution Control Association  
Pacific Northwestern Ski Association  
Potato Association of America  
Professional Photographers of America, Inc.  
Renaissance Society of America  
Rocky Mountain Mineral Law Institute  
Rocky Mountain Science Council  
Royal Historical Society  
Scottish Economic Society  
Selden Society  
Society of Architectural Historians  
South African Forestry Association  
The Spokane Westerners

Tax Institute, Incorporated  
 Technical Association of the Pulp and Paper Industry  
 The Library Association  
 United States Book Exchange  
 Universities Council on Water Resources  
 University Photographers Association  
 U.S. Field Hockey Association (W.R.A.)  
 Utah State Historical Society  
 Weed Society of America  
 Western Agricultural Economics Research Council  
 Western Association of Colleges and University Business Officers  
 Western Association of Graduate Schools  
 Western College Book Store Association  
 Western College Placement Association  
 Western Economic Association  
 Western History Association  
 Western Snow Conference  
 Wildlife Disease Association  
 Wisdom Society

## PUBLICATIONS

**University of Idaho Publications** include five issues yearly of the University of Idaho Bulletins; the catalog, Summer School announcement, general information for students; pictorial, and one special issue of changing content to meet needs of providing information for the people of the State. *The University of Idaho Reports to the Citizens of the State* presents current progress in the fields of Teaching, Research, and Service. Any citizen of the State may secure this quarterly report by addressing the Department of Publications.

**Agricultural Publications.**—The University publishes a quarterly, *Idaho Agricultural Science*, reporting to farmers of the state latest information on all phases of Agriculture research, extension, and field service. One issue of this quarterly constitutes the annual report of the Agricultural Experiment Station. *Agricultural Experiment Station Bulletins* contain full accounts of results of investigations by the Staff of the Experiment Station. *Agriculture Extension Bulletins* are published frequently to make available to farmers the latest agricultural knowledge in non-technical language.

**Student Publications** are *The Idaho Argonaut*, student newspaper; *The Gem of the Mountains*, Associated Students' yearbook, and *The ASUI Student Handbook*. *The Idaho Forester* is semitechnical and popular publication of the students of the College of Forestry and the *Idaho Law Review* is prepared annually by the students of the College of Law, with the assistance of the Faculty Adviser.

**Public Service Bulletins.**—Results of research and field investigations conducted by staff members of the College of Mines are published under the sponsorship of the State Bureau of Mines and Geology. Numerous publications of the College of Agriculture serve the needs of the agricultural industry of the state. Research findings of the other colleges are also published in bulletin form. Continuing publication of bulletins is carried out by The Bureau of Public Affairs (College of Letters and Science), the Bureau of Business and Economic Research (College of Business Administration), Educational Research and Service (College of Education), Educational School Surveys (College of Education), State Occupational Research and Development Coordinating Unit (College of Education), Engineering Experiment Station (College of Engineering) Forestry, Wildlife and Range Sciences Experiment Station (College of Forestry, Wildlife and Range Sciences).

## ALUMNI ASSOCIATION

The Alumni Association, University of Idaho, is composed of all graduates and former students, and of such honorary members as may be elected periodically in recognition of service rendered by them to the University and to education and progress of the State as a whole. "The object of the Association shall be to cultivate and maintain good fellowship among its members; to foster a general interest in the welfare and support of the University of Idaho; to own property and do the necessary business in



regard thereto; and to develop a constructive program for the building of a greater University each succeeding year."

There are in excess of twenty-five alumni groups and there is now more or less detailed information on over 35,000 graduates and former students. It is estimated that there are still over 10,000 yet to be located.

The activities of the Association are under the direction of a full-time Alumni Secretary and a Board of Directors of sixteen members, elected from the principal sections of the State of Idaho and eastern Washington.

The University of Idaho Alumni Association also has an Alumni Fund from which money for operation of the Association Activities, pertaining directly to alumni themselves, is derived. Included in this is the Alumni Scholarship Fund from which cash scholarships are available each year from the earnings of monies, stocks, bonds, and other gifts, received through the Alumni Fund. The recipients of this award must be a son or daughter of an Idaho Alumnus. In addition, the Boise Chapter of the University of Idaho Alumni Association annually makes available two scholarships for students from the immediate Boise area who plan to enter the University of Idaho as freshmen. Information on these two scholarships may be obtained by writing to the Alumni Secretary at the University.

## THE LIBRARY

The vital center of the much-stressed quality education sought by the University is its library of books and documents totalling more than a half-million volumes. Objectives stressed by the University are teaching, research, and service. The Library makes its unique contribution in all three areas. By way of teaching, it offers special instruction—group and individual—in elementary and advanced techniques of bibliographic search. Its support of research lies in its ever-enriching collections, to which it contributes the uncommon interpretive skills of its experienced and expertly trained subject librarians (in Humanities, Social Science, Science/Technology). In an era of exploding knowledge and automated library techniques, the library is making serious studies in the application of advanced technology to its basic operations.

The University Library is housed in a \$1,500,000 building of modern construction, completed and occupied in 1957. It is air-conditioned, has thermopane windows throughout, and is lighted by a luminous ceiling that provides optimum study conditions at all times. The collection consists of over 500,000 volumes, excluding the Law Library's 32,000 volumes. Approximately 18,000 volumes are added annually. The Library receives 5,000 serials and 100 newspapers. Its documents collection of over 236,400 volumes and the collection of nearly 50,000 maps are among the strongest in the Northwest. The University Library is also the regional depository in Idaho for the U.S. Government documents. As a member of the Pacific Northwest Bibliographic Center located in Seattle, it has access to the collections of other scholarly libraries within the region.

The divisional librarians administer three open-stack divisional libraries which have been organized to conform closely with the pattern of the academic divisions. The open-stack libraries, typing rooms, study carrels, micro-film room, and other features have attracted wide attention and make the Library one of the finest agencies of its kind in the country.

Among its many services the Library provides coin-operated electric typewriters (ten cents per twenty minutes) in the typing rooms for those who wish to take notes and do not have a typewriter of their own. Also, two photocopy machines are available, a Xerox 720 and a Vico-Matic, for those who wish permanent copies of needed library materials.

The Library's Special Collections holdings have developed at a gratifying pace in the last several years. In addition to its rich holdings in Northwest

Americana, State and University documents and archives, Sir Walter Scott and fine bindings, it is acquiring a unique collection of Basque materials. For the first time an American university library will bring together an impressive gathering of materials for study in the history, language, and culture of the Basque people, who have made a distinctive contribution to the history of Idaho.

## CENTRAL PLACEMENT SERVICE

The Placement Service is the central contact agency between all colleges of the University and employers. The office is organized to assist all University of Idaho graduates in obtaining employment according to their training, ability, and experience.

At specific times throughout the year business, government, industry, and education send their representatives to the campus for the purpose of interviewing students and graduates. Arrangements for these visits are made with the Central Placement Service.

It is the purpose of this Center to serve the state, region, and nation by providing adequately trained personnel for all industrial and governmental groups as well as schools, public and private, from kindergarten through graduate school.

This service is available to all students upon request. The initial contact with the Central Placement Service must be made by the student. All candidates desiring the use of this service should obtain the necessary registration forms during the first semester of his senior year. There is no charge for this service.

## STUDENT AFFAIRS

The Office of Student Affairs is responsible for the overall administration and coordination of the various programs and services which contribute directly to the general welfare and out-of-class life of University of Idaho students. Included in these programs are such activities as: health services; counseling services; financial aids in the form of student loans (in cooperation with the Business Office) and emergency aid funds; scholarships and awards; advisory services for residence halls' organizations and fraternities and sororities; advisory services for recreational and social activities; calendar of campus events; student government known as Associated Students of the University of Idaho; and the Student Union.

## COUNSELING SERVICES

**Contact With Idaho High School Seniors.**—Counselors from the University under the general direction of the Director of Admissions visit Idaho high schools and provide Idaho high school seniors with general information about the University of Idaho and counsel with them concerning their college plans. This program is accomplished in the following ways: discussions with individual seniors and their parents; conferences with senior classes; use of audio-visual materials; and dissemination of information through printed bulletins.

**Counseling Services for High School Seniors.**—The services of the University Student Counseling Center, located on the campus, are available without charge to those high school seniors who are planning to enter the University of Idaho. Through participation in a program of testing and individual conferences, the prospective college student can make more realistic plans for his college academic major and the selection of his vocational goal. This counseling program for students not yet enrolled in the University can best be handled during the summer months and individuals desiring to use the service should make arrangements at least two weeks prior to the time they wish to come to Moscow. Requests for counseling appointments should be addressed to the Director of Counseling Services.

**College Student Counseling.**—The guidance services provided in the Student Counseling Center are available to all students in the University. Full-time counselors devote their efforts to the job of assisting individual students in the thinking through and solving of their problems related to choice of vocational objective, personal problems, and adjustment in the academic program. The scores received from the national entrance and placement testing programs (see page 46) are kept on file here and are utilized in counseling with students concerning their educational and vocational plans. Additional tests of special aptitudes, reading skills, and interests may also be administered according to the needs of the student. In addition to these specialized counseling services, there are faculty members in each division who devote part of their time to student personnel problems.

#### **FRATERNITIES AND SORORITIES—See Page 41**

#### **STUDENT HEALTH SERVICES**

Medical and hospital care are available to each regularly enrolled student in residence at the University. Students are urged to report to the Student Health Center at the first sign of illness, not only for their own good but to avoid a possible spread of disease in their living groups.

A part of the regular semester fees is allocated to the support of the Student Health Center. Facilities include a modern 70-bed hospital which is staffed by three full-time physicians, a part-time psychiatrist, seven graduate nurses, and a laboratory and X-ray technician. Services include practically all types of treatments except the following: Major surgery, major fractures, examination and care by specialists where indicated, special drugs and certain X-rays. Students are entitled to hospitalization for a period of seven days in any one semester. If hospitalized for more than seven days in any one semester, a fee of \$3 a day is charged. The right is reserved to assess extra charges for more-than-normal services provided any student in any one semester.

A completed physical examination must be filed as part of the admission procedure to the University. This physical examination is **required of each new student** entering the University (see page 46). University physicians are not required to give entrance physical examinations or physical examinations to students who must have such examinations to qualify for jobs. However, the medical staff does give other physical examinations if such are required for the student's University program.

#### **PART-TIME EMPLOYMENT**

The University of Idaho maintains a program to assist students in finding part-time employment while they are on the campus. Preference is given to students who have a definite financial need. New students are advised to come prepared to meet all expenses for the first year since the academic program for most freshmen is so time-consuming that sufficient time is not always available for part-time work unless a reduction is made in the individual's academic load. The University cannot guarantee any student a part-time job. In most cases part-time job placements cannot be made before a student actually arrives in Moscow. Those students who find it necessary to earn money while attending the University should complete registration and then contact the Non-Academic Personnel Office for part-time work. Information concerning class schedules, aptitude, and type of work is obtained and placed on file.

The University of Idaho participates in the College Work-Study Program under title 1, part c, of the Economic Opportunity Act of 1964. Under this program, students who qualify both with respect to a definite and demonstrable financial need and academic potential may obtain part-time employment to a maximum of 15 hours per week. Further information about opportunities under the College Work-Study Program at the University of Idaho may be obtained from the Non-Academic Personnel Office.

## RECREATIONAL, SOCIAL AND EXTRACURRICULAR ACTIVITIES

Many opportunities are available on the campus for recreational activity. The Student Union is the social and recreational center for the university community. The new student soon learns that the Union building can be useful in more ways than just selling a cup of coffee. The Student Union provides many facilities for use of students, including bowling alleys, billiard tables, music listening rooms, arts and crafts room, cafeteria and snack bar, ball room, meeting and banquet rooms and student government offices.

In addition to the many facilities available in this building, the Activities Council offers a variety of programs for leisure hours in the Student Union Building. Informal dances, art exhibits, speakers and forums, weekend movies, bridge, square dancing, recorded concerts, and games tournaments are among the numerous activities available.

The Associated Students is the student government organization to which every regularly enrolled student belongs. Through their ASUI (Associated Students of the University of Idaho) membership, students are eligible to participate in a variety of activities. The twice-weekly campus newspaper, *The Idaho Argonaut*, and the yearbook, *The Gem of the Mountains*, offer opportunities for those interested in journalism or photography. In addition to the opportunity for participation in music groups such as the Vandaleers (concert choir), symphony orchestra, symphonic and marching bands, University singers, and opera workshop, students may attend the community concerts in Moscow and Pullman which feature seven or eight outstanding musical events each year. Under the direction of the Department of Dramatics, a number of theatrical productions are presented each year providing opportunities for both acting and production experience. There are opportunities for participation in radio broadcasting. Through its membership in the Pacific Coast Forensic League, the University sponsors a full debate schedule. Each year a number of outstanding nationally known speakers are brought to the campus by the Public Events Committee.

A large proportion of University of Idaho students who are single live on the campus in residence halls, sororities and fraternities. Each of these living groups carries on a program of exchange dinners, firesides, dances and other social affairs.

Well-rounded varsity athletic and intramural athletic programs are available to all who wish to participate. There is collegiate competition in the Big Sky Conference in football, basketball, baseball, track, tennis, swimming, golf, cross country, skiing and wrestling. There is a strong intramural athletic program under the direction of the Department of Physical Education and more than two-thirds of the student body, both men and women, participate in this year-round intramural program which covers 15 sports. The Women's Recreation Association provides for participation and competition for all women in a wide range of intramural sports and activities, and in a number of extramural sports. The ASUI maintains an excellent nine-hole golf course adjacent to the campus. Many other recreation facilities are available on the campus, including tennis courts, which are lighted for night play, bowling alleys, out-door handball courts, and a swimming pool. There are a number of skiing facilities located a relatively short driving distance from the campus.

## RELIGIOUS ACTIVITIES

**Religious Development:** All of Moscow's churches provide opportunities for religious development for University of Idaho students. Besides the usual services of worship and Church school classes, most of the churches maintain student centers and staff for carrying out a ministry to the University community. Those organizations which maintain offices in the Campus Christian Center, 822 Elm St. and Chapel Facilities at 618 Elm St. are: Bresee Fellowship (Nazarene); Disciple Student Fellowship (Christian); Episcopal Student Foundation; Lutheran Campus Council (National Lutheran Council and Missouri Synod); Roger Williams Fellowship (American Baptist);

Wesley Foundation (Methodist); and Westminster Foundation (Presbyterian) and United Church of Christ.

Those with offices and staff outside the Campus Christian Center are: The L.D.S. House (Mormon) 429 University Ave. and St. Augustine Catholic Center (Roman Catholic) corner of Sixth and Deakin. Those without a campus office but with a ministry offered are: Baptist Student Union (Trinity Baptist); Christian Science College Organization; Channing Club (Unitarian) Intersivity Christian Fellowship, and Regular Baptist Fellowship (Grace Baptist).

**Religion In Life Committee:** This committee is made up of one representative from each organized and regularly-meeting religious group on campus and serves as an inter-group agency for cooperative campus-wide religious activities and projects such as the annual Religion In Life Conference.

**Courses In Religion:** Because of restrictions in its charter, the University of Idaho does not itself offer courses in religion. However, such courses are made available to University students by two privately sponsored agencies: The Idaho School of Religion (Protestant, Roman Catholic and Episcopal) and the L.D.S. Institute of Religion. While these teaching centers are not parts of the University, they secure the University's approval when organizing courses and engaging instructors.

Courses offered by these two teaching centers are open without charge to regularly enrolled students at the University of Idaho. With the consent of his academic dean, any student may elect a total of eight credits in Religion towards a degree. Additional information and circulars concerning courses or facilities may be obtained from the respective directors.

**Religious Centers:** Adjacent to the campus are four buildings which serve as centers for student religious activities. These are the Campus Christian Center at 822 Elm St.; Episcopal Chapel at 618 Elm St.; the L.D.S. Institute at 429 University Ave. and the St. Augustine Catholic Center, corner of Sixth and Deakin Streets.

## STUDENT ORGANIZATIONS

All student organizations function under the general jurisdiction of the Student-Faculty Council and new organizations must petition this Council for recognition and approval. Each organization must have a faculty advisor. The name of the advisor, a current list of the organization's officers and a copy of its constitution and by-laws must be on file in the Office of Student Affairs. Failure to comply with these regulations may result in withdrawal of permission for the group to function. Students who participate in unauthorized organizations which are judged to be detrimental to the general welfare of the University may become subject to disciplinary action.

### Student Government

Associated Students of the University of Idaho is the student government. Its activities include publication of a twice-weekly student newspaper, publication of a yearbook, support of debate, dramatic productions, agricultural judging, student radio station, pep band, Vandaleers (choral group), Homecoming and Dad's day celebrations and campus chest campaign. ASUI is under the general direction of the General Manager, a student body president, vice-president, and a nine-member executive board.

### Student Union Board and Activities Council

Activities Council is responsible for development, coordination, and operation of activities and student events carried on in the Student Union Building and on campus. Students participate in planning and execution of Student Union activities through membership on Activities Council Committees. The Student Union Board, comprised of students and faculty members, is the policy-making organization of the Student Union.

**All-Campus Organizations for Women**

Associated Women Students, an organization of all women enrolled in the University of Idaho, seeks to regulate matters pertaining to the student life of its members and to promote high standards of University life. Other women's organizations include: Alpha Lambda Delta (national scholastic honorary for freshman women); Mortar Board (senior women's national honor society); Panhellenic Council (representatives of each sorority governing rush and intersorority affairs); Spurs (national service organization for sophomore women); Women's "I" Club; Women's Recreation Association.

**All-Campus Organizations for Men**

Alpha Phi Omega (national service honorary); Blue Key (national service fraternity for junior and senior men); "I" Club (varsity lettermen); Intercollegiate Knights (sophomore national service organization); Interfraternity Council (representative of each fraternity on the campus); Phi Eta Sigma (national scholastic honorary for freshman men); Silver Lance (local honorary for senior men).

**All-Campus Honorary**

Phi Kappa Phi—National scholastic honor society open to qualified students regardless of major field.

**College and Departmental Organizations**

**Agriculture.**—Ag Council (students in the College of Agriculture); Agricultural Economics Club; Agronomy Club; Alpha Zeta (national agricultural honorary); Block and Bridle Club; Dairy Science Club; Entomology Club.

**Business.**—Accounting Club; Alpha Kappa Psi (national professional organization for men majoring in business); Phi Beta Lambda (office administration).

**Education.**—Phi Beta Lambda (business education); Phi Delta Kappa (men's national education honorary); student chapter National Education Association.

**Engineering.**—Associated Engineers of the University of Idaho (includes student chapters of the American Society of Agricultural Engineers, American Society of Automotive Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, American Institute of Electrical Engineers, American Society of Mechanical Engineers); Sigma Tau (national honor society for engineers).

**Forestry, Wildlife and Range Sciences.**—Associated Foresters (students and faculty in the College); Xi Sigma Pi (national honorary).

**Law.**—Bench and Bar Association (law students); Phi Alpha Delta (national professional organization for law students).

**Letters and Science.**—Alpha Epsilon Rho (national honorary broadcasting fraternity); American Chemical Society (Student Chapter); American Institute of Architects (Student Chapter); Attic Club (students in art and architecture); Curtain Club (students in dramatics and drama production); Delta Sigma Rho (national honorary for debaters); French Club (students interested in French language and literature); Home Economics Club (affiliated with the American Home Economics Association); Mathematics Club; Mu Epsilon Delta (local pre-med honor society); Phi Beta Kappa (national scholastic honorary); Phi Sigma (biological sciences); Phi Upsilon Omicron (national home economics honorary); Phi Gamma Mu (national social science honorary); Sym-Bot (botany); Sigma Pi Sigma (national physics honorary); Sigma Delta Chi (national men's professional journalism honorary); Theta Sigma Phi (national women's journalism honorary).

**Military.**—Army ROTC Cadet Sponsor Corps; Association of the United States Army Cadet Company; Chrisman Raiders (Army Counterinsurgency Unit); Arnold Air Society (national Air Force ROTC honorary); Angel Flight Association of the United States Air Force.

**Mines.**—Associated Miners (affiliated with the American Institute of Mining and Metallurgical Engineers); Sigma Gamma Epsilon (national pro-

fessional organization for geology, mining and metallurgy majors).

**Music.**—Pi Kappa Lambda (national honor society); Sigma Alpha Iota (women's national professional fraternity); Phi Mu Alpha-Sinfonia (men's national professional fraternity); Music Educators National Conference (student chapter); Vandaleers (concert choir); University Symphonic and Marching Bands; University Singers (men and women); University Symphony Orchestra; Opera Workshop.

**Physical Education and Recreation.**—Alpha Phi Chi (intramural athletic managers organization); Gymnastics Club; Hell Divers Club (national society sponsoring swimming and lifesaving for men and women); Idaho Orchesis (upperclassmen interested in modern dance); Idaho Pre-Orchesis (freshmen interested in modern dance); Outdoor Club; PEM Club (majors and minors in physical education); Phi Epsilon Kappa (physical education professional club); Ski Club, Vandal Riders Club; University of Idaho Archers.

#### Other Student Organizations

Amateur Radio Club; Canadian Club; Cosmopolitan Club (foreign and American students); Committee for the Peaceful Solution of World Conflicts; Dames Club (wives of married students); Future Farmers of America (collegiate chapter); India Students Association; Just-Us (law students' wives); Model United Nations; Mosaic (residence halls honorary); Muslim Students of the University of Idaho; Pakistani Students Association; Residence Halls Council; University 4-H Club; Vandal Flying Club; Vandalettes (women's drill team); Young Democrats; Young Republicans.

**Religious Organization** (see page 16)

## SCHOLARSHIPS AND AWARDS

University of Idaho students are currently participating in scholarship programs in the total amount of approximately \$150,000 a year. Some of these scholarship funds become available from major investments established by Idaho Foundations; others are made possible by income derived from funds managed by the University Business Office; other scholarships come from yearly contributions made by individual donors or in connection with scholarship programs sponsored by various community and business organizations in Idaho; the Regents of the University make certain funds available for scholarship purposes; and a number of University student organizations sponsor scholarships.

The scholarships described below are administered in various ways: entirely by the donors; cooperatively by the donor and the University; and about one-third of the total administered entirely by the University. Specific information with respect to qualifications for each scholarship is included in the descriptions. **Applications for most scholarships must be submitted not later than March 1** of each year. In a few cases an earlier filing date is indicated in the description.

New students applying for **scholarships which are under the jurisdiction of the University** and which include financial need as a primary requisite (those marked with an asterisk \*) are required to submit a "Parent Confidential Statement" through the College Scholarship Service, Box 1025, Berkeley, California; or Box 176, Princeton, New Jersey. This national organization assists Universities in determining the student's need for financial assistance. Information and blanks may be obtained either from high school principals or by writing directly to the College Scholarship Service.

**Margaret Cobb Allshie (open to entering students)** — The Margaret Cobb Allshie trust provides for several \$500 scholarships for students in the University of Idaho with two being earmarked for seniors majoring in Journalism. The scholarships may be granted to freshmen, sophomores, juniors, or seniors who are bonafide residents of Idaho living in southwestern Idaho, which means coming from the following counties: Ada, Adams, Blaine, Boise, Camas, Canyon, Elmore, Gem, Gooding, Jerome, Owyhee, Payette, Twin Falls, Valley, or Washington. Need, worthiness and scholastic standing are all to be taken into consideration in making the selections. Applications for these scholarships are made to: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Air Force ROTC** — The Air Force ROTC program offers several scholarships each year to upperclass students enrolled in the Advanced Air Force ROTC Program. These scholarships cover the cost of registration, tuition, and allowance for books, plus a \$600 yearly stipend. Information concerning application and selection procedure may be obtained from: Professor of Aerospace Studies, University of Idaho Air ROTC, Moscow.

**Albright Engineering (open to entering students)** — This \$300 scholarship is made possible from income derived from a bequest to the University of Idaho by Beatrice F. Albright in memory of George Franklin Albright and Anna Albright. It is awarded annually to an entering freshman student who will enroll in the College of Engineering on the basis of academic performance and ability together with potential to achieve in the engineering profession. Need will also be considered. Application should be made to: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Ralph M. Alley Memorial** — This scholarship has been established by the students of the University of Idaho as a memorial to Ralph M. Alley, M.D., former University Physician. Two \$50.00 scholarships, one for a male student and one for a female student in either sophomore or junior year at the University of Idaho, will be awarded on the basis of the following criteria: need, contribution to the campus, and scholarship. Applications are made through Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Alumni Association (open to entering students)** — The Alumni Association of the University of Idaho through its scholarship endowment fund makes a significant number of scholarships available each year to entering students who are sons and daughters of alumni of the University of Idaho. Selection of recipients will be made by the University Committee on Awards and Scholarships and is based upon record of achievement in high school, general aptitude for University academic work and need. Application blanks may be secured by writing: Alumni Secretary, University of Idaho, Moscow, Idaho.

**American Smelting and Refining Company** — This company, through the ASARCO Foundation, provides a \$750 scholarship for use during either the Junior or Senior year by a student majoring in either mining or metallurgy in the College of Mines, University of Idaho. Potential for leadership in the student's chosen profession, as well as scholastic standing, are primary factors considered in the selection of the recipient of the ASARCO scholarship. Applications for this scholarship should be made through: Dean, College of Mines, University of Idaho.

**American Society of Range Management (Idaho Section)** — This \$100 scholarship is provided annually by the Idaho Section of the American Society of Range Management and goes to a student with junior or senior standing who is a major in range management at the University of Idaho. This award is made on a combined basis of scholarship, leadership qualities and demonstrated interest in the profession of range management. Application for this scholarship should be made to: Dean, College of Forestry, Wildlife and Range Sciences.

**C. C. and Henrietta Anderson Foundation (open to entering students)** — This foundation, created some years ago by Mr. and Mrs. C. C. Anderson of Boise, provides the University with two \$600 scholarships which are to be awarded on the basis of need, worthiness, and scholastic standing. These scholarships may be granted to freshmen, sophomores, juniors, or seniors who are bonafide residents of Idaho living in the following counties: Ada, Adams, Blaine, Boise, Camas, Canyon, Elmore, Gem, Gooding, Jerome, Owyhee, Payette, Twin Falls, Valley, and Washington. These scholarships are not limited to any particular academic field. Applications are made to: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Army ROTC** — The Army ROTC program offers several scholarships each year to upperclass students enrolled in the Advanced Army ROTC Program. These scholarships cover the cost of registration, tuition, and allowance for books, plus a \$600 yearly stipend. Information concerning application and selection procedure may be obtained from: Professor of Military Science, University of Idaho Army ROTC, Moscow.

**Associated General Contractors** — The Inland Empire Chapter of the Associated General Contractors of America, Inc., provides funds to support several \$250 scholarships each year at the University of Idaho. These renewable scholarships go to sophomore, junior and/or senior students majoring in either civil engineering or architecture. Criteria include demonstrated need, scholastic ability, and interest in employment in the construction industry. The recipient agrees to work during the summer months in the construction field. Applications may be made with: Head, Department of Art and Architecture; or Head, Department of Civil Engineering, College of Engineering, University of Idaho.

**Attic Club (open to entering students)** — The Attic Club is an organization of students majoring in Art or Architecture. This group provides scholarships for students majoring in these two fields. Applicants must submit samples of their art work. Applications and arrangements for submitting samples are made with: Department of Art and Architecture.

**A. W. S. (Associated Women Students)** — This organization of women enrolled at the University of Idaho provides a \$150 scholarship each year to assist an outstanding woman upper-class student. Applications for this scholarship are made with the Dean of Women, Office of Student Affairs, University of Idaho.

**Charles F. Baker (open to entering students)** — This \$200 scholarship is provided by the Pacific Supply Cooperative and is available to students who are entering or are enrolled in the College of Agriculture or in a field of study related to Agriculture.



Applications for this scholarship may be made through the Office of Student Affairs or the Dean of the College of Agriculture.

**Bank of Idaho (open to entering students)** — This state-wide system of banks provides the University \$1000 each year for scholarship purposes. The donors have given the University complete latitude in the allocation of these funds with only the stipulation that they be used for scholarships for undergraduate students in the College of Business Administration. The number and amount of scholarships granted under this program will vary. Selection of recipients is based upon scholastic achievement and need. Applications for Bank of Idaho scholarships are made through: Dean, College of Business Administration, University of Idaho.

**Dessie R. Barrows** — These scholarships are available to members of the University of Idaho chapter of Kappa Alpha Theta sorority. This program is made possible by a gift from Mrs. Dessie R. Barrows, an alumna of the University of Idaho chapter of Kappa Alpha Theta. These scholarships go to junior or senior members of the chapter who have definite financial need, high scholarship, good character and whose attitudes have contributed to chapter unity. The amounts of the scholarships vary and are based on the extent of the applicant's need. Selection of recipients is made by a committee of alumnae of the chapter. Applications are made to this committee.

**Blue Key** — This upperclassmen's service honorary provides two \$100 scholarships which are awarded to male sophomores who have made a tangible contribution to the University of Idaho. The criteria for selection will include: campus leadership, campus activities, scholarship and financial need. Applications will be filed with the Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho. Blue Key members will select three candidates from the applicants and the final selection will be made by the Committee on Awards and Scholarships.

**Boeing** — The Boeing Company of Seattle, Washington, supports a scholarship program for junior and senior students majoring in one of the following fields: mathematics, physics, electrical engineering, mechanical engineering, or civil engineering. Four to six scholarships ranging in value from \$150 to \$300 are available under this program. Criteria for selection include such factors as: scholastic achievement, character, and financial need. Recipients must be male citizens of the United States. Junior scholarships will be renewed for the senior year provided criteria are met including a 3.0 grade point or better. Applications may be made through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs.

**Boise Alumni Association (open to entering students)** — The Boise Alumni Association occasionally provides one or more scholarships for high school graduates from the Boise area who enter the University of Idaho. Recipients of this award are selected by officers of the Boise Alumni Association. Further information and application materials may be obtained from the current officers of the Boise Alumni group or from Alumni Secretary, University of Idaho, Moscow, Idaho.

**Boise Civitan Club** — This organization provides an annual \$100 scholarship for a University of Idaho student who is a resident of the State of Idaho entering his senior year, and majoring in clinical psychology or some related field pointing towards work with mentally retarded. Applications should be filed with: Chairman, Committee on Awards and Scholarships, University of Idaho.

**Boise Panhellenic (open to entering students)** — This group awards either one or several scholarships to outstanding women students from the Boise area. Many of the Boise Panhellenic scholarships have been awarded to students entering the University of Idaho. High school senior girls from the Boise area interested in applying for one of these scholarships should contact either the current president of the Boise Panhellenic Association or the girls' advisor in their local high school for further information.

**Bonner County Teacher Scholarship Fund (open to entering students)** — Scholarships from this fund are available to graduates of high schools located in Bonner County. Further details and application blanks may be obtained by contacting: Superintendent of Schools for Bonner County, Sandpoint, Idaho.

**Boundary County (open to entering students)** — Scholarships of varying amounts are made available by donors in Boundary County and are awarded to graduates of Bonners Ferry High School. Further information may be obtained from: Superintendent of Schools, Bonners Ferry.

**Bowlerama (open to entering students)** — Two scholarships valued at \$50 each are presented each year by the management of Bowlerama, a bowling establishment located in Moscow. One scholarship is for a girl, the other for a boy. Recipients are members of local youth bowling leagues and are recommended by their high school principals. Applications are filed with: Manager, Bowlerama, Moscow, Idaho.

**Dorris C. and Nellie H. Bowers** — These scholarships are provided by Professor Alfred W. Bowers as a memorial to his parents. They vary in amount and are available to students who are majoring in the field of Anthropology. Applications should be made through: Chairman, Committee on Scholarships and Awards, University of Idaho.

**Darwin Burgher Memorial (open to entering freshmen)** — This scholarship in the amount of \$100 has been established by the class of 1930 and others as a memorial to Darwin Burgher. This scholarship is available to incoming freshmen and is awarded on the basis of need and scholastic achievement. Applications may be made through the Chairman, Committee on Awards and Scholarships. Final approval of the scholarship recipient will be made by the Chairman of this particular scholarship project, who is a member of the class of 1930.

**Bessie L. Carithers** — Mrs. Bessie L. Carithers, wife of a former Moscow physician and a former nurse in the University Health Center, has provided funds for a scholarship to be awarded each year to majors in prenursing or medical technology. This scholarship will be awarded to qualified junior or senior students primarily on the basis of financial need and with the joint recommendation of the Head, Dept. of Bacteriology, and the Dean of Women. Application blanks may be obtained in the Office of Student Affairs, University of Idaho.

**Center for Education in Politics** — The Northern Idaho-Washington Center for Education in Politics (which is a part of the National Center for Education in Politics) sponsors several major activities on the University of Idaho campus each year, which deal with the problems of practical politics. Under this program, the University places (each election year) one student in the State Central Headquarters of each of the major political parties. Each student receives a \$400 stipend for the six weeks assignment as an intern in the political party headquarters. Applications will be filed with: Dean, College of Letters and Science, University of Idaho.

**Challenge Cream and Butter Association (open to entering students)** — This scholarship in the amount of \$150 is available to high school seniors or University of Idaho freshman or sophomore students who plan to major in Dairy Science and take the dairy manufacturing option. The recipient of this scholarship will be selected on the basis of academic record, leadership, and character. This scholarship will be made available in three installments of \$50 each at the beginning of the first three semesters providing the student continues each semester to major in dairy manufacturing. Application blanks may be secured from: Head, Department of Dairy Science, University of Idaho; or Chairman, Committee on Awards and Scholarships, University of Idaho.

**Clark Memorial** — This scholarship was established by the alumni and members of the University of Idaho chapter of Alpha Tau Omega Fraternity in memory of Jack and Tim Clark who lost their lives in airplane crashes. This scholarship amounts to approximately \$300 a year and is awarded to a sophomore member of Alpha Tau Omega. Selection of the person to receive this award is made by the local ATO chapter.

**College of Education Foundation Awards (open to entering students)** — These awards are made to freshmen in the College of Education who are legal residents of Idaho. The amount of the scholarship is \$100. Applications for these scholarships are made to: Dean, College of Education, University of Idaho.

**College of Law Foundation Awards** — These scholarships are made to first year law students who are legal residents of Idaho. There are two scholarships each year in the amount of \$200 each. Applications for these awards are to be made to: Dean, College of Law, University of Idaho.

**Community Programs** — A large number of community and business organizations throughout the State of Idaho provide and administer annual scholarships for residents of their respective local communities. Interested applicants should contact their high school principal for advice on further contacts and application procedures for these local scholarship programs. The following community organizations in Idaho are currently providing scholarships for University of Idaho students. (Several additional community programs are listed in greater detail in this bulletin): Ada County (District #2 P.T.A. Council); Blackfoot (P.T.S.A., Soroptimist); Boise (Lions Club); Mr. and Mrs. John C. Birdwell; Burley (Cassia National Bank, Rotary Club); Cambridge (Branch of the Glens Ferry Bank); Challis (High School); Eden-Hazelton (High School); Emmett (Associated Students); Filer (Acme Manufacturing Co., Inc.; High School Dedoulomi Club); Fort Hall (Shoshone-Bannock Tribes); Glens Ferry (P.T.A.); Gooding (P.T.A., Rotary Club, Mary and Leo Rice Scholarship Fund); Grangeville (J.C.'s, P.T.A.); Hansen (P.T.A.); Idaho State Recreation Society; Idaho Falls (Lions Club, Sports Round Table); Jerome (High School Key Club, Rotary Club); Kamiah (P.T.A.); Kellogg-Osburn-Burke (Phillip and Lucy Weber Trust); Kendrick (Kendetta Junior Women); Kooskia (Lions Club); Lapwai (NezPerce Tribal Scholarship, Isaac Broncheau Memorial Fund); Lewiston (Lions Club, Chapter AR P.E.O.); Lewiston-Clarkston (Kiwanis Club); Marsing (Marsing Community Scholarships); Meridian (Associated Student Body); Mullan (Chapter AL, P.E.O.); Nampa (Dollars for Nampa Scholars); Payette (Lions Club); New Plymouth (Evergreen Forest Products); Pocatello (The Treacy Company); Potlatch (P.T.A.); Riggins (Alumni); Rupert (Lions Club); Russet (Lions Club); Sagle (P.T.A.); Twin Falls (Twin Falls Bank and Trust, Twin Falls Exchange Club, Senior High School, Steven Coiner DeMolay Memorial; Wallace (A.A.U.W.; Gyro Club, P.E.O. Area Zonta Club); Wood River Community; Weiser (P.T.A., Soil Conservation District).

**Viola Vestal Coulter Foundation** — This foundation provides the University with funds for an annual \$400 Viola Vestal Coulter Foundation Scholarship. This scholarship goes to an undergraduate student who has achieved a junior status or higher during the college year for which the scholarship is awarded. It is awarded for one year only but it can be awarded to the same applicant for two successive years upon re-application and reconsideration by the Committee. There is no discrimination because of geographical location of the applicant's home, the course of study, or the race, creed, or color of the applicant. Criteria for selection include character, academic ability and achievement, breadth of vision in planning college and career objectives, evidence of civic and social responsibility, and financial need. Written applications must be made to the Chairman, Committee on Awards and Scholarships, Office of Student Affairs, not later than April 1 of each year.

**Crown Zellerbach Foundation** — This Foundation grants the University of Idaho \$800.00 each year to be used for two scholarships for junior and/or senior students in the College of Forestry, Wildlife and Range Sciences. The Foundation stipulates

that financial need should not be a primary consideration in the selection of the recipients. Candidates for these scholarships are nominated by the faculty of the College and the final selections are made by the University Scholarship Committee. Applications for these Crown Zellerbach scholarships are filed with: Dean, College of Forestry, Wildlife and Range Sciences, University of Idaho.

**Danforth Foundation** — The Danforth Foundation of St. Louis, Missouri, provides annual scholarships for upperclass majors in Home Economics and Agriculture which cover the cost of two week trips to a leadership training camp at Shelby, Michigan, and two week trips to St. Louis, Missouri, to study Home Economics in business. In addition, the Danforth Foundation awards special two week trips to the leadership training camp to Home Economics and College of Agriculture freshmen. Details concerning this program may be obtained from Head, Department of Home Economics, or Dean, College of Agriculture, University of Idaho.

**Donald Kirk David (available to graduates of the University of Idaho)** — Mr. and Mrs. George F. Jewett of Spokane, Washington, have established a foundation which provides fellowships to Harvard University's Graduate School of Business Administration for graduates of the University of Idaho, and six other institutions in Idaho, Washington and Utah. The amount of these grants, which may cover a two-year period, will take into account the applicant's financial resources to assure him of all necessary financial aid for the completion of the two-year graduate course in Business Administration at Harvard University. Applicants will be limited to the graduates and graduating seniors who have been accepted for admission to the Harvard Graduate School of Business Administration. University of Idaho students who are interested in the Donald Kirk David scholarship program should contact: Dean of Students, University of Idaho.

**Charles Hamilton Darling** — This scholarship is made available to a student in the College of Law by an anonymous donor to perpetuate the memory of Charles Hamilton Darling, '21. The income from this \$1,000 fund is to be awarded annually. Applications made to Dean, College of Law.

**Davis Brothers (Winn-Dixie Foundation)** — The four Davis brothers (James E., Tine W., M. Austin and Darius) who formerly lived in Burley and are alumni of the University of Idaho make an annual grant of \$600 through the Winn-Dixie Foundation to the University for the purpose of providing scholarships to upperclass students majoring in the College of Business Administration for use during their junior and/or senior years. Selection of winners is based on scholarship, character, and prospects for success with consideration also being given to financial need. Applications should be made through: Dean, College of Business Administration, University of Idaho.

**Delta Delta Delta** — The University of Idaho chapter of Delta Delta Delta sorority awards an annual scholarship which ranges in value from \$150 to \$200 to a girl on the University of Idaho campus. This award is based on high scholarship and need. Generally, this sorority also awards one or more scholarships to outstanding members of their own chapter. Applications are made through the Dean of Women, Office of Student Affairs, University of Idaho.

**Delta Gamma Scholarship for Blind** — This University of Idaho sorority provides a \$100 scholarship each year for a blind student attending the University. The funds are made available after the recipient has completed one semester at the University of Idaho. Applications may be made through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Eastern Star** — The Grand Chapter of Idaho, Order of Eastern Star, awards a \$250 scholarship to the student majoring in music who makes the greatest advancement in music coupled with such qualities of good citizenship which tend to benefit humanity. Selection of this scholarship recipient is made by the faculty of the Music Department of the University of Idaho.

**Gary Elder Memorial (open to entering students)** — This scholarship is made available to graduates of Priest River, Idaho, High School. Further information may be obtained from the Principal of the Priest River High School.

**A. W. Fahrenwald (open to entering students)** — Mr. A. W. Fahrenwald, Dean-Emeritus of the College of Mines of the University of Idaho, has established an annual \$100 scholarship to be awarded to an entering freshman who is a graduate of an Idaho high school on the basis of outstanding achievement and need. Application should be filed with: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Albert Hall Featherstone** — This scholarship program is made possible by a gift from Grace P. Featherstone in the name of her late husband Albert Hall Featherstone. Annual earnings are used for a scholarship(s) for a graduate student(s) in the College of Mines awarded on the basis of financial need, demonstrated scholastic ability, and promise of professional achievement. Applications are made to: Dean, College of Mines.

**FMC Corporation**—The Pocatello plant of the FMC Corporation (Food Machinery & Chemical Corporation) provides funds for an annual scholarship for a deserving student registered in Chemical Engineering at the University of Idaho. This scholarship is in the amount of \$300. The selection is based on character, financial need, grades and activities, with first consideration being given to character and financial need providing a minimum of 2.0 is maintained. The awardee must be a United States citizen and the scholarship is offered without regard to race, creed, color, or national origin. An awardee in his junior year shall receive primary consideration for the scholarship in his senior year if he continues to meet necessary criteria. Applica-

tions will be made to Head, Department of Chemical Engineering, University of Idaho. Final selection will be made by the University Scholarship and Awards Committee.

**Fifth District Education Association (open to entering students)** — Teachers of the Fifth District Educational Association provide scholarship aid to an entering student from the southeastern area of Idaho who plans to major in education and to become a teacher. Students from the following counties are eligible for this scholarship aid: Bannock, Bingham, Bear Lake, Caribou, Franklin, Oneida, Power. Applications for this scholarship aid should be made through high school principals.

**First Security Foundation** — This Foundation, established by the First Security Bank System which operate branches in the intermountain area, annually provides two \$500 scholarships for use at the University of Idaho. One of these scholarships goes to a major in the College of Business Administration, and the other to a major in the College of Agriculture. These scholarships are awarded at the end of the sophomore year for use during the junior year. Applications for these scholarships should be filed with: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Carol Howe Foster** — Dr. Carol Howe Foster, a distinguished alumnus of the University of Idaho and a member of Phi Delta Theta fraternity, established a trust fund to provide a scholarship each year for the member of the local chapter of Phi Delta Theta who with a high standard of character and health maintains the best scholastic average during his sophomore and junior years. The value of this scholarship is currently \$700. Nominations for this scholarship are made by the local University of Idaho chapter of Phi Delta Theta and final selection is made by the Committee on Awards and Scholarships.

**Consul General Foster Forestry** — Dr. Carol Howe Foster, an alumnus of the University of Idaho and former Dean of the Consular Corps of Sao Paulo, Brazil, provides a \$1,200 scholarship which goes to a graduate of the University of Sao Paulo, Brazil, for two years of study in Forestry at the University of Idaho.

**Forney Hall Freshman Honorary** — A \$50 scholarship is provided annually by this Honorary group from Forney Hall. The recipient shall be selected by the University Scholarship Committee from nominations submitted by the Honorary. (Members of the Honorary are excluded from consideration.) The recipient must have lived in continual residence in Forney Hall for at least two semesters, have a cumulative academic record of 2.5 or better, have displayed service and an active interest in Forney Hall affairs, and have some need. Application for the award which will be made in the Spring semester of each year is to be made in the preceding Fall semester through the current President of the Forney Hall Freshman Honorary.

**Rich Fox Memorial** — This scholarship is a memorial to Richard A. Fox, University of Idaho athlete, coach and friend and has been provided by his wife, Mary E. Fox, his daughter and son-in-law, Dr. and Mrs. Thomas L. Miller, and by his grandchildren. The objectives of this scholarship are to stimulate University of Idaho men superior in athletics to strive for academic excellence and to give monetary encouragement to University of Idaho athletes who desire to engage in graduate study in their chosen fields. The recipient will be selected from qualifying athletes who have completed seven semesters of their academic program and are in the process of completing their athletic eligibility. A candidate enrolled in a course requiring more than four years for completion may qualify on the basis of his first seven semesters provided he has completed his athletic eligibility. Candidates must have represented the University of Idaho creditably as judged by the Director of Athletics as an active competitor in any of four major collegiate sports (football, basketball, baseball, and track). The recipient must have earned the highest grade point average among all qualifying University of Idaho athletes with a minimum of 3.0 cumulative grade point average for the first seven semesters who are candidates for a Bachelor's degree in any one of the following colleges in the University of Idaho: Agriculture, Engineering, Business Administration, Forestry, Letters and Science, Law, and Mines. In case of identical grade point averages for two or more qualified candidates, the award shall be divided. The Rich Fox Scholarship shall be awarded regardless of financial need of the candidates. The recipient shall be designated by a Committee consisting of the Director of Athletics, the Dean of the College of Letters and Science, and the Dean of Students—or by representatives of those officials. The nomination of this committee shall be approved by the University Scholarship Committee. The recipient shall be announced as soon as possible after compilation of grades at the end of the first semester. There will be no need to file application for this scholarship since the committee will consider all qualifying athletes with cumulative grade point averages of 3.0 and higher for the first seven semesters of their academic program at the University of Idaho.

**General Motors (College Plan) (open to entering students)** — The General Motors Corporation makes certain scholarship funds available to the University of Idaho. These GM scholarships are awarded to students of exceptional intellectual promise and high leadership potential. The amount of each GM scholarship will relate to need and will be judged by a national agency known as the College Scholarship Service. The minimum amount per year, if in the judgment of CSS there is no need, will be \$200. Awards above this amount will depend upon demonstrated need after a detailed analysis by the CSS of the GM scholar's financial situation and as related to the basic costs for attending the University of Idaho. GM scholarships are not limited to any particular field of study. These scholarships are renewable and may extend for four years and the amount of the stipend may be re-evaluated at any time there is a change in the recipient's financial situation. Apply through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**General University** — These scholarships are primarily available for sophomores and juniors at the University of Idaho. Recipients are not limited to any particular field of study and the scholarships go to individuals of outstanding achievement who have definite and demonstrated need. Funds for these scholarships come from several different sources including money received from campus traffic fines paid by students. Applications should be made through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Charles E. Gilb** — This scholarship in the amount of \$250 per year is provided by Charles E. Gilb, Alumnus of University of Idaho, Beta Theta Pi. The award goes to a member of that fraternity who is majoring in the College of Business Administration.

**William J. Gray Scholarship** — These scholarships in the amount of \$100 or more per year for 4 years are made possible by William J. Gray to graduates of the Genesee High School. Criteria for awarding these scholarships include athletic ability, scholarship, financial needs, and activities. Further information may be obtained from Superintendent of Schools, Genesee High School.

**Green Giant Foundation (open to entering students)** — This Foundation sponsors a number of Green Giant Agricultural Career scholarships throughout the nation and one of these \$300 scholarships is available to active members of Future Farmers of America chapters located in the Green Giant Company crop growing area. In Idaho this area includes: Buhl, Castleford, Filer and Twin Falls. Applicants must be graduating high school seniors with at least two years of vocational agriculture who are active members in their local FFA chapters. Application forms are available from Vocational Agriculture instructors or guidance counselors in the local high schools involved. Completed application forms are submitted to: Dean, College of Agriculture, University of Idaho. This scholarship will be used at the University of Idaho.

**Hecla-Bunker Hill (open to entering students)** — The directors of the Bunker Hill Company and Hecla Mining Company have established a trust fund of \$100,000 to provide educational scholarships. These scholarships are open to employees, or sons and daughters of employees of the above-named companies, and other companies operating within the State of Idaho whose management is under any one or more of these companies. In addition, these scholarships are open to worthy students, regardless of employment of parents, who are majoring in Mining Engineering, Geological Engineering, or Metallurgical Engineering. Applications must be completed by February 1 of each year. Students who wish to apply for these scholarships should write to Mr. William C. Beamer, Hecla-Bunker Scholarship Fund, Box 320, Wallace, Idaho.

**Mary Lillian Henry Scholarship** — This \$150 scholarship is made possible from a scholarship endowment fund received from the estate of Charles Henry. By terms of this endowment the Mary Lillian Henry Scholarship goes to deserving male students enrolled in the University of Idaho who shall be chosen primarily because of their character, capacity for leadership and their promise of future usefulness as good citizens. Applications will be filed with: Chairman, Committee on Awards and Scholarships, University of Idaho.

**Sarah Hutchinson** — This award is in memory of Mrs. Sarah Hutchinson. Because of her interest, appreciation and activity in both music and journalism, the award will be granted alternately to a student in journalism and then music. It will go to a woman student of junior status who has demonstrated real interest in music or journalism and who shows promise of constructive contributions to either of these fields. The award will be made on the basis of need, together with a demonstration of superior ability in either field. If no candidates apply who are in need, then the award will be made entirely on the basis of scholarship. Such applications will be filed with Chairman, Committee on Awards and Scholarships, University of Idaho.

**Idaho Association of Future Homemakers of America** — Idaho Association of Future Homemakers of America provides two scholarships each year for high school senior girls who will major in Home Economics and are members of F.H.A. One of these scholarships is known as the Idaho Association F.H.A. scholarship and valued at \$150 per year. The other is known as the William Kerr F.H.A. scholarship and it is valued at \$150 per year. Interested students should make applications through: Mrs. Ella Mae Berdahl, State Adviser, Future Homemakers of America, 610 Main Street, Boise, Idaho.

**Idaho Association of Realtors** — This Association, together with the Real Estate Brokers' Board, provides the University \$500 each year which is used to support two scholarships for Junior and Senior students enrolled in the College of Business Administration who demonstrate interest in the field of real estate through registration in the marketing major and the real estate option. Normally a \$200 scholarship is awarded to a qualified Junior student and this may be renewed as a \$300 scholarship for the senior year provided the student continues to meet scholarship standards and the qualifications indicated above. Apply to: Dean, College of Business Administration, University of Idaho.

**Idaho Candy Company** — This company provides scholarship funds for majors in the College of Business Administration. These scholarships are limited to residents of the State of Idaho. Interested persons should contact: Dean, College of Business, University of Idaho.

**Idaho Congress of Parents and Teachers (open to entering students)** — The Idaho Congress of Parents and Teachers, in 1954, established a fund which provides scholarships in the amount of \$150 each. These scholarships are awarded to qualifying high school graduates or students already in college training who need and seek financial

aid to complete their training for the teaching profession. Application blanks may be secured by writing to: Idaho Congress of Parents and Teachers, 614-B State Street, Boise, Idaho.

**Idaho Congress of Parents and Teachers (Exceptional Child)** — The Idaho Congress of Parents and Teachers has established a grant which varies from \$100 to \$300 to be awarded to qualifying Idaho teachers who wish to continue their training in the field of the exceptional child. Teachers receiving this grant must plan to continue teaching in the State of Idaho. Application forms may be secured by writing: Idaho Congress of Parents and Teachers, 614-B State Street, Boise, Idaho.

**Idaho County Honor Award (open to entering students)** — One county honor award in the amount of \$200 is made each year in each county in the state to an outstanding high school senior from that county. Recipients will be selected from students in the top 10% of their class. Nominations will be made to the University Scholarship Committee by a committee of University of Idaho Alumni residing in each county.

**Idaho Dairymen's Association (open to entering students)** — This association provides several scholarships valued at \$200 each for entering freshmen who plan to major in the field of Dairy Science. These scholarships are awarded on the basis of academic performance and ability, together with indication of high character. Applications for these scholarships may be obtained from the Head, Department of Dairy Science, or Dean, College of Agriculture, University of Idaho.

**Idaho Farm Electrification Committee (open to entering students)** — The Idaho Farm Electrification Committee offers a \$100 scholarship to the University of Idaho for the outstanding 4-H Club boy or girl in farm electrification projects. Details may be secured from County Extension Agents.

**Idaho Federation of Garden Clubs Scholarship** — This organization provides an annual \$200 scholarship to a junior or senior student majoring in Plant Science in the College of Agriculture. Selection criteria include: Ability and interest in the field of study; a 2.5 cumulative grade point average or better; and need. Applications for this scholarship are made through the Head of the Department of Plant Sciences, University of Idaho; or Dean, College of Agriculture.

**Idaho Federation of Women's Clubs** — The Idaho Federation of Women's Clubs presents several \$300 scholarships to worthy University of Idaho senior students who plan to teach in Idaho schools after the completion of their training. Each student receiving one of these scholarships agrees to teach in Idaho the first year after his or her graduation or to repay the amount of money awarded to the Federation's loan-scholarship fund. Applications for these scholarships are made to Mrs. V. A. Cherrington, IFWC Scholarship Fund, 404 No. Blaine, Moscow, Idaho.

**Idaho Ice Cream Manufacturers' Association (open to entering students)** — This association provides a \$250 scholarship to a student who majors in dairy manufacturing. Selection of the recipient for this scholarship is based on scholarship, character, and prospects for success with consideration for financial need. This scholarship becomes available the second semester of the freshman year or during the sophomore year. The scholarship is extended over three semesters and allotted in the amount of \$50, \$100 and \$100 respectively. Application blanks may be secured from: Head, Department of Dairy Science, University of Idaho; or Dean, College of Agriculture.

**Idaho Milk Processors' Association (open to entering students)** — This association provides scholarships valued at \$200 to entering freshmen who major in dairy manufacturing. These scholarships are awarded on the basis of high school record and scholastic potential and character. Applications may be made through Head, Department of Dairy Science, or Dean, College of Agriculture, University of Idaho.

**Idaho Mining Association (open to entering students)** — The Idaho Mining Association, provides four awards of \$500 each to high school graduates who enroll at the University of Idaho College of Mines and work for a degree in mining engineering, geology, geological engineering, or metallurgy. Each successful applicant is guaranteed full-time summer employment in the mining industry during his college career, including the summer prior to his enrollment as a freshman, providing he maintains a grade point average of 2.5 in his courses. The award winners are selected by the Idaho Mining Association Scholarship Committee on the basis of scholastic ability as demonstrated by high school performance and on the basis of interest in the mining and mineral processing industry as demonstrated by a 3000-5000 word paper on an appropriate topic designated by the Scholarship Committee. Notice of this awards program, indicating the topic for the year, is sent to high school principals and school superintendents at the beginning of each school year. Awards are not limited to Idaho Residents, but they would receive preference. Inquiries and applications should be sent to Chairman, Scholarship and Awards Committee, College of Mines, University of Idaho.

**Idaho Mining Memorial (open to entering students)** — These scholarships are made possible by contributions in memory of persons who have contributed substantially to the growth and development of Idaho's mineral industry. The amount of each scholarship varies according to need and used to assist worthy students entering the College of Mines at the University of Idaho. Applications are made to: Dean, College of Mines, University of Idaho.

**Idaho Nuclear Corporation (open to entering students)** — This Idaho Falls Corporation maintains two scholarship programs. The first is administered by the Idaho Nuclear Corporation and involves several \$1000 four-year scholarships awarded to children of employees of Idaho Nuclear. The second scholarship program provides

funds to the University of Idaho in support of a four-year \$4,000 scholarship. This scholarship becomes available every other year to the University of Idaho. The first scholarship to be awarded under this program became available for the 1966-67 school year. The next award will be made to a student entering the University for the 1968-69 school year. This award is made to a freshman student (either male or female) of high potential and with an excellent record of achievement. The recipient is selected without regard to the magnitude of his parents' income. This scholarship is continued into succeeding years of the undergraduate program if the individual meets high criteria of success in the academic program. There are no restrictions as to the course of study although the inclination is to favor the physical sciences. The usual application procedure may be followed by students who wish to apply for this scholarship (through Chairman, Committee on Awards and Scholarships, University of Idaho.) However, in view of the fact that the donor stipulates that the factor of need is not to be considered (and, therefore, students not having financial need might be reluctant to apply) highly qualified students who might not have financial need may be nominated by high school principals and teachers and by University personnel to Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Idaho Power** — The Idaho Power Company provides two \$125 scholarships for students majoring in Agricultural Engineering and who come from the general service area of the Idaho Power Company. Applicants must be enrolled in or have completed the second semester of Engineering and be certified as majoring in Agricultural Engineering, College of Engineering.

**Intercollegiate Knights (Reeb-Van Brunt Memorial)** — This scholarship in the amount of \$100 is made available by the University of Idaho chapter of Intercollegiate Knights in memory of Alan Reeb and Frank Van Brunt, former IKs who were killed in recent accidents. This scholarship is available to either present or past members of IK's who must have been active in the work of the local chapter. The selection will be based on scholarship, need, and campus activities. For application blanks contact: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Irving** — The Ruth Zornes Irving and Royal B. Irving Scholarship Fund has been established by friends of Mr. and Mrs. Royal B. Irving, graduates of the classes of 1926 and 1927. The earnings of this fund are made available through the Student Emergency fund to junior and/or senior students achieving a 2.0 or better level who have a definite need for financial assistance in order to finish the school year. It is the donors' wish that when financially able, recipients will return the amount given to them to the University of Idaho to be added to the principal of the Irving Scholarship Fund. The Student Emergency Fund is administered by the Dean of Students, University of Idaho.

**Kellogg Foundation** — The W. K. Kellogg Foundation provides scholarships for students who are training to be medical technicians. These scholarships are limited to outstanding students who have completed their academic program on the University of Idaho campus and are doing their internship in Medical Technology at an off-campus hospital. Further information may be obtained from Head, Bacteriology Department, University of Idaho.

**Peter Kiewit Sons' Company** — This heavy construction company provides two scholarships valued at \$250 each year for senior Civil Engineering students at the University of Idaho. Consideration in selection is given to scholastic achievement, leadership ability, financial need, personality, character, promise of success, and interest in construction. Recipients will be nominated from the group of juniors who spend the summer between their junior and senior years working for Peter Kiewit Sons' Company. Recipients will be recommended by Peter Kiewit Sons to the Civil Engineering Department. Applications may be submitted during the spring semester preceding the senior year.

**Kiokemeister Memorial** — This annual \$50 scholarship is provided by former members of the Campus Club, a University of Idaho cooperative living group for men and is in memory of Fred Kiokemeister, a former active member and officer of that group. The recipient will be selected by the Executive Committee of the Campus Club. The scholarship is awarded primarily on the basis of the recipient's contribution of time and effort to the welfare of the Campus Club. Other criteria will include: need and a 2.3 cumulative average or better. The founders of this scholarship program suggest that recipients may wish to replace the amount awarded when possible after graduation and after earning an income. This is not a requirement.

**Kimberly-Hansen-Murtaugh-Educational Trust, Inc. (open to entering students)** — Scholarships available from this organization are made to graduates of high schools located in the three communities of Kimberly, Hansen, and Murtaugh, Idaho. Details concerning this program may be obtained from the principals of the three high schools named above.

**Mr. and Mrs. Henry B. Kingsbury Scholarship Fund (open to entering students)** — Scholarships of various amounts made possible by a fund established by Mr. and Mrs. Alma R. Kingsbury of Wallace, Idaho, are available to men and women residents of Shoshone County, Idaho, which would mean graduates of the following high schools: Kellogg, Wallace, Mullan, and Avery. Applicants should contact one of the following trustees of this scholarship fund: Mr. L. J. Randall, Wallace; or Mr. H. F. Magnuson, Wallace, Idaho.

**Mary Kirkwood Scholarship** — The Mary Kirkwood Scholarship in the amount of \$250 is awarded by the Art faculty of the Department of Art and Architecture. This scholarship normally goes to a graduate student majoring in Art. Persons interested

in making application for this scholarship should discuss it with any member of the Art faculty of the Department of Art and Architecture.

**Marion Kraus Memorial** — This scholarship in the amount of \$50 has been established by James E. and James R. Kraus in memory of Marion Audrey Kraus. It is to be awarded to a student in pre-nursing or medical technology (in that order of priority) with special consideration to financial need. Apply to: Chairman, Scholarship Committee, Student Affairs.

**Ladies Auxiliary of the Idaho Municipal League** — This organization provides a \$50 scholarship for a sophomore woman student who is majoring in the field of Political Science. Both the elements of scholarship and need are considered in determining this award. Applicants should contact: Dean, College of Letters and Science, University of Idaho.

**Lambda Chi Leadership** — This award is made to a member of the University of Idaho Chapter of Lambda Chi Alpha fraternity and is based on service and contributions to the chapter. He must have achieved a 2.5, or better, cumulative average. Selection is made by members of the fraternity.

**Langroise** — Income from a fund, established by William H. Langroise to honor the memory of his wife, Vernetta, and his son, Bill, is to be used as a scholarship in the College of Law. Applications made to: Dean, College of Law.

**A. E. Larson** — The Sunshine Mining Company has established a scholarship fund in memory of A. E. Larson, former president of the company. The annual income from this is approximately \$750 and provides for one or more scholarships each year for students in the College of Mines. Preference is given to students who come from the Coeur d'Alene mining area. Applications are made to: Dean, College of Mines, University of Idaho.

**Lauck Memorial** — This scholarship program was established as a memorial to Ida Lauck and Chester F. Lauck. Lauck Memorial scholarships are limited to students graduating from the Minidoka County (Idaho) school system. A local committee (mailing address: Creason and Creason, Attorneys at Law, Box 335, Rupert, Idaho) receives applications and recommends potential recipients from which final selection is made by the University Committee on Awards and Scholarships.

**Living Groups** — Several University of Idaho living groups (residence halls, sororities and fraternities) provide various forms of scholarship aid to foreign students attending the University of Idaho. During the past 10 years, 12 different fraternities, five different sororities and two residence halls have provided scholarships for 34 students from 13 different foreign countries.

**MacLane** — John F. MacLane, the first Dean of the University of Idaho's College of Law, provided the University a fund, the income from which is used to finance annual scholarships for students in the College of Law. It is planned that three MacLane scholarships will be awarded each year. Applications for these scholarships will be judged on the basis of ability, scholarship and need. The specific amount of each award will be based on need. Applications may be made through the Dean, College of Law, University of Idaho.

**Mercer Scholarship** — This annual scholarship is made available by Clarence O. and Ruth J. Mercer of Moscow and is awarded to a deserving undergraduate student regardless of field of study or class who is a citizen of the United States and a resident of the State of Idaho. Applications may be filed with the Chairman, Committee on Awards and Scholarships.

**Jacob Monson Agricultural Scholarship** — This scholarship program is made possible through income derived from a fund received from the estate of Mr. Jacob Monson. Scholarships awarded under this program are limited to students majoring in Agriculture or Agricultural Engineering at the University of Idaho who are residents of Idaho. Several scholarships will be available each year in varying amounts dependent upon need. First priority will go to students in the sophomore year or above. Applications will be made through: Dean, College of Agriculture, University of Idaho.

**C. W. Moore (open to entering students)** — This scholarship program is made possible through funds received from the Laura Moore Cunningham Foundation and is established in the memory of C. W. Moore, who was active in the organization of the Idaho First National Bank system nearly 100 years ago. There are 4 C. W. Moore scholarships valued at \$500 each available each year. These scholarships are awarded to students who are residents of Idaho, who are registered in the College of Business Administration at the University of Idaho, who have achieved at a "B" or better academic level and who otherwise might be financially unable to pursue their scholastic training. These scholarships may be renewed for qualified individuals who continue to meet the basic requirement of maintenance of a "B" or better scholastic record and will be discontinued by the College of Business Administration at the end of any semester in which the recipient falls below a "B" average. Applications from students currently enrolled in the University should be made through Dean, College of Business Administration, University of Idaho. Applications from high school seniors may be made through: The Dean of the College of Business Administration or through Chairman, Committee on Awards and Scholarships, University of Idaho, Moscow, Idaho.

**Moscow Fine Arts Club** — The Moscow Fine Arts Club has established a fund to assist music and art majors. Awards are made on the basis of ability, scholarship, and financial need. Nominations for these awards are made to the Moscow Fine Arts Club by the University of Idaho Department of Art and Department of Music.



**Moscow Lions Club (open to entering students)** — The Moscow Lions Club annually provides \$50 scholarships to the outstanding high school graduates from each of the six high schools in Latah County, located in: Deary, Genesee, Kendrick, Moscow, Potlatch and Troy. Nominations are made by the high school principal in each of these six high schools.

**Music (Applied Music Fees) (open to entering students)** — Fifteen scholarships valued at \$120 each provided by the Regents of the University of Idaho are awarded annually to students majoring in music and represent a waiver of fees for applied music. Ten of these are open to freshmen. Interested persons should write to the Head of the Department of Music, University of Idaho.

**Navy ROTC (open to entering students)** — The Department of Navy provides a number of four year scholarships which cover the costs of fees, tuition, books and supplies, and a yearly stipend of \$600. Details concerning procedure for applying for such scholarships may be obtained by writing: Professor of Naval Science, Naval ROTC, University of Idaho, Moscow, Idaho.

**National Science Foundation (undergraduate research)** — A number of opportunities are available through funds provided by the National Science Foundation for upper-class undergraduate students majoring in the Physical Sciences to participate in undergraduate research projects. This program provides stipends of \$100 for each semester together with larger stipend payment for full-time participation in research programs during the summer months. Further information and application are made through: Head, Department of Physical Sciences, University of Idaho, Moscow, Idaho.

**Charles Nemes Memorial** — This scholarship program was created in commemoration of Charles Nemes of Moscow in recognition of his work with DeMolay. The award will go to a University of Idaho student who holds membership in DeMolay. Applications will be filed with: Chairman, Committee on Awards and Scholarships, University of Idaho.

**News-Review (open to entering students)** — The News-Review Publishing Company of Moscow awards a \$125 scholarship to a student majoring in journalism. The basis for the award is achievement in the field of journalism and the need for assistance in meeting college expenses. Applications should be made to: Chairman, Dept. of Journalism, University of Idaho.

**Mary Hall Niccolls (open to entering students)** — Mrs. Mary Hall Niccolls, Class of 1908 of the University of Idaho, has established an endowment fund which provides a substantial number of scholarships for students in the following categories who register for a major in the Department of Home Economics at the University of Idaho:

- A. A number of \$500 scholarships for entering freshmen who plan a career in the field of Home Economics. While these freshman scholarships are primarily for graduates of Idaho high schools, a limited number may be awarded to highly qualified freshmen from other states.
- B. Several scholarships of \$500 each to be awarded to Home Economics majors for use during their sophomore, junior, or senior years in the University.
- C. \$500 will be available for one or more graduate fellowships in Home Economics. The primary criteria for selection of recipients for the Mary Hall Niccolls scholarships are (1) high academic achievement and (2) indication of a strong interest in a career in the field of Home Economics. Need for financial aid will receive secondary consideration. Experiences in 4-H, Future Homemakers of America, Home Economics clubs, and other activities related to the field of Home Economics will be considered along with high academic achievement. Application materials for these scholarships may be obtained by writing: Head, Department of Home Economics, University of Idaho, Moscow, Idaho.

**Lucile Olin (Alpha Epsilon Rho)** — This \$100 scholarship is made possible by contributions received from Mrs. Lucile Olin, mother of a University of Idaho staff member, Mr. Cecil Bondurant. Recipients will be majors in Radio-TV who are members of national honorary (Alpha Epsilon Rho) for students majoring in broadcasting. Need is to be given first consideration with scholarship also to be considered in making the award. Nominations will be made by the Radio-TV department to the University Scholarship Committee. Applications may be made through: Head, Radio-TV Dept., or, Office of Student Affairs.

**John Otnes Family** — This \$200 scholarship is awarded for use during the sophomore, junior or senior years to students registered in the College of Agriculture. Applications should be made through: Dean, College of Agriculture or Chairman, Awards and Scholarships Committee, Office of Student Affairs, University of Idaho.

**Pacific Northwest Plant Food Association** — This Association provides a \$250 scholarship for a student who majors in Agronomy and specializes in the area of soils. Further information and applications may be obtained from: Head, Department of Agronomy, College of Agriculture, University of Idaho.

**Panhellenic** — The University of Idaho Panhellenic Council provides a \$100 scholarship which goes to a member or pledge of one of the University of Idaho sororities for use during her junior or senior year in the University. This scholarship will be based on the following factors: Scholarship, service, and need, with primary consideration given to scholarship and service. Application may be made to the Chairman, Awards and Scholarship Committee, Office of Student Affairs.

**Potlatch Forests Foundation (open to entering students)** — Potlatch Forests, Inc., has established a Foundation which has as one of its objectives the provision of educa-

tional advantages and the furtherance of sound learning by the financing of scholarships to such colleges and universities and other schools as may be selected. These scholarships are open to students living in the service area of the company which, for purposes of this scholarship program, is generally described as falling between Grangeville and Coeur d'Alene. Potlatch Forests Foundation scholarships are not limited to any particular field of study. Students interested in applying for these general scholarships should write to: Mr. Jack Clifford, Executive Secretary, Potlatch Forests Foundation, Lewiston, Idaho. Applications must be filed by February 1 of each year for scholarships which are to be in effect the ensuing school year. In addition to this general scholarship program the Foundation provides a \$100 scholarship to a student who enters the College of Forestry, Wildlife and Range Sciences, and who is selected by the State Extension Forester on the basis of his activities in 4-H forestry projects. The students interested in this special forestry scholarship should contact their local 4-H leader.

**Presser Foundation** — This Foundation provides scholarships valued at \$400 to certain institutions of higher learning in the United States and Canada in order to promote programs for the preparation of teachers of music. One of these awards is available annually at the University of Idaho. The selection of the person to receive this award is made by the faculty of the Department of Music. Applications are filed with the Head of the Department of Music, University of Idaho.

**Kenneth R. Primus** — This annual scholarship in the amount of \$40 has been provided as a memorial to Kenneth R. Primus, former Supt. of Schools in Genesee. It goes to a graduate of an Idaho high school who has completed the sophomore year either at the University of Idaho or at Lewis-Clark Normal School. The scholarship will be awarded on the basis of scholastic achievement and contributions to the college community. It is not restricted to any field of study. Applications may be made through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Mary Sunderlin Pugh** — These scholarships cover expenses of attending the annual University of Idaho summer music camp and are made available to St. Maries high school students by Mr. L. R. Pugh of St. Maries in honor of Mrs. Pugh. Interested students should contact the Supt. of Schools, St. Maries, Idaho.

**Ralston-Purina** — This company provides a \$500 scholarship which is awarded annually to a senior student in the College of Agriculture majoring in a field closely related to the animal feed industry who has a clearly demonstrable financial need. The individual receiving the scholarship should also meet the following qualifications: be in the upper 25 per cent of his class; have given evidence of leadership; be of moral firmness and vigor in all his relationships; and have a record of demonstrating good citizenship. Applications for this scholarship should be made with: Dean, College of Agriculture, University of Idaho.

**Rayonier Foundation** — This foundation provides the University with a grant of \$500 which is used to support two scholarships which go to juniors or seniors enrolled in the College of Engineering, University of Idaho, and majoring in either chemical, mechanical, or civil engineering. These students must be citizens of the United States and rate above the middle of the class scholastically and show a definite need for financial assistance. Preference will be given to students who have evidenced some interest in the pulp and paper industry. A student receiving this scholarship his junior year may reapply for the senior year. Applications may be filed with Dean, College of Engineering; or Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Allan Reeb Memorial** — This scholarship is in memory of Allan Reeb, a deceased member of the Delta Mu Chapter of Delta Tau Delta fraternity. This scholarship will be awarded to male students in residence at the University of Idaho. The preference shall be given to persons studying in the field of Agriculture and to a member of Delta Mu Chapter of Delta Tau Delta fraternity, although not in either case are these inflexible requirements. Further information about this scholarship may be obtained from the President of the Delta Mu Chapter, Delta Tau Delta fraternity, University of Idaho.

**Regents Scholarship Endowment** — The Regents of the University of Idaho have established a Scholarship Endowment Fund. The income from this fund provides scholarships which are primarily available for sophomores and juniors at the University of Idaho. Applicants for these Regents scholarships are not limited to any particular field of study. They must be individuals of outstanding achievement who have a definite need. Applications should be made through: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Edwin C. and Esther Pearson Rettig** — These two annual \$250 scholarships are made possible through an endowment provided by Edwin C. and Esther Pearson Rettig. One scholarship is awarded to a student in the College of Forestry, Wildlife and Range Sciences who has completed either his freshman or sophomore year. The other Rettig scholarship is awarded to any undergraduate in the College of Forestry, Wildlife and Range Sciences. Recipients will be selected by the faculty of the College. No application is necessary.

**Rocky Mountain Mineral Law Foundation** — Each year a \$100 scholarship is awarded by this foundation to a student in the College of Law who (a) has maintained above-average grades in all of his courses (b) obtained a high grade in Irrigation and

Mining Law; (c) has demonstrated a superior ability to think independently, constructively and analytically in his general law school work and in the field of mineral law in particular; (d) has written as a condition to the receipt of the scholarship, a case note or brief article upon some phase of mineral law. Apply to: Dean, College of Law, University of Idaho.

**Sandpoint News Bulletin (open to entering students)** — This \$125 scholarship is provided by Laurin Pietsch, publisher of the "Sandpoint News Bulletin," and is open to entering students who plan to major in the field of journalism. Applications should be made to: Chairman, Department of Journalism, University of Idaho.

**Lyla Schroeder Memorial** — This scholarship is made possible from an endowment established by the Moscow Alumnae chapter of Gamma Phi Beta in memory of Mrs. Lyla Schroeder who was an early member of this sorority. The scholarship goes to an active member of the Moscow (XI) chapter upon the nomination of the Corporation Board of Moscow Alumnae organization.

**Sears-Roebuck (open to entering students)** — The Sears-Roebuck Foundation makes several different types of awards each year as follows:

- a. Two scholarships valued at \$300 to freshman girls entering the University to study Home Economics. Application materials may be obtained from: Head, Department of Home Economics, University of Idaho.
- b. A number of scholarships valued at \$300 each to entering freshmen men who will major in the College of Agriculture. These Sears-Roebuck Foundation Scholarships are awarded on the following bases: activity in agricultural affairs such as 4-H groups and Future Farmer Groups; enthusiasm for agriculture as a life occupation; need; and scholarship in high school. Male high school seniors who wish to apply for these agricultural scholarships should contact one of the following: High School Principal; County Agricultural Extension Agent; high school teacher of Smith-Hughes Vocational Agriculture courses; or Dean, College of Agriculture, University of Idaho.
- c. A scholarship to an outstanding University of Idaho sophomore who was in the previous year's group of general agriculture scholarship winners (see b above). Information about this scholarship can be obtained from: Dean, College of Agriculture, University of Idaho.
- d. A number of scholarships available each year to outstanding high school seniors who come from communities where Sears-Roebuck and Company has retail store outlets. These scholarships are part of the Sears-Roebuck Foundation program of city scholarships awarded through local high schools. Recipients are selected by their high school faculty on the basis of outstanding character and qualities of leadership, scholarship, and need. High school students in areas where Sears-Roebuck has retail stores should contact their high school principal for further details.

**Fred and Emma Shirrod Scholarship** — These scholarships, in the amount of \$100 or more per year for 4 years, are available to graduates of the Genesee High School. Interested persons should contact: Superintendent of Schools, Genesee, for further information.

**Howard and Linnie Shriver (open to entering students)** — Mr. Howard Shriver, a pioneer of the Palouse region, established a memorial trust fund, the income from which is used to provide scholarships for University of Idaho students. Usually two scholarships of \$150 each are awarded annually — one to an entering freshman girl and one to an entering freshman boy. Applications for these scholarships are filed with: Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**J. R. Simplot** — The J. R. Simplot Company makes grants-in-aid available to students with demonstrated need and promise majoring in the College of Mines. These grants vary in amounts from \$100 to \$400 depending upon need and may be made at any time during the school year. Applications should be made to: Dean, College of Mines, University of Idaho.

**Spurs** — The University of Idaho Chapter of this National sophomore service honorary provides a scholarship in the amount of at least \$50 which will be awarded in the spring of her junior year to a former Spur with the money to be used for the first semester of her senior year. The criteria for selection of the recipient include: Character and leadership, need, a minimum of 2.5 cumulative grade point. Application blanks may be obtained from Office of Student Affairs. Initial screening will be made by the current Spur organization and final selection made by the University Scholarship Committee.

**Standard Oil FFA and 4-H (open to entering students)** — The Standard Oil Company of California provides five scholarships for members of Idaho 4-H and five scholarships for members of Idaho FFA organizations. These awards amount to \$300 each and are available to entering freshmen regardless of the major field they select for college training. Applicants must be able to benefit from further education, be in the upper 40 per cent of his or her high school class, should be outstanding in 4-H and FFA work, be in need of some financial help and should have been active in community affairs. Further information about the Standard Oil FFA and 4-H scholarships and procedure for making application may be obtained from: County Agricultural Extension Agent; high school teacher of Smith-Hughes Vocational Agriculture courses.

**Standard Oil Chemical Engineering** — The Standard Oil Company of California provides the University of Idaho \$750 each year for scholarship purposes to encourage students in studies which relate to the interest of the petroleum industry. One or more scholarships of varying amounts are awarded to majors in the Department of Chemical Engineering. Qualifications will include good scholarship and need. Applicants should contact: Head, Department of Chemical Engineering, University of Idaho.

**Ethel K. Steel** — Mrs. Ethel K. Steel, former Regent of the University, has established a scholarship fund, the income from which is used to provide an annual scholarship for a girl living in Ethel Steel House, the University's cooperative dormitory for women. This award, in the amount of \$50, is made to a girl who has lived in Ethel Steel House a minimum of three semesters prior to the one in which the award is made. Nominations for this award shall be made by the girls in Ethel Steel House and selected by the Scholarship Committee. Criteria for selection will include: contribution to the success and happiness of the group; campus activities; at least a 2.5 cumulative average. Applications may be obtained from Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**Dean C. Stoll Educational Fund (open to entering students)** — This \$250 scholarship is provided by Mr. and Mrs. H. E. Stoll, Bonners Ferry, Idaho, parents of Dean C. Stoll, a University of Idaho student who was killed in an automobile accident. This scholarship is open to male graduates of the Bonners Ferry High School who are entering the University of Idaho. The applicant must be in the upper 25 per cent of his graduating class and preference will be given to those who major in one of the following fields: science, engineering, mathematics, teaching. Application blanks may be obtained from: Principal, Bonners Ferry High School, Bonners Ferry, Idaho.

**Texaco** — These scholarships are provided by Texaco, Inc., and are awarded to male majors in the following fields who have completed two years of college work: Chemistry, Chemical Engineering, Civil Engineering, Electrical Engineering, and Physics. Recipients must have proven scholarship ability and demonstrated qualities of leadership, must possess good health and physical fitness, and be citizens of the United States. The amount of each award shall be based on the financial need of the recipient. Nominations shall be submitted by the several departments and divisions and the final selections will be made by the University Committee on Awards and Scholarships. Application blanks may be obtained from Chairman, Committee on Awards and Scholarships, Office of Student Affairs, University of Idaho.

**George D. Thomas (Ford Motor Company Efficiency Award)** — The funds for this scholarship have been made available to the University by George D. Thomas, Dubois, and represent an award made to him by the Ford Motor Company as the 1964 Ford Almanac winner for efficiency in sheep production. This \$100 scholarship will be awarded once each four years (beginning with the 1964-65 school year). It will go to a junior or senior student majoring in Animal Husbandry in the College of Agriculture who comes from one of the following counties: Butte, Clark, Custer, Fremont, Jefferson, Lemhi, or Madison. The scholarship will be awarded on the basis of academic ability and financial need. Application blanks may be obtained from: Office of Student Affairs, University of Idaho, or Dean, College of Agriculture.

**Lottie M. Thompson Memorial (open to entering students)** — This scholarship contributed by the five daughters of Mrs. Louis (Lottie) Thompson goes to a deserving student of the University of Idaho from Kootenai County (Idaho). Application may be made to Chairman, Committee on Awards and Scholarships, University of Idaho.

**Title Insurance Company** — The Title Insurance Company of Boise provides three scholarships, each of the value of \$350, which are awarded to students enrolled in the College of Law at the University of Idaho. These scholarships are awarded on the basis of ability, scholarship, character and need. One of these scholarships will be awarded in each of the three law school classes. Application blanks may be obtained from and filed with: Dean, College of Law, University of Idaho.

**Union Pacific Railroad (open to entering students)** — Union Pacific Railroad provides a number of \$200 scholarships to boys and girls in the 4-H and Future Farmers of America programs from each of the 44 counties in the State of Idaho. Payment of the scholarship to those Union Pacific Scholarship holders coming to the University of Idaho is made to those who enroll in the College of Agriculture or Agricultural Engineering, in a major in Home Economics in the College of Letters and Science or who enroll in the College of Forestry. Interested persons may secure full information from their county 4-H Club leaders, county agricultural extension agents, or teachers of Vocational Agriculture in their high schools.

**Upper Snake River Valley Dairymen's Association (open to entering students)** — The Association provides a \$125 scholarship for the outstanding 4-H Dairy Club members in the six counties served by its creamery. These counties include: Bingham, Bannock, Bonneville, Jefferson, Madison and Fremont. The Association also provides for six 4-H Club short course scholarships at the University of Idaho. Interested persons should contact the Agricultural Extension Agent in their county.

**Utah Power and Light Company** — The Utah Power and Light Company makes available an annual \$125 scholarship to University of Idaho students majoring in Agricultural Engineering. The student receiving this scholarship must come from the general territory served by Utah Power and Light. He must also be enrolled in, or have completed, the second semester of engineering and certified as majoring in the

field of agricultural engineering. Applications for these scholarships should be filed with: Head, Department of Agricultural Engineering, College of Engineering, University of Idaho.

**R. M. Wade Foundation** — This \$250 scholarship is in honor of Robert M. Wade and goes to outstanding and worthy students majoring in Agricultural Education, thus preparing for Smith-Hughes teaching in high schools. This scholarship goes to juniors majoring in Agricultural Education for use during the senior year. Interested and qualified applicants should contact: Head, Department of Agricultural Education, College of Agriculture, University of Idaho.

**Washington Water Power Company** — Washington Water Power Company provides two \$250 scholarships each year for University of Idaho students majoring in Agricultural Engineering. Applicants for these scholarships must be enrolled in, or have completed, the second semester of Engineering and certified as majoring in the field of agricultural engineering. Applicants must come from the general service area of Washington Water Power Company. Applicants should contact: Head, Department of Agricultural Engineering, College of Engineering, University of Idaho.

**Western Electric Fund** — This scholarship in the amount of \$400 is available to undergraduate students in the College of Engineering and to mathematics majors in the College of Letters and Science. Applicants must be citizens of the United States and will be chosen without regard to color, creed, sex, or national origin. This scholarship is based upon need and upon ability in fields of study related to the operations of the Western Electric Company (with preference being given to mathematics majors and majors in electrical and mechanical engineering). Nominations for this scholarship will be made by the faculty of the College of Engineering and the Mathematics Department to the University Committee on Awards and Scholarships. Application blanks may be obtained in the Office of Student Affairs.

**Western Electronic Manufacturers Association** — Three scholarships valued at \$250 each are made available to University of Idaho students by the Western Electronic Manufacturers Association. Applicants must be working toward degrees in the courses which will prepare them for a career in the field of electronics in one of the western states. Nominations are made to the University Scholarship Committee by the Faculty of the College of Engineering. Applicants should contact: Dean, College of Engineering, University of Idaho.

**Women's Auxiliary of the Idaho Cattlemen's Association** — This organization, which is more commonly known as the Idaho Cow-Belles, provides two annual scholarships of \$100 each for students majoring in Animal Husbandry. Applications for this award may be made through: Head, Department of Animal Husbandry, University of Idaho.

**Women's Bowlers' Scholarship** — This scholarship is available the second semester for a junior woman majoring in Physical Education. Applicants for this award should contact: Head, Department of Physical Education for Women, University of Idaho. Deadline for submitting applications is January 5. This scholarship is made available by members of the Women Bowlers in this area (Colfax, Tekoa, Rosalia, Pullman, Clarkston, Lewiston, and Moscow).

**Women's Physical Education** — This \$50 scholarship is available for use during the sophomore year to women students majoring in physical education. Qualified freshmen women may make application to: Chairman, Department of Physical Education for Women or Chairman, Committee in Awards and Scholarships, University of Idaho.

**Marie K. Wormward (open to entering students)** — Marie K. Wormward of Kellogg awards a \$150 scholarship to a student selected by the Kellogg High School staff who intends to enroll in the College of Education to prepare for a career in teaching. Eligible students should apply to: Principal, Kellogg High School.

### SPECIAL AWARDS

Many awards are made each year in recognition of outstanding achievement in both academic and nonacademic pursuits. Below is a listing of these special awards. A detailed description of each award may be obtained from the Office of Student Affairs.

### COLLEGE AND DEPARTMENTAL ORGANIZATIONS

- Agriculture** — Agricultural Council (Aggie of the Year); Alpha Zeta.
- Art and Architecture** — Alpha Rho Chi; Hummel Awards; Tile Council of America.
- Athletics** — Edmondsen; Idahoan Athletic Merit; Roland White Basketball.
- Biological Sciences** — Phi Sigma.
- Business** — Idaho Society of Certified Public Accountants; Streibeck and Roberts; Wall Street Journal; W. J. Wilde.
- Education** — Anna H. Hays Memorial; Idaho Congress of Parents and Teachers; Idaho Education Association; Idaho School Trustees Association; N.B.E.A. Professional.
- Engineering** — American Institute of Chemical Engineers; American Society of

Agricultural Engineering; American Society of Civil Engineers; American Society of Mechanical Engineers; American Society for Testing Materials; Raymond J. Briggs; Bruce Dunn; Hamilton Watch; Norma F. Hindle; Idaho Society of Professional Engineers; Industrial Press; Institute of Electrical and Electronic Engineers; Mechanical Engineering Alumni; Sigma Tau; J. R. Simplot Freshman Engineering Design Awards; Society of Automotive Engineers.

**Forestry, Wildlife and Range Sciences** — North Idaho Forestry Association; XI Sigma Pi Awards.

**Home Economics** — Phi Upsilon Omicron.

**Humanities** — Howard Packenham.

**Journalism** — Idaho Press Women's; Sigma Delta Chi "Citation for Achievement."

**Law** — American Law Book Company; The Nathan Burkan Memorial Competition; Lawyer's Co-operative Publishing Company Prize; Lawyer's Title; Moot Court; Phi Alpha Delta; Rocky Mountain Mineral Law Foundation Essay; The United States Law Week.

**Letters and Science (General)** — Philo Sherman Bennett Prize; Ernest Hiram Lindley and Elisabeth Kidder Lindley.

**Mines** — J. R. Simplot; W. A. Tarr.

**Music** — Sigma Alpha Iota.

**Physical Sciences** — William H. Cone Honor; Merck Chemical Company.

**Speech** — Delta Sigma Rho Debate Cups.

**Women's Physical Education** — Boyer Plaque; Joyce Weber Schuett; W. R. A. Senior Trophy.

#### GENERAL

American Association of University Women, Moscow Branch; ASUI Distinguished Senior Awards; Harold L. Axtell and Richard W. Axtell; Mary E. Forney Scholarship Cup; Maude Cosho Houston Scholarship Plaque; Phi Beta Kappa; Phi Kappa Phi; Phi Eta Sigma Scholarship Plaque; Donald R. and Cora E. Theophilus Outstanding Senior.

#### ROTC (RESERVE OFFICER TRAINING CORPS)

**Air Force** — Professor of Aerospace Studies; University of Idaho; Air Force Times; Boeing; General Dynamics; Air Force Association; Distinguished Air Force ROTC Cadet, Reserve Officer Association, National Defense Transportation Association; Sons of the American Revolution; Society of American Military Engineers; Armed Forces Communications and Electronics; American Legion Dudley Loomis Post 6.

**Army** — National Defense Transportation Association; Society of American Military Engineers; Defense Supply Association; Superior Cadet Decoration; American Ordnance Association; Association of the United States Army Medal; Association of the United States Army Medal for ROTC Camp Achievement; Armed Forces Communications and Electronics; Legion of Valor of the United States of America, Inc.; Reserve Officer's Association; Hughes Trophy; Armed Forces Communications and Electronics Association (AFCEA) Scholarship; American Legion; Idaho Gold Medal; PMS Outstanding Graduate; PMS School of the Soldier; PMS Outstanding Marksmen Awards; Flight Program; Outstanding Drill Platoon; Sponsor Corps; Association of the United States Military History; Idaho National Guard.

**Navy** — The Chappell Award; Daughters of the American Revolution; The Dean's Marksmanship; General Dynamics; Marine Corps Association; Moscow Navy League Contract; Moscow Navy League NESEP; NROTC Gold Medal; ROTC Rifle Marksmanship; Naval Institute; O'Connell; Powell Rifle; Professor of Naval Science Excellence.

**Miscellaneous ROTC** — Dudley Loomis Post 6 American Legion Award; R.O.A.

#### FRATERNITY

Chipman Sigma Chi Improvement; Interfraternity Scholarship; Sib Kleffner-Guy Wicks Pledge Scholarship; Sigma Chi Foundation Scholarship Trophy.

#### LOAN FUNDS

A very diversified student loan program is available to worthy and qualified students at the University. All funds under the jurisdiction of the University are administered by the University Business Manager. Although loan funds are available to students enrolled in every academic program of the University some are restricted to students in specific fields of study.

**Policy With Respect to Administration of Student Loan Funds**

The loan funds which are available to regularly enrolled and qualified students of the University of Idaho are administered by a Student Loan Committee composed of five members representing the instructional and administrative staff of the University. Applications for loans are made through the Student Loan Officer in the Business Office.

Student Loans fall into three general categories: (a) short-term, emergency type (b) medium-term and (c) long-term.

- a. Short-term loans are those granted for short periods of time usually not extending over 60 days or until the end of the semester in which the loan is made—whichever is the shorter period of time.
- b. Medium-term loans are usually repayable prior to the start of the next academic year.
- c. Long-term loans. It is the policy of the Student Loan Committee to encourage repayment of loans at as early a date as possible. Payment of loans in monthly installments starting as soon as possible after graduation is recommended. National Defense type loans may be repaid over a period of ten years.

The following rules generally govern the granting of student loans. Under unusual personal circumstances, exceptions may occasionally be made to points 3 and 4 below.

1. The applicant should have attended the University of Idaho for at least one semester.
2. The interest rates on student loans are as follows: 3 per cent per annum from date of note until date of initial maturity and 5 per cent per annum after maturity. **However**, there will be a **minimum service charge** (which includes interest) for each loan as follows: 50 cents for loans of \$50 or less; \$1.00 for loans over \$50.
3. The applicant must have demonstrated scholastic ability and seriousness of purpose by achieving a cumulative grade point average of 2.2 or better.
4. Loans are generally made only to cover the basic University expenses (tuition, fees, room, board, and books).
5. It is the policy of the committee to reject applications for loans which may be used to finance, directly or indirectly, the purchase of a car.
6. The applicant shall indicate reasonable and satisfactory plans for repayment of the loan. The Committee will not approve loans of an amount which appears out of line with the applicant's ability to repay. In most cases the Committee requests a detailed budget of the applicant's expenditures and receipts.
7. In some cases, depending upon the nature and amount of the loan, the committee will request that the note be co-signed by a parent or a responsible property owner.
8. Applicants under 21 years of age normally will be requested to obtain written permission of their parents before consideration is given to the loan application.
9. Applications for long-term loans must be made at least 14 days before the time the funds are required in order to allow time for processing the applications.

**Alumni Loan Fund.**—Contributions received from Alumni and Alumnae of the University.

**American Legion Loan Fund.**—Established by Dudley Loomis Post No. 6, Department of Idaho, of the American Legion for loans to students who are veterans.

**Joseph Wesley Barton Loan Fund.**—Established by friends of the late Dr. J. W. Barton of the College of Education.

**Ena Faye Blodgett Loan Fund.**—Established by gifts from Dr. Earle C. Blodgett and Ena Faye Colvin Blodgett, alumni of the University. Available to assist deserving students in the fields of Botany and Agriculture.

**Clara Ransom Davis Loan Fund.**—Established by friends of the late Clara Ransom Davis in memory of her to assist needy students.

**Jerome J. Day Loan Fund.**—The late Jerome J. Day of Wallace established in the College of Mines a loan scholarship to be awarded each year to seniors in the College of Mines who are graduates of Idaho high schools and who, in the opinion of the President of the University and the Dean of the College of Mines, are the most deserving applicants, as demonstrated by their college records.

**Vernon P. Fawcett Memorial Fund.**—A \$1,000 loan fund was established in 1921 by Mrs. W. H. Fawcett of Spokane in memory of her son, Vernon P. Fawcett, '14, who was drowned at Seaside, Oregon, August 15, 1921, while attempting to save the life of a young woman companion.

**College of Forestry Alumni Memorial Loan Fund.**—Established by the alumni of the University in memory of the Idaho Foresters who gave their lives in World War II, and made available to students in the College of Forestry.

**W. K. Kellogg Foundation Loan Fund.**—Established in 1943 by the W. K. Kellogg Foundation of Battle Creek, Michigan, in the amount of \$3,000 to encourage and facilitate the training of medical technologists. Loans up to \$300 are available to students taking courses in medical technology and pre-nursing as approved by the heads of the departments of Bacteriology and Home Economics.

**Francis Baker Laney Loan Fund.**—Established by friends of the late Dr. F. B. Laney of the College of Mines for loans to students in that division.

**Pren Moore Loan Fund.**—Established in 1958 by the Idaho Poultry Improvement Association in honor of Pren Moore for many years Extension Poultryman with the University of Idaho Extension Service. Available to students specializing in Poultry Husbandry.

**Pine Hall Loan Fund.**—To assist their fellow students, the ex-students of Pine Hall in June, 1953, donated the balance of their association fund, \$267.78 to the University to establish a general loan fund.

**National Defense Student Loan Program.**—This program was established by the Federal Government under Title II of Public Law 85-864, designated as "The National Defense Education Act of 1958," and approved by the Congress September 2, 1958. Funds available under this program are furnished 90% by the Federal Government and 10% by the participating institution. In expressing the general policy underlying the National Defense Education Act the Congress has declared that ". . . the security of the Nation requires the fullest development of the mental resources and technical skills of its young men and women. The present emergency demands that additional and more adequate educational facilities be made available . . . We must increase our efforts to identify and educate more of the talent of our Nation. This requires programs that will give assurance that no student of ability will be denied an opportunity for higher education because of financial need . . ." While loans are available to needy students in any field of work at this institution, special consideration shall be given to:

- A—Students with a superior academic background who express a desire to teach in elementary or secondary schools.
- B—Students whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or modern languages.



**Isabelle Price Memorial Loan Fund.**—Established in 1941 by M. Juanita Noble for loans to junior or senior students in the College of Forestry.

**Edward Frank Rinehart Loan Fund.**—In 1952, the Idaho Woolgrowers Association created a \$500 loan fund in recognition of the outstanding work done by Edward Frank Rinehart with the Idaho sheep industry. Loans from this fund are restricted to students majoring in Animal Husbandry, with preference given to those specializing in the sheep industry.

**Rothrock Loan Fund.**—Established from proceeds from the sale of pure-bred Shorthorn steer calves given annually by F. M. Rothrock of Spokane, Washington, for several years and from contributions in memory of F. M. Rothrock. Available to sophomores, juniors and seniors in the College of Agriculture. Loans made to the most deserving applicant as demonstrated by his college record.

**Stephens Memorial Loan Fund.**—Established by friends of the late W. L. Stephens, for 19 years northern district extension agent with the University of Idaho College of Agriculture, in memory of his leadership in the development of 4-H Club work in Idaho and the Pacific Northwest. Loans from this fund will be available to former 4-H Club boys and girls in the junior or senior year in the College of Agriculture or Department of Home Economics.

**Surgical Loan Fund.**—A surgical loan fund of \$300 was established in 1922 by Dr. E. R. Edson of Seattle, for the use of students who might need financial assistance in providing for surgical treatment. In 1930 the Board of Regents established a similar fund of \$500.

**Grover Dean Turnbow Student Loan Fund.**—Established for the purpose of giving financial assistance to both men and women undergraduate students majoring in courses of study in the College of Agriculture during the sophomore, junior and senior year.

**University Loan Fund.**—In 1921 the Moscow Chamber of Commerce contributed \$100 to the University, which, with donations from the Chambers of Commerce of Coeur d'Alene, Kellogg and Wallace, initiated the first loan fund. During the years this fund has been increased by donations from various sources.

**Richard Garrigus White Memorial Loan Fund.**—A \$1,000 loan fund established in 1948 by Mr. Frederick G. White in memory of his son, Richard Garrigus White, who was a student at the University and a member of Mu Iota Chapter of Phi Gamma Delta. An additional \$50.00 was added to this loan fund by Mr. L. C. Garrigus. Available to students in the College of Forestry accepted for junior schedules or above with preference to members of Phi Gamma Delta.

#### **Loan Funds Privately Administered**

Several organizations provide loan funds which are privately administered and to whom requests for loan should be made directly. The two larger loan funds are described below. Information on others may be secured from the Office of Student Affairs.

**Federation of Women's Clubs Loan Fund.**—In October, 1936, the Idaho State Federation of Women's Clubs established a loan fund for the University. Approximately \$13,500 is now available. This money is loaned to junior and senior students, on note security, and is to be returned with interest at 6 percent from the time the borrower leaves college. The applicant must also be recommended by a State Federation Club and by his dean. Students interested should apply to the Director of Student Affairs.

**Knights Templar Educational Foundation.**—Created by the Masons belonging to the Commandaries of Knights Templar of Idaho for the purpose of assisting worthy young people of this state to finish their education. Loans are made to seniors, to those working on their master's degrees, and to juniors on exception. Robert Somerville, Box 162, Lewiston, Idaho, chairman; C. Merton Winegar, 533 South Main St., Moscow, secretary.

## STUDENT HOUSING

### RESIDENCE HALLS FRATERNITIES — SORORITIES FAMILY HOUSING

A very large proportion of single undergraduate students attending the University of Idaho live in University residence halls, or in fraternity or sorority housing located on the campus. The University recognizes group living experiences as basic to a student's total education and provides excellent facilities to help realize this objective. Each living group benefits from guidance services provided by adults associated in advisory capacities with the various groups.

The University operates a number of accommodations for married students, and private landlords in the city of Moscow provide housing for a large number of married students as well as for some single students.

The University establishes such regulations and procedures as may be necessary and appropriate to promote and assure acceptable living arrangements for all students living on or off the campus.

#### General Housing Requirements (for single undergraduate students)

1. **Women.** Effective September 1, 1967, the following policy will govern off-campus living of undergraduate women. All freshman, sophomore, and junior single women students are required to live on the campus in either University residence halls or in sororities. This policy will **not** apply to the following: Those single women who are over 21 years of age or who reach their 21st birthday on or before Oct. 15 of the year in question; those single women who live with their parents or relatives either in Moscow or in surrounding communities; those single women who, for health reasons which are certified by the University physician, must not live in group housing; and for those single women who may be earning their room and/or board by performing services in a household which requires that they live there. Approvals for exceptions other than age shall be given by the Dean of Women.
2. **Men.** Subject to availability of space, all freshmen men students will live on the University of Idaho campus either in residence halls or in fraternities. Exceptions are made to this policy for the following: (a) those single men who are over 21 years of age or who reach their 21st birthday on or before October 15 of the year in question; (b) those single men who live with their parents or relatives either in Moscow or in surrounding communities; (c) those students who for health reasons which are certified by the University physician, must not live in group housing; and (d) those students who may be earning their room and/or board by performing services in a household or apartment building which requires that they live in such off-campus facilities. Approval for exceptions to this policy, other than age, must be granted by the Dean of Students.

#### RESIDENCE HALLS

The University operates eleven residence halls which accommodate 1,286 men students and ten residence halls which accommodate 972 women students. Meal services in dining rooms and a cafeteria are provided for students residing in each of these residence halls.

#### Application for Residence Halls

Students desiring to make application for housing in a University residence hall must be cleared for admission to the University of Idaho. (See page 45 for advice on filing for application for admission). The following procedures should be followed in this total process:

1. File an application for admission form which includes an indication of student housing plans with the University Admissions Office.
2. When admission to the University is cleared, the Director of Housing will send appropriate housing information to those who desire to live in residence halls, and an application-contract form will be forwarded to the applicant.
3. The applicant for residence hall housing then return the completed and signed application-contract form **together with a \$35 deposit** to the office of the Director of Housing.
4. All the above steps must be completed before specific housing can be assigned.

### ROOM RENT: Costs and Other Information

Following is a list of residence halls for men and women which indicates the capacity of each and the semester room rent for the 1967-68 school year.\*

MEN			WOMEN		
Hall	Capacity	Semester Rates*	Hall	Capacity	Semester Rates*
<sup>1</sup> Campus Club	60	\$112.50	<sup>1</sup> Ethel Steel House	58	\$117.50
Chrisman Hall	107	\$142.50	Forney Hall	102	\$142.50
Gault Hall	143	\$142.50	Hays Hall	122	\$142.50
McConnell Hall	110	\$142.50	<sup>2</sup> Permeal French House	60	\$142.50
Shoup Hall	110	\$142.50	Willey Residence	315	\$142.50
Upham Hall	134	\$142.50	4th Unit Wallace Complex	315	\$142.50
Willis Sweet Hall	198	\$142.50			
Ballard Residence	212	\$142.50			
Stevenson Res.	212	\$142.50			

1. Arrangements for the rental of rooms in University of Idaho residence halls are on an **annual** contract basis and this contract is signed by both the student and parent.
2. Students who sign the annual contract are **required to live in a residence hall during the entire school year.**
- \*3. Semester room rentals are payable in advance to the Business Manager, University of Idaho.
4. Room rental payments are **not refundable**, except upon written petition to the Operations Council setting forth all pertinent facts. Exceptions may be made for critical illness which is evidenced by a doctor's written statement or other serious circumstances beyond the student's control. If a petition for refund is granted, a charge of \$2.00 per day for each day of occupancy will be made.
5. All University residence halls will be closed during Christmas vacation. Suitable quarters for a limited number of men students residing in residence halls will be available for those who wish to remain on the campus during Christmas and spring vacations. A charge of \$6.50 per week will be made for these vacation periods.

### BOARD: Costs and Other Information

1. All students living in University residence halls are required to board there. Any exception to this regulation must be made by prior arrangements through the office of the Director of Housing.
2. Students who live in off-campus housing may arrange to eat their meals in one of the University residence halls dining rooms or the cafeteria by applying to the Director of Housing.

\*Room rental rates are subject to change at any time by action of the Regents.

<sup>1</sup>Dining hall and janitor services operated under a cooperative plan where residents do the work.

<sup>2</sup>Students residing in French House will eat their meals in other women's halls.

- Board in University residence halls is payable in advance in full at the beginning of each semester, or in four scheduled payments during the semester.

Example—First semester school year, 1966-67

Total for semester .....	\$245*
September 11 .....	\$65
October 10 .....	60
November 10 .....	60
December 12 .....	60

- Board is calculated on the full semester basis. The meal charge begins automatically and simultaneously with the student's room rent schedule and continues until the end of the semester, except as provided for under the credit rules (see below). In establishing the above semester rates (which are comparatively low for the country as a whole) full allowance has been made for normal absences on weekends and holidays. Consequently, additional credit is not given for miscellaneous meals missed or for absences on holidays and between semester, or by virtue of condensed examination schedules at the end of the semester.
- A student who fails to make full payment of delinquent room or board charges within 7 days of the time the payment became due shall be assigned a penalty charge of \$10, which is due and payable with the delinquent payment and further, if said delinquent payment and penalty has not been fully met within 14 days when the payment became first due, the registration of the student shall be cancelled automatically and without notice.
- Students living in the two cooperative halls contribute their share of the labor in the kitchen, dining room, and public areas to reduce living costs. Ethel Steel house is the cooperative for women; Campus Club for men.

#### Board Credit Rules

Credit for meals not consumed will be given when:

- At least three consecutive meals are missed on account of confinement in the University Student Hospital because of illness, or upon written excuse from a physician when the student is not confined to the University Student Hospital.
- The student is absent four or more consecutive meals on a required University trip during which meals are not furnished.

#### Suggested Equipment for Students who Expect to Live in University Residence Halls

The following equipment and room furnishings are **not** provided by the University.

- Men.** Three pairs of sheets for single bed; three pillow slips; a bedspread; a pillow; suitable bedding; towels; drinking glass; broom; dust mop; and a small rug. Each men's hall has a laundry room furnished with coin operated machines. Commercial linen rental is also available in all halls.
- Women.** Three pairs off sheets for single-bed; three pillow slips; a bedspread; a pillow; suitable bedding; towels, bureau cover; mattress pad; drinking glass for room; couch cover; one small rug. Each hall has excellent laundry equipment. Commercial linen rental is also available in all halls.

#### General Regulations

Living in a University of Idaho residence hall is a privilege which may be revoked for cause. Continuation of this privilege depends upon reasonable and satisfactory conduct, and observance of all University and residence hall regulations (covered in separate publications). Each student is expected

\*Board rates are subject to change at any time by action of the Regents.

to completely respect the rights, welfare and safety of others. Following are general residence halls regulations:

1. Undergraduate students are given a preference over graduate students for space available in residence halls.
2. Assignment of a specific room will not be made until the student arrives at the residence hall where he has a reservation.
3. The individual student will be charged for damage to University property where responsibility for such damage can be determined and assigned to an individual. Otherwise, charges for damages will be made against the hall organization through its treasurer.
4. Neither room reservation nor meal tickets are transferable.
5. The University reserves the right to enter a student's room at any time.
6. The University reserves the right at any time to change rental or board rates, alter the arrangements or deny the privilege of living in a residence hall.
7. Assignment of a room in a residence hall does not imply any obligation on the part of the University to furnish parking space on the campus for a student automobile.
8. The University does not carry insurance against the loss or damage of any individually-owned property.
9. Insurance against damage to personal property by fire is available to each student living in a residence hall through the Residence Halls Association.
10. Each student living in a particular residence hall is a member of that hall association and as such is expected to pay dues to that association to help provide for the many important services and activities carried on for the benefit of the members.

#### **Fire Safety**

1. Disregarding fire safety regulations, tampering with fire alarm systems or fire fighting equipment is cause for immediate dismissal from University residence halls and further action by appropriate disciplinary bodies.
2. Electrical wiring or alteration to existing wiring by students is prohibited.
3. The possession of fire crackers, gun powder or other forms of explosives is prohibited.
4. Participation in fire drills is mandatory.

#### **FRATERNITIES AND SORORITIES**

Seventeen national fraternities and nine national sororities maintain chapters and houses on the University of Idaho campus. Membership in a fraternity or sorority is by invitation from the members of the group concerned. The University does not make arrangements for membership.

The average cost for living in a fraternity or sorority ranges between \$80.00 and \$90.00 a month which includes charges for room, board, and most social fees. Those who join a fraternity or sorority pay pledge fees and initiation fees in addition to board and room charges, but these special fees are paid only once during the individual's college career.

#### **Sororities:**

The following national sororities have chapters and houses on the University of Idaho campus: Alpha Chi Omega, Alpha Gamma Delta, Alpha Phi, Delta Delta Delta, Delta Gamma, Gamma Phi Beta, Kappa Alpha Theta,

Kappa Kappa Gamma, and Pi Beta Phi. Panhellenic Council coordinates intersorority relationships and formulates policies and rushing procedures.

#### **Arrangements for Sorority Living**

Final arrangements for living in a sorority house are made by invitation. Registration and arrangements for participation in a program known as sorority "rushing" are made through the Panhellenic Council, c/o Dean of Women, University of Idaho. Women who wish to register for the rushing program must first obtain permission to register in the University as determined by the Director of Admissions. Registration for rushing should be made as soon after February 1 as possible and **must be completed no later than August 1.**

#### **Fraternities:**

The following chapters of national fraternities maintain houses on the University of Idaho campus: Alpha Tau Omega, Beta Theta Pi, Delta Chi, Delta Sigma Phi, Delta Tau Delta, Farm House, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, Phi Gamma Delta, Phi Kappa Tau, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Tau Kappa Epsilon, and Theta Chi. Each of these groups is represented in the Interfraternity Council which unites them in common service to the University and promotes a spirit of good fellowship and self government among the fraternities.

#### **Arrangements for Fraternity Living**

Final arrangements for living in one of the University of Idaho's fraternities are made by invitation of the group. An opportunity to get acquainted with each of these fraternities is provided by a period of activity known as "rush" at the end of which time each individual and each group indicates choices. Registration for participation in this program is made by writing: Interfraternity Council, c/o Office of Student Affairs, University of Idaho. This registration should be completed as soon as possible after February 1, and must be completed by August 15 of the year the student intends to enter the University.

Men students who plan to register for fraternity rush are requested not to make a dormitory room deposit.

### **FAMILY HOUSING**

The University operates the Park Village housing project for student family accommodations. Furnished, one-bedroom size apartments rent for \$80.00 per month which includes furniture, heat, hot and cold water and garbage disposal service. Washing facilities are available. Tenants may have television antenna service. Telephone may be installed at tenant's expense. Parking space is adequate but transportation is not necessary because of campus location of the housing.

Size of family is limited to couples and those with one child. **Pets are not permitted.** Tenants should bring china, utensils and linen. Such items as ironing board, radio and floor lamp may be useful.

To apply for an apartment, write to: Director of Family Housing, University of Idaho. A \$10 advance deposit is required.

## **EXPENSES**

### **ANNUAL EXPENSE**

Expenses for attending the University of Idaho vary with the taste and financial means of the individual. The University prides itself for its record in providing high quality instruction at low cost.

The largest item in the estimated school expense is board and room; the smallest is for University fixed charges (regular residents of the state pay no tuition). The items of board and room are discussed on pages 36-37. Board

and room are made available by the University at exceedingly low rates. This is possible because three-fourths of the students live on the campus in supervised residences. For about \$88.00 a month—\$32.00 for room, approximately \$56.00 for board—or \$395.00 for the academic semester students secure excellent board and room in the University-operated dormitories. The University also maintains cooperative residence halls where students may reduce this living cost by sharing the work. Here the costs are about \$70.00 a month—\$25.00 for room, approximately \$45.00 for board—or \$315.00 for the academic semester. These figures are based upon current rates which are subject to change depending upon change in food costs.

Students joining fraternities or sororities may pay slightly more than those at the University halls, but the costs are still well below the average for similar living standards at most universities.

Total basic registration charges, including student activities and services, amount to \$105.00 for the semester. Music students pay special fees as described in the Music Department description in Part V of this catalog.

The above general items of expense are outlined in the following tabulation:

Estimated Cost	One Semester	Per Year
Registration Fees .....	\$105.00	\$210.00
Books, Supplies, etc. ....	25.00 to 50.00	50.00 to 100.00
Cooperative Dormitories .....	315.00	630.00
	to	to
Other Dormitories .....	395.00	790.00
<b>Total—Not Including Personal and Incidental Cost .....</b>	<b>\$445.00 to 550.00</b>	<b>\$890.00 to 1100.00</b>

Non-resident students pay an additional charge for tuition, which is \$250.00 per semester.

In forecasting total college costs the individual must estimate and add to the foregoing a variety of miscellaneous costs, which vary widely with individual tastes. These include such items as clothing, laundry, transportation, and incidentals; social and recreational expenditures; fraternal affiliations, and personal needs.

The average minimum annual expense may be estimated at from \$940.00 to \$1000.00, including personal expenses while on the campus but excluding transportation costs. Of course, some students may spend more according to their personal habits and tastes. High school teachers can perform a valuable service in advising prospective students by establishing the fact that beyond a certain point college costs depend wholly upon the spending habits of the individual.

**A student coming to the University of Idaho needs about \$350.00 to meet initial payments; out-of-state students need \$250.00 additional because of tuition.** It is suggested that students who come from points outside the State of Idaho bring their funds in the form of money orders, certified bank drafts or travelers checks as these instruments are easily negotiated.

### STUDENT FEES

All students who register as regular students for undergraduate or graduate study pay the regular registration fee. Special fees are charged under the special conditions indicated. Any person, other than a staff member, who registers for more than six credits, or its equivalent, must pay the full registration fee.

**Fees are payable in full at the time of registration on the scheduled registration days. Students registering after the prescribed registration days are subject to a late registration penalty.**

Payment of the regular registration fee entitles all students registered for academic credit to the services maintained by the University for the benefit of the students, subject to charges for special services. No reduction in fee can be made for students who may not desire to use any part of these services.

The University reserves the right to change the registration fee and charges listed herein without notice.

### REGULAR FEES

All regular students who are legal residents of Idaho pay the uniform registration fee which amounts to \$105.00 for each semester. The payment includes all laboratory, course, and other charges except special fees for instruction in applied music, (see Music), field trips, special equipment charges and specialized training. All fees are subject to change without notice.

#### Registration Fee—Total for "Residents" \$105.00

This includes all laboratory and course charges, including membership in the Associated Students (a small greens-fee is charged those using the golf course.) If the student pays this fee for both semesters he is entitled to a yearbook without additional charge. Free clinic advice is furnished by the University Physician including privileges of the Student Health Center up to seven days per semester. (When hospitalization exceeds seven days in any one semester, an additional \$3.00 per day charge is made; also, additional charges are made for all hospital meals, X-rays, special medicines and special services). In addition this fee entitles the student to physical education services, use of the Student Union Building and services of the Alumni Secretary. In addition student accident insurance coverage is provided.

An undergraduate student who has not been domiciled in Idaho, more than six months immediately preceding his first enrollment at the University, is required to pay a tuition of \$250.00 a semester in addition to the registration fee of \$105.00, making a total of \$355.00.

The legal residence of a student who is a minor shall be considered the same as that of his father (or mother, if the father is not living) or his legal guardian in case of adoption. Any person who is properly classified as a non-resident student, unless facts of residence change, retains that status as a student without regard to age or years of attendance at any institution of higher learning in Idaho.

### SPECIAL FEES

The following special fees are charged under the conditions indicated:

**Non-Resident Tuition—Undergraduate (per semester) \$250.00**  
**Non-Resident Tuition—Graduate (per semester) \$250.00**

**\*Late Registration Fee \$5.00 to 15.00**

To help defray the extra cost involved with late registration procedure, students who complete their registration after the scheduled registration days are charged a late registration fee of \$5.00 for the first day and \$5.00 for each additional day up to a maximum of \$15.00. For Summer School see Summer School Bulletin.

**Part-time Students, Graduate or Under-Graduate (per semester)**  
**Credit Hour Fee (per credit) \$12.50**

Students who register for 6 semester hours or less (or equivalent) may pay the above fees in lieu of the regular fees. Payment of these special fees entitle the student to instructional and library privileges only.

\*See Calendars, Pages 2 and 3.



**Staff Members and Wives**

Any full-time staff member of the University having an official appointment, the wife of any full-time staff member, and any Regent-appointed research fellow, service assistant, or teaching assistant may register for instructional courses during any academic year without payment of fees; provided, however, any employee must be under employment during the entire academic period to have the fees waived for that period. If for any reason a person resigns or ceases employment during an academic period for which he has enrolled for academic work without payment of fees, that person must either withdraw from the academic work or make full payment of fees. The above entitles a person to instructional and library privileges only and does not exempt one from applied Music fees.

**Auditors and Registration in Absentia**

Credit Hour Fee (per credit) \$12.50  
 All students, except University staff members and wives, who enroll only for courses in absentia or as auditors shall pay the above fee. This special fee for courses in absentia or auditing is not charged if the courses are part of a "normal" registration for a specific semester for which the student already has paid the full semester registration fees.

**Advanced-Standing Examination Fee (per semester hour) \$1.00**

A fee of \$1.00 per semester hour is charged for the privilege of taking an examination for advanced standing credit.

**Special Examination Fee (per examination) 1.00**

A fee of \$1.00 is charged for the privilege of taking a final examination at a time other than the scheduled period for the examination.

**Application Fee \$25.00**

This fee applies to all out-of-state undergraduate students. If the applicant is not accepted for admission by the University the sum of \$20.00 will be refunded. If the applicant is accepted for admission the entire amount will be applied as partial payment on the non-resident tuition for the semester for which the student has applied for admission. If the applicant is accepted for admission for a particular semester but does not enroll at the University then no credit or refund will be available.

**Diploma Fee \$5.00-\$7.50**

A diploma fee of \$5.00 is charged all applicants for a degree from the University except Law diplomas which are \$7.50 because of additional costs. The fee is payable at the time of filing the application. An additional fee of \$2.00 is charged when a special diploma insert must be made except for Law which is \$7.50. A penalty fee of an additional \$5.00 is charged if application is made after date specified in catalog. (See pages 2-3).

**Thesis Binding Fee \$3.00**

At the time application for the degree is made, every candidate for a Master's degree who is submitting a thesis or composition shall pay this fee for having two copies of his thesis or composition bound.

**Transcript Fee \$1.00**

The first copy of a student's record is furnished without charge. Thereafter, a fee of \$1.00 per transcript, payable in advance, is charged. If two or more copies are ordered at the same time, the fee is \$1.00 for the first copy and 50 cents for each additional copy.

**Transcript Fee—Extension and Correspondence Courses** \$ .50

The first copy of a student's record is furnished without charge. Thereafter, a fee of 50 cents per transcript, payable in advance, is charged. If two or more copies are ordered at the same time, the fee is 50 cents for the first copy and 25 cents for each additional copy.

**Applied Music** See Music

**Field Trips (Ask Instructor of Course)** See Regulations and Procedure Sec. Q

**Special Equipment (Ask Instructor of Course)** Varies

**Library Fines and Charges** See Librarian

**REFUND OF FEES**

Students who withdraw in accordance with the regulations governing withdrawals are entitled to the following refund of fees, except that \$6.00 of the registration fee is non-refundable once registration is completed.

- a. When withdrawal is accomplished during period of registration and before the beginning of classes: fees (less \$6.00) refunded in total.
- b. When withdrawal is completed after classes have begun but prior to the close of the second week of classes; seventy five per cent of fee balance refunded.
- c. When withdrawal is completed after the close of the second week but prior to the close of the fourth week of classes; fifty per cent of fee balance refunded.
- d. When withdrawal is completed after the close of the fourth week of classes: no refund.

To obtain a fee refund in accordance with the above schedule the student service card must be surrendered. Refunds are based upon date of application for refund after completion of withdrawal and not from date of last attendance at class, except in cases of illness.

The above schedule does not apply for applied music lessons.

Special fees for individual instruction in applied music may, upon prompt application by the students withdrawing, be refunded according to the following schedule: during the first two weeks of a semester, five-sixths; during the third and fourth weeks, two-thirds; fifth and sixth weeks, one-half; seventh and eighth weeks, one-third; ninth and tenth weeks, one-sixth. Application for this refund should be made to the Head of the Department of Music, who will be responsible for the approval of the application.

**ADMISSION TO THE UNIVERSITY**

**Students entering the University for the first time should write to the Admissions Office, requesting an Admission folder. This publication gives detailed information concerning procedure on admission.**

**FINAL DATES FOR MAKING APPLICATION FOR ADMISSION**

To be assured of admission to the University of Idaho for the first semester of each year, applications for admission must be filed in the Admissions Office on or before August 1.

All academic credentials should also be on file by the above date so that permission to register may be sent to the applicant before registration days.

For the second semester, final date for receiving applications is January 15.

Applications received after the above dates will be accepted in the order of their receipt only as long as additional new students may be accommodated. Acceptance will be determined by our ability to accommodate such students in the division in which they wish to register.

#### PROCEDURES FOR APPLYING FOR ADMISSION

Applicants for admission to the University must present satisfactory evidence of good moral character.

Students are classified as graduates and undergraduates. Undergraduates are classified as regular students (freshmen, sophomores, juniors, and seniors) and special students. For the admission status of graduate students see Graduate School Part III.

**Credentials.**—Students applying for admission to the University are required to furnish credentials as follows:

- (a) Personal data on the regular application-for-admission blank. Failure to list on the application blank all institutions attended is considered fraud and subjects the applicant to immediate cancellation of registration by the Registrar.
- (b) An official signed transcript of high school credits to be sent direct to the University by the principal.
- (c) Official transcripts and statements of honorable dismissal to be sent direct to the University from each institution attended after high school graduation.
- (d) Blanks for furnishing personal data and high school records may be obtained on application to the Admissions Office. University, college and other collegiate level school records should be furnished on the transcript blank of the institution at which the study was taken. All transcripts must be official. They must be signed by the Registrar, superintendent, principal, or some other official of the school and mailed by him directly to the Admissions Office, University of Idaho. Transcripts will not be accepted from the student. *Prompt attention to these details will avoid delay in registration and the additional expense of telegraphing.*
- (e) Each new student (either freshman or transfer) entering the University for the first time is required to file with the University a complete physical examination report. This report must be filed before registration is considered complete. This physical examination should be accomplished by the individual's physician before coming to the University and special forms are provided by the University for this purpose. If the required physical examination is not completed before coming to Moscow, the new student may obtain this examination from a local physician. *University physicians do not make entrance physical examinations.* The University may require other or further physical examinations if deemed necessary.
- (f) All new non-resident undergraduate applicants are required to pay a fee of \$25 for application for admission to the University for on-campus study. The fee is not refundable once the application has been officially filed with the University Admissions Office and is charged for review of credits and other services.
  1. If the applicant is not accepted for admission by the University, the sum of \$20 will be returned to the applicant.
  2. If the applicant is accepted by the University, the sum of \$25 will be applied as partial payment on the non-resident tuition

for the semester for which the student has applied for admission. If the student, once admitted, does not enroll at the University for the particular semester for which he has applied for admission, thereafter no credit on tuition or any refund will be available.

- (g) A letter of acceptance and a physical examination report form will be mailed to applicants whose credentials have been accepted. A permit-to-register will be among the registration materials furnished the applicant by his Dean on the first day of registration.

### ADMISSION REQUIREMENTS

#### Entering Freshmen

1. Each applicant for admission to the freshman class is required to have the scores attained on the College Entrance Examination Board examinations sent to the Admission Office to become a part of his permanent file. These tests must include The Scholastic Aptitude Test, the English Achievement Test, and two other Achievement Tests. (If mathematics is basic to his curriculum the mathematics examination should be selected.) Those applicants not presenting test scores at the time of admittance will be granted provisional acceptance if otherwise qualified, and will be required to take the CEEB test on a designated date to complete formal admission. A late testing fee will be charged. Scores attained on the ACT may be submitted in lieu of CEEB scores.
2. **Early admission** will be granted at the end of seven semesters of high school study if the applicant is otherwise qualified for admission. **Non-Resident** applicants seeking early admission should have the high school Principal send a transcript of seven semesters study directly to the Admissions Office. Transcripts cannot be accepted directly from the applicant. Early admission will be validated if upon receipt of a final transcript, the applicant continues to meet admission requirements as they apply to him. **Resident** applicants seeking early admission should have the high school Principal complete the PRELIMINARY CERTIFICATE after seven semesters study and send it directly to the Admissions Office. Early admission will be validated if upon receipt of a final transcript, the applicant continues to meet admission requirements as they apply to him.
3. Residents of Idaho who are graduated from an accredited high school are admitted upon receipt of a formal application, a high school transcript and CEEB or ACT test scores.
4. Out-of-state (non-resident) applicants, applying directly from high school, are selected from those who are graduated in the upper one-third ( $\frac{1}{3}$ ) of the scholastic ranking of their graduating class.
  - (a) Applicants in the upper  $\frac{1}{2}$  but below the upper  $\frac{1}{3}$  will be referred to the Admissions Committee for recommendation and action.

#### TRANSFER STUDENTS

1. Transfer students must, in addition to having a high school transcript submitted, request the Registrar of all colleges attended to send a transcript of all studies pursued to the Admissions Office. Note: **TRANSCRIPTS SUBMITTED IN SUPPORT OF AN APPLICATION MUST BE SENT DIRECTLY TO THE ADMISSIONS OFFICE BY THE ISSUING INSTITUTION. THEY BECOME THE PROPERTY OF THE UNIVERSITY AND CANNOT BE RETURNED.**
2. Resident transfers who have a minimum cumulative grade point average of 2.00 (C) for all college level study attempted in all colleges attended exclusive of courses in which grade points are not allowed will be automatically admitted upon proper application.

3. Non-resident transfers who have a minimum grade point average of 2.30 (on a four point system) for all college level study attempted in all colleges attended exclusive of courses in which grade points are not allowed will be automatically admitted upon proper application, if space is available.
  - (a) Applicants who have a grade point average of between 2.00 and 2.30 will be referred to the Admissions Committee for recommendation and action.
4. Transfer students presenting fewer than twenty-six (26) hours of college credit are required to comply with test requirements as they apply to entering freshmen.

Requirements for admission without deficiency to the various divisions of the University are shown in the table below.

HIGH SCHOOL UNITS IN	COLLEGES OF THE UNIVERSITY						
	Letters and Science	Agriculture	Engineering	Mines	Forestry	Education	Business
English .....	3	3	3	3	3	3	3
Social Science .....	2	2	2	2	2	2	2
Mathematics: <sup>1)</sup> Algebra .....	1	1	1	1	1	1	1
Plane Geometry .....	1	1	1	1	1	---	1
Advanced Algebra .....	---	---	1/2	1/2	1/2	---	---
Other .....	---	---	1/2*	1/2*	---	1	---
Natural Science (unspecified) .....	2	2	1	1 <sup>†</sup>	2**	2	2
Physics .....	---	---	1	1 <sup>‡</sup>	---	---	---
Chemistry .....	---	---	1	---	---	---	---
Unspecified Academic Units .....	2	2	---	1	1 1/2*	2	2
Total Academic Units .....	11	11	11	11	11	11	11
Additional Academic, Vocational or Elective Units .....	4	4	4	4	4	4	4
Total Units Required .....	15	15	15	15	15	15	15

\* One-half unit of either advanced algebra, trigonometry, or solid geometry, in this order is preference, is required by the Colleges of Engineering and Mines and recommended by the College of Forestry, rather than only 1/2 unit, one unit consisting of 1/2 unit of trigonometry is strongly recommended by the Colleges of Engineering and Mines. This unit will become a part of the requirements at a future date.

\*\*Chemistry, biology, physics in this order of preference is recommended.

† Chemistry strongly recommended.

‡ One unit required for mining, metallurgical or geological engineering, but not required for geography where two units of natural science (unspecified) are required. Biology may be taken in place of physics for the paleontology option in geology.

<sup>1)</sup> Or the equivalent, because high schools offering modern mathematics programs may have course names that differ from the traditional ones yet contain equivalent material.

#### DEFINITION OF UNITS

A "unit" represents a high school subject taught five times a week in periods of not less than 40 minutes duration (laboratory 80), for a school year of at least 36 weeks. A certificate of secondary school record should be filled out and signed by the superintendent, principal, or other official of

the school in which the work was done. It should show the length of each course in weeks, the number of recitations a week, the length of each recitation, and the grade of scholarship attained, including a record of all failures and conditions. All certificates accepted toward admission to the University become the property of the University, and are permanently filed among its records. They cannot be returned to the student.

Academic units shall be defined as English (composition and literature), foreign language, mathematics, social science, and natural science.

Elective units may be taken from the academic subjects named as well as from vocational and other subjects commonly given in high schools, except that no credit will be given for the following:

- (a) Spelling, penmanship, reviews, project work unless in conjunction with regular courses, and work which primarily is of the nature of extracurricular activities.
- (b) Less than one year in a foreign language, shorthand, typewriting, or bookkeeping.
- (c) Less than one-half unit in any subject.
- (d) More than one unit in each of Physical education and military drill.

In cases of graduation from three-year high schools, units earned in the ninth grade in junior high school are included in the 15 required and acceptable units.

#### ADMISSION WITH DEFICIENCIES

**Admission With Deficiencies In Group Requirements.**—Students admitted to the University with 15 acceptable units, who present the specified number of academic units but are deficient in academic group requirements may make up the deficiency by college courses and without loss of college credit. Entrance deficiencies should be made up before the beginning of the sophomore year. Students who enter the Colleges of Engineering or Mines with deficiencies in plane geometry or physics may make up these deficiencies in non-credit residence courses offered at the University. Other deficiencies are, in general, made up without college credits.

#### ADMISSION OF NON-HIGH SCHOOL GRADUATES

**By Recommendation.**—Students from accredited secondary schools who have completed 15 acceptable units in an accredited 4-year high school or 12 acceptable units in an accredited 3-year senior high school who are in the upper one-half of the scholastic ranking of their class, but have not graduated, may be admitted upon special written recommendation of the principal.

**By Examination.**—Applicants for admission who have graduated from non-accredited high schools and resident non-high school graduates over 21 years of age and veterans who do not meet admission requirements may be admitted to the University as regular students upon satisfactory completion of suitable tests selected by the University. Persons to whom this provision applies should write to the Admissions Office for detailed information and should have all available credentials regarding their previous study sent to the Admissions Office.

This regulation does not pertain to students transferring from accredited institutions of higher learning who have completed 30 or more semester hours of study with a satisfactory scholastic average. These students will be admitted to the University with the provision that they will be required to make up any high school deficiencies and/or foundation training which might be required by the dean of the division in which they register.

### ADMISSION WITH ADVANCED STANDING

Students who have completed study in other universities or colleges which have been accredited by one of the regional accrediting agencies associated with the National Committee of Accrediting Agencies of the United States, and have satisfactory scholastic records may be admitted to advanced standing.

These students must have the following credentials sent direct to the Admissions Office of the University of Idaho: a certificate of secondary school record giving full information regarding the applicant's high school record, and separate transcripts from each of the institutions attended. These should be sent direct to the Admissions Office by the issuing institutions at least one month before the student expects to enter the University. Transcripts from other institutions cannot be given to the student or be forwarded to another institution.

Students admitted to the University of Idaho from other collegiate educational institutions must have complied with the scholarship regulations for continuance in the institution or institutions which they have attended in addition to those scholarship regulations which are applied to students enrolled in this institution. (See University Regulations, Sec. L and M). Petitions for exceptions to these regulations should be presented to the Administrative Council. Students entering the College of Education must have an average of "C" (2.00) or better. (See also special requirements for admission to the College of Law.)

**From Normal Schools.**—Students from approved normal schools who present a satisfactory scholastic record are allowed credit for work which corresponds to University courses and given a class standing according to the number of their credits which may be applied as required or elective credits in the curriculum chosen.

**From Junior Colleges.**—By action of the State Board of Education and the Board of Regents of the University of Idaho, in accordance with Idaho statutes, the acceptance of credits from Junior Colleges is to be uniform for both certification and transfer purposes effective September 1, 1950.

This action provides that after a student has attained full junior standing by the completion of 64 semester hours, (96 quarter-hours), or one half of the total credit requirements for a specific degree curriculum at any institution or institutions, he may not transfer for credit to the University of Idaho subsequent work taken at a junior college.

### ADMISSION AS SPECIAL STUDENTS

A special student is an undergraduate who comes to the University of Idaho solely to secure credit for transfer back to another institution. Special students are admitted without filing all of the credentials required of students working for a degree from the University of Idaho. They must, however, have the institution last attended SEND DIRECTLY to the Admissions Office a transcript including (a) honorable dismissal (b) total credits; and (c) comply with the same grade point requirements as regular students.

(a) A student in any accredited college or University who wishes to earn credits to be transferred back to the institution last attended may register as a Special student. If a student plans to take 12 credits or more, he must register as a regular student and fulfill all entrance requirements.

(b) A student who wishes to carry one or more courses (under 12 credits) for the general educational values expected, with no intention of meeting degree requirements may register as a Special student.

A Special student is not eligible for a degree and no part of the study completed, while registered as a Special student, can be applied toward meeting the residence requirement for a degree. If a Special student wishes to become a candidate for a degree, he must meet all of the regular admission requirements and must register as a regular student.

### ADMISSION AS A NON-MATRICULATED STUDENT

A "Non-Matriculated Student" is one who comes to the University of Idaho for the sole purpose of participating in short courses, workshops, etc. for which no credit will be earned. An applicant for participation as a non-matriculated student will need to make application on a special application form and should make this clear in his request for application materials. Such application indicates that no credit can be earned nor can it be claimed at a later date. This form of registration may be utilized in either undergraduate or graduate courses. All applicants must be in good standing at the last institution attended to qualify for admission.

### ADMISSION TO THE COLLEGE OF LAW

Applications for admission to the College of Law are required to present the same credentials as undergraduate except the holder of a Bachelor Degree is not required to file a high school transcript. All applicants are required by College of Law regulations to write the Princeton Legal Aptitude test prior to admission. Inquiries concerning this test should be directed to the Dean of the College of Law. (see page 102).

### ADMISSION OF FOREIGN STUDENTS

The University of Idaho accepts qualified students from foreign countries to the extent that space is available. Foreign applicants are expected to meet the requirements for admission from high school or from other colleges or universities as outlined above under PROCEDURES FOR APPLYING FOR ADMISSION. see Part II).

**Credentials:** Official transcripts and/or certified copies of the certificate, diploma, or government examination report received on completion of secondary school work and the degree, license, or diploma received on completion of any college or university, must be sent by the certifying agency directly to the Admissions Office and must be translated into ENGLISH.

**English Proficiency:** All foreign applicants are required to take and receive a satisfactory score on TOEFL (Test of English as a Foreign Language) or other examination acceptable to the University of Idaho. Arrangements to take the TOEFL examination may be made by writing directly to TOEFL, Educational Testing Service, P.O. Box 592, Princeton, New Jersey 08540, U.S.A. The test must be taken and the scores received by the University prior to a decision on admission of the applicant.

**Financial Statement:** All foreign students must present to the Admissions Office, satisfactory statements of finances and adequate proof of financial responsibility or sponsorship by a reputable American citizen or organization for all financial obligations while attending the University of Idaho.

**Health and Accident Insurance:** The University of Idaho recommends that foreign applicants have Health and Accident Insurance. The University offers such a policy available to all students.

**Deadline for Application for Admissions:** All foreign applicants must apply for admission (to include the taking of all tests and the filing of all required application forms and credentials) by the following dates:

For Fall Semester—1 March

For Spring Semester—1 August

For Summer Session—1 December

Upon completion of all the requirements and when final acceptance is granted to the applicant, an I-20 form will be issued to the applicant by the Registrar's Office.



**ADMISSION TO GRADUATE STANDING**

A bachelor's degree from an accredited college or University is required for admission to graduate study. In addition, the student must meet any academic standards set up by the University. A complete certified transcript from the school awarding the bachelor's degree listing the degree awarded is necessary. If you have taken graduate study at any school after receiving your degree, transcripts and statements of honorable dismissal are also required from these schools. These transcripts must be sent directly to the Admissions Office of the University and should arrive some time prior to registration days so that they may be checked to determine your eligibility for admission.

For further regulations concerning graduate work see the statement of the Graduate School in Part III of this catalog.

**DEGREES GRANTED****FIRST DEGREES**

The following baccalaureate degrees are conferred upon those who have successfully completed the prescribed courses of study and who have complied with other requirements stipulated by the University.

**College of Letters and Science:**

Bachelor of Arts, B.A.  
Bachelor of Science, B.S.  
Bachelor of Science in Pre-Medical Studies, B.S.(Pre-Med.)  
Bachelor of Science in Home Economics, B.S.(H.Ec.)  
Bachelor of Science in Pre-Nursing, B.S.(Pre-Nurs.)  
Bachelor of Science in Pre-Dental Studies, B.S.(Pre-Dent.)  
Bachelor of Music, B.Mus.  
Bachelor of Naval Science, B.N.S.  
Bachelor of Architecture, B.Arch.  
Bachelor of Physics, B.P.

**College of Agriculture:**

Bachelor of Science in Agriculture, B.S.(Ag.)

**College of Engineering:**

Bachelor of Science in Civil Engineering, B.S.(C.E.)  
Bachelor of Science in Electrical Engineering, B.S.(E.E.)  
Bachelor of Science in Mechanical Engineering, B.S.(M.E.)  
Bachelor of Science in Chemical Engineering, B.S.(Ch.E.)  
Bachelor of Science in Agricultural Engineering, B.S.(Ag.E.)

**College of Law:**

Bachelor of Laws, LL.B.  
Juris Doctor, J.D.

**College of Mines:**

Bachelor of Science in Mining Engineering, B.S.(Min.E.)  
Bachelor of Science in Metallurgical Engineering, B.S.(Met.E.)  
Bachelor of Science in Geological Engineering, B.S.(Geol.E.)  
Bachelor of Science in Geology, B.S.(Geol.)  
Bachelor of Science in Geography, B.S.(Geog.)

**College of Forestry, Wildlife and Range Sciences:**

Bachelor of Science in Forestry, B.S.(For.)

**College of Education:**

Bachelor of Science in Education, B.S.(Ed.)  
 Bachelor of Science in Business Education, B.S.(Bus.Ed.)  
 Bachelor of Music Education B.Mus.Ed.

**College of Business Administration:**

Bachelor of Science in Business, B.S.(Bus.)

**ADVANCED DEGREES AND CERTIFICATES**

The following advanced degrees are offered by the Graduate School of the University:

**Degrees with Thesis**

Master of Arts, M.A.  
 Master of Science, M.S.  
 Doctor of Philosophy, Ph.D.  
 Doctor of Education, Ed.D.

**Special Non-Thesis Degrees**

Master of Architecture, M.Arch.  
 Master of Fine Arts, M.F.A.  
 Master of Music, M.Mus.  
 Master of Agriculture, M.Ag.  
 Master of Forestry, M.F.  
 Master of Education, M.Ed.  
 Master of Accounting, M.Acctg.  
 Master of Natural Science, M.Nat.Sc.  
 Master of Nuclear Science, M.Nuc.Sc. (For N.R.T.S. students only)  
 Master of Arts in the Teaching of \*\_\_\_\_\_

Master of Arts in Teaching, M.A.T.

**PROFESSIONAL DEGREES**

The following professional degrees are offered in Engineering and Mining:

Civil Engineer, C.E.  
 Mechanical Engineer, M.E.  
 Electrical Engineer, E.E.  
 Chemical Engineer, Ch.E.  
 Agricultural Engineer, Ag.E.  
 Engineer of Mines, E.M.  
 Metallurgical Engineer, Met.E.  
 Geological Engineer, Geol.E.

**CERTIFICATES**

Specialist in School Administration  
 Specialist in Guidance and Counseling  
 Specialist in School Psychology

For conditions of candidacy for an advanced degree, see the Graduate School, in Part III.

**REGULATIONS AND PROCEDURES**

The following rules and regulations of procedure have been promulgated by the faculty. To have any rules or regulations waived it is the responsibility of the student to present a petition to his academic dean, and if necessary, through the dean to the Administrative Council.

\*Name of Subject Field

The Registrar is responsible only for checking student records for compliance with regulations in the catalog.

**Students are individually responsible for knowledge of and compliance with these regulations and rules of procedure. Failure to be informed or to comply will not excuse a student from his responsibility or from any penalty or difficulty he may encounter.**

**Students are advised to check their own records at each registration to assure that they are systematically and progressively meeting degree requirements. Students should insist that all current questions in this respect be reviewed with registration advisor, major professor or dean at each registration and covered by appropriate actions or memoranda at that time.**

### A. MATRICULATION

An applicant for enrollment in any course offered by the University for college credit, except correspondence, files certain personal data and credentials covering all previous academic work. (See page 47). After the University has accepted these credentials and issued a tentative permit to register, the student's registration completes his matriculation.

### B. REGISTRATION

**1. Admission to Classes.**—At the beginning of a University session each student makes out a study list. After receiving his dean's written approval of this study list and paying his fees, as listed on pages 41-46, he files his completed registration blank in the Registrar's office together with a class permit for each course to be taken for credit, for non-credit, or as an auditor. The class permits are immediately sent to the instructors concerned. Instructors do not admit students to class for whom they have no class permits.

**2. Auditors.**—Auditing a course consists of regularly attending without other participation and without credit. Only lectures may be audited. Only regularly enrolled students may audit courses.

**3. Non-Resident Courses.**—Students are not permitted to carry extension or correspondence work for college credit in this or at any other institution while in residence at the University of Idaho. Registration for extension or correspondence courses offered by the University of Idaho is automatically cancelled if a student fails to complete the work before he registers for resident work. This rule may be waived only by the written approval of the student's academic dean.

**4. Registration of Underclass Students in Upperclass Courses.**—Policy of the University provides that underclassmen shall not take upperclass courses. However, exceptions to this general rule may be made under certain circumstances as follows:

- (a) When an exception is being considered the interest and welfare of the student concerned shall be a prime factor. As a policy, an exception should be made for the student who can meet the prerequisites and who is exceptionally well prepared in a field of study in which continuity of progress is highly desirable. However, unless it is necessary in order to complete degree requirements, such an exception should not postpone the completion of lower division requirements beyond the usual period.
- (b) The academic dean of the student concerned shall be responsible for authorizing an exception only after having assured himself that the student is qualified under (a) above.

**5. Registration of Undergraduate Students in Graduate Courses.**—Undergraduate students may not register in graduate courses (those numbered above 200) unless they have senior standing (see Sec. P—page 64). Such students will be limited to one graduate course and must have prior written approval of the dean of the Graduate School before registering for the course.

**6. Registration of Students with Bachelor's Degrees as Undergraduates.**

—Students working for advanced degrees and those who wish to earn graduate credit or enroll in graduate (200's) courses are required to register in the Graduate School. Students who do not meet the requirements for admission to the Graduate School, or who have a considerable number of undergraduate deficiencies, or special students who wish to take a limited number of undergraduate courses, may register as undergraduates. To register as an undergraduate a student with a bachelor's degree must secure the permission of the dean of the undergraduate college and file a statement in the Registrar's Office indicating that he understands that this work will not be classified as graduate work and cannot be used toward an advanced degree at a later date.

**7. Registration for Accelerated Courses.**—Students not registered for resident courses the first nine weeks of any semester may register for accelerated courses at registration time or any time up to and including the Friday preceding the starting date for the accelerated course without petition and without late registration fees.

### C. CHANGES IN REGISTRATION

**1. Change of Study List.**—After a student has registered he must follow his study list. Instructors are not authorized to make changes in study lists. Students may not drop a course by simply staying out of class. (See Regulation E-1). A student wishing to change his study list should confer with his dean.

A student may not change his registration to take up an additional course for credit or increase the number of credits registered for later than the end of the third week\* after classes officially began except upon the approval of the Administrative Council, unless the registration for the additional course or credit is to correct a clerical error made in his original registration.

A student may withdraw from a course without penalty until the end of the third week after classes have officially begun. A student who withdraws after the end of the third week\* must be given a passing or failing grade. Undergraduate students, excepting College of Law students, are not allowed to drop courses after the end of the twelfth week following the beginning of classes. Academic deans may petition the Administrative Council for review of exceptional cases.

Petitions to withdraw from courses will not be accepted in the Registrar's Office after the start of the scheduled final examination period. (See Calendars p. 2-3.)

**2. Change of Curriculum.**—A student may not change from one curriculum to another except by written permission of the deans concerned on a regulation form which must be filed in the Registrar's Office immediately. (See Regulation J-1.)

### D. CREDIT

**1. Credit Defined.**—The value of each course is stated in semester credits. A credit normally requires one one-hour class period or one three-hour laboratory period or one two-hour laboratory period with one hour of outside preparation involving a total of three clock hours per week throughout the semester.

**2. Credit Limitation.**—A student may not register for or earn more than twenty credits in any semester, except upon the prior written approval of his academic dean.

\* See Calendars Pages 2-3 for date.

**3. Credit for Less Than One Year's Work.**—In courses marked "D" (e.g., O.Ad.15D) no credit is given for the first course until a more advanced or related course is completed.

**4. Transfer Credit.**—Credit is given for work completed in accredited higher institutions in accordance with the regulations on pages 49 and 50.

**5. Credit by Examination.**—Examinations for credit in courses offered by the University but covering work done in non-accredited institutions, high school, through private study, or employment may be given to students registered for a degree at the University of Idaho. Complete regulations governing these examinations are as follows:

- (a) Only resident students registered as candidates for a degree at the University of Idaho may obtain credit via the "credit by examination" (challenge) procedure.
- (b) The examination must be in a course offered by the University for degree credit.
- (c) A student may not earn credit by examination in a course if he has already received credit for a course in the same subject for which it is a prerequisite.
- (d) The course must be such that in the opinion of the department concerned, proficiency in the course can be demonstrated by a single examination.
- (e) A student may challenge a course no more than once.
- (f) No examination will be approved during the student's final semester before qualifying for his degree.
- (g) The course shall not be one in which the student has been previously enrolled as an auditor, has taken for 0 credit, or has taken for credit and failed.
- (h) Graduate credit may not be obtained by this procedure.
- (i) The student shall first submit in writing a full statement describing the preparation or other qualification which he believes justifies his request. Both the instructor in the course and the head of the department concerned shall attach statements which indicate that they agree this constitutes adequate evidence. The statements shall be attached to the petition and submitted to the Dean for permission to take the examination. If the request is approved, the Dean shall notify the student who shall then pay the examination fee to the Cashier and present his receipt to the Registrar. The Registrar shall notify the instructor who may then administer the examination and report the results to the Registrar.
- (j) The student must make a "C" or higher on the examination in order to obtain credit for the course.
- (k) When a student does get credit for a course by this procedure, his grade in the course shall be a "P".
- (l) If a student gets a "D" or "F" on the examination, it shall not appear on his transcript, i.e., he shall receive no penalty for his unsuccessful attempt except that he will not be permitted a second attempt.

**6. Review and Prerequisite Courses.**—Students will not receive credit for courses taken in review or for courses which are prerequisites for courses they have already completed, except as stated in item 1, of Regulation I.

**7. Repeat of high school courses.**—When provisions are made for permitting qualified entering students to begin University work in some areas

at an advanced level, these provisions shall be regarded as extending a privilege rather than forcing a student to take advanced work in order to earn credit. Regardless of the courses they may have taken in high school all students are therefore entitled to credit in University courses offered by the College of Letters and Science on the same basis.

### E. GRADES

1. Grades for undergraduates are reported as "A", (90-100) superior; "B", (80-89) high; "C", (70-79) average; "D", (60-69) barely passing; "F", (below 60) failure; "P", passed without defining grade (in certain courses only); "Inc.", incomplete work of passing grade, but for acceptable reason not quite completed; "W", withdrawal by permission before a definite record is established or while the student is doing passing work. A grade of "F" is reported when a student stops attending classes without permission. (See Regulation C-1); "E", condition, is used at midsemester only and usually indicates a grade between 50 and 60.

In the case of graduate students registered in courses numbered above 200, grades of A, B, C, D, F, W or Inc. must be reported. The grade "IP" is used to indicate satisfactory progress in graduate research and thesis. Regular letter grades will be used when the thesis is finally accepted.

2. A grade of "F" denotes that the work of a student in a given subject is of such poor quality that credit may be obtained only by repeating and passing the course.

3. Except in case of clerical error, a grade which has once been turned into the Registrar's Office may not be changed.

4. In computation of scholastic averages the following scale of grade points shall be used: "A" equals 4; "B" equals 3; "C" equals 2; "D" equals 1; and "F" equals 0. Grade points are not given for correspondence, extension, advanced placement, advanced standing examination, Religious Education, or required physical education activity courses.

5. A student who has received a grade below "C" in a given course may repeat that course, **once in residence**, to raise his grade, provided he has not in the meantime completed a more advanced course for which the first course is a prerequisite. When a course is thus repeated, the first grade remains on the record, but the second grade only is counted in computing the student's grade point average. Courses in which "D's" or "F's" have been received at other institutions may be repeated for the purpose of raising grades only at the same institutions or at the University of Idaho. This regulation is effective for all such repeated courses taken after February 4, 1957. All courses originally taken at the University of Idaho can only be repeated at the University of Idaho to raise grade points.

6. Midsemester as well as semester grades are filed in the Registrar's Office. Semester grades of all single students are reported to their parents at the end of each semester in residence at the University. Grades of Idaho high school graduates are reported to their high schools at the end of each semester of attendance at the University of Idaho.

7. Students registered in residence on the campus at Moscow are furnished grade reports at the end of each semester and Summer School.

### F. INCOMPLETES

1. **Grades of "Inc."**—An incomplete is given at the end of the semester only in case the student has been in attendance and done satisfactory work to a time within three weeks of the close of the semester, i.e., the end of the examination period, or within one week of the close of the Summer School. It may not be given in the case of withdrawal from the University unless the withdrawal occurs within the last three weeks of the semester. If a final grade of "Inc." is given, the instructor shall indicate in writing on the class list what the student must do to remove the deficiency.

**2. Removal of Incompletes.**—Incompletes should be removed within three weeks\* after the beginning of the semester or summer session in which the student next returns to the University. Incompletes not made up before that date automatically become failures unless the student has previously filed in the Registrar's Office a "Permit for Extension of Time" card, signed by his dean and the instructor concerned. In case an extension is granted, incompletes not made up before the expiration of the extension automatically become failures. It is the student's responsibility to see that incompletes are made up before the expiration dates. Removal of Inc. cards must be received at the Registrar's Office prior to these dates. Unless special action is taken in advance, reregistration in a course for which "Inc." has been filed automatically changes the "Inc." to an "F."

A student allowed to register pending removal of incompletes is not entitled to an extension of time.

Incompletes not made up within four years, with the exception of Research and Thesis courses, automatically become withdrawals and all make-up privileges are forfeited. Students registered for courses in Adult Centers are governed by this regulation.

**3. Extension Courses.**—Incompletes in extension courses must be removed within one year. Incompletes not made up within one year automatically become withdrawals. No extension of time will be granted. Students may register for courses during the allotted time provided that the total load, including the "Incompletes," does not exceed six semester credits. If during the year the student enrolls for residence courses at an Adult Center or on the Moscow campus, Regulation F-2 becomes applicable.

## G. WITHDRAWAL FROM THE UNIVERSITY

A student who wishes to withdraw from the University obtains an "Indefinite Leave of Absence" card from his dean and files it in the Registrar's Office. He then receives a "W" in courses in which he is passing and an "F" in all courses in which he is failing. A student may not withdraw from the University after the start of the scheduled final examination period. (See Refund of Fees, page 43).

## H. EXAMINATIONS

**1. Regular Final Examinations.**—In all undergraduate courses regular final examinations are held at the end of each semester in accordance with the schedule approved by the Faculty Council. An instructor giving a course for which a final examination is not an appropriate test of the work covered may dispense with such examination upon securing the written consent of the head of his department and the dean concerned.

Final grades for each course must be filed in the Registrar's Office within 72 hours after the final examination.

A student who absents himself from a regular final examination without valid reason receives an "F". If the excuse is valid, and the work of the semester satisfactory, the student receives an "Inc."

A student who must be absent from a regular final examination shall present in advance to the instructor concerned written permission from his dean to be absent.

**2. Special Final Examination.**—A student, absent from a regular final examination, by permission of his dean (through sickness or other unavoidable cause), may take a special final examination. He shall satisfy his academic dean as to his reasons for absence. His academic dean will then inform

\* See Calendars Pages 2-3 for date.

the instructor concerned in writing that the student has permission to take a special final examination. (This does not pertain to early final examinations.)

### I. ADVANCED PLACEMENT

1. When an entering freshman, by means of a sufficiently high score on appropriate College Board Entrance Examinations and/or other acceptable evidence shows that he is capable of handling a course not ordinarily open to beginning students, he may, with the approval of the department concerned, be permitted to enroll in such a course.

When a student who registers in an advanced course, under the above procedure for advanced placement, passes this course with a grade of "C" or above, he shall receive credit both in the course that he has taken and in any by-passed course or courses, which are vertical in academic content and where a mastery of the subject matter of the course or courses by-passed is essential to the understanding of the advanced course in which the student registers, in which the department certifies that he has demonstrated proficiency. His grade in the by-passed courses shall be "P."

2. The University also accepts ratings of 5, 4, or 3 received on the CEEB Advanced Placement Tests which are normally taken by students who have had college level courses in high school. These tests are offered in the following areas: English, History, Languages, Mathematics, Chemistry, Biology, and Physics. The Advanced Placement Tests are administered every year in May at high schools only. High schools offering college level courses must contract with Educational Testing Service to make these tests available to their qualified students. The tests and ratings are sent to the University. College credit will be given at the discretion of the departmental faculty concerned but no grade will be entered on the student's record for these courses.

### J. GENERAL UNIVERSITY REQUIREMENTS FOR DEGREES

In addition to the general and specific requirements of his curriculum, as expressed in terms of definite courses and group requirements in subject fields, a candidate for a baccalaureate degree must have met the following general University requirements.

1. **Residence Requirements.**—A candidate for a baccalaureate degree must do the work of his senior year (32 semester credits) in residence in the curriculum and in the division from which he graduates. \* (In the College of Law 26 semester credits constitute the senior year's work.)

After a candidate is within 40 semester credits of completing the total number of credits required for his specific degree he must complete in residence, on the University of Idaho campus, a minimum of 32 additional semester credits. These 32 residence credits may be interrupted by correspondence and extension courses or attendance at another fully accredited institution.

Students in the combined Letters and Science and Law curriculum (B.A. and J.D.) or the combined Business and Law curriculum (B.S.(Bus.) and (J.D.)), must also do the work of the Junior year in the College of Letters and Science or the College of Business Administration as the case may be.

Candidates for pre-professional degrees, which require the completion of professional courses not offered at the University of Idaho, must complete their Junior year in residence at the University of Idaho.

2. **Subject requirements.**—

(a) English Composition, six credits.

†(b) Physical Education.

\* By interpretation of the Administrative Council residence in combined B.A. and Law and Business and Law may be counted in either or both divisions.

† See Physical Education courses in Part III for courses which fulfill this requirement.



For men—one activity course each semester during the freshman and sophomore years.

For women—one activity course in each of the courses numbered P.E. 5, 6, 7 and 8 except for those women students who are majoring in the physical education curriculum. (See Physical Education). Normally to be taken in the first two years (one course each semester). Two credits in Healthful Living, normally to be taken during the freshman year except where specific curricula specify other courses. Freshman and sophomore students who change from curricula in which Healthful Living is not required must complete the Physical Education activity requirements only.

Students transferring from other institutions with the number of semester credits listed must complete the physical education requirements as stated below:

- 0-13 semester credits—must complete 4 semesters of P.E.
- 14-25 semester credits—must complete 3 semesters of P.E.
- 26-43 semester credits—must complete 2 semesters of P.E.
- 44-59 semester credits—must complete one semester of P.E.
- 60 or more semester credits—no P.E. required.

All students 30 years of age or over and all married women students with one or more children are exempted from the physical education requirements.

**3. Grade Requirements.**—A cumulative grade point average of 2.00 in all courses for which the student was enrolled in residence in this or any other institution is required of all candidates for baccalaureate degrees. An exception is made in case a student receives a grade below "C" in a given course and later repeats that course once in residence in which case the first grade remains on record but the second grade only is counted in computing the student's grade point average for graduation. This regulation is effective for all courses repeated after February 2, 1948. Students repeating courses should check with the Registrar for the Administrative Council interpretation of this regulation.

**4. Requirements in Advanced Courses.**—A candidate must present a minimum of 36 semester credits of work in courses numbered 100 or above.

**5. Credit Limitations.**—A candidate may count toward a baccalaureate degree no more than:

- (a) 8 credits in Organized Music, except toward the professional degrees of Bachelor of Music and Bachelor of Music Education.
- (b) 8 credits in non-sectarian courses in Religious Education.
- (c) 32 semester hours in any combination of credits earned in correspondence courses, extension courses and credit by examination.

**6. Application for Degrees.**—A candidate for a degree must, at the beginning of his last semester or summer session in residence, file a petition to be admitted as a candidate and must pay the diploma fee of \$5.00. (The Bachelor of Laws and Juris Doctor diploma fee is \$7.50). Final dates for filing applications for degrees are February 20 for undergraduate degrees and March 1 for graduate degrees. If applications are received in the Registrar's Office after these dates, there is a penalty fee of \$5.00 if the student wishes to receive his degree with the next graduating class. No applications will be accepted after May 2 preceding commencement.

**7. Catalog Issue.**—

- (a) A candidate, having received a class designation upon admission to the University, must fulfill all of the requirements stated in the catalog for that class, or the catalog of the year in which he graduates.

- (b) If a student changes his curriculum he must fulfill the requirements of the catalog of the year he changes his curriculum or the catalog of the year in which he graduates.
- (c) When curriculum and catalog changes occur during the interval between his admission and graduation his academic dean may approve the appropriate catalog requirements which he must fulfill. Only catalogs in effect during this interval may be approved.
- (d) A student may not graduate under the requirements of any catalog in effect more than seven years prior to his year of graduation.

#### 8. Second Baccalaureate Degree.—

After a student has met all of the requirements for any baccalaureate degree he may qualify for a second baccalaureate degree by completing the subject matter requirements for that degree and completing a minimum of one senior year in residence for each degree for a total of two senior years in residence, (sixty-four semester hours).

A student may qualify for two baccalaureate degrees the same year and work toward the two degrees simultaneously if the following conditions are met:

- (a) The student must spend two senior years in residence and at least sixty-four semester credits must be earned during these two senior years.
- (b) If two baccalaureate degrees are to be conferred at the same commencement in two different colleges, the student must register in the two colleges his last semester in residence.
- (c) A plan must be presented to the Dean or Deans concerned and approved no later than the beginning of the second semester of the first senior year.
- (d) A total of 160 credits must be earned for any two baccalaureate degrees and this total shall apply to all divisions of the University. This regulation does not cover the requirements for the Bachelor of Naval Science degree which are stated in the catalog in the Naval ROTC section.

9. **Undergraduate Major.**—An undergraduate major consists of 16 to 20 credits of advanced work in one department (courses numbered 100 and above except when specifically noted in the departmental statements.)

10. **Advanced and Professional Degrees.**—For the specific requirements for these degrees see the Graduate School section III.

### K. HONORS

Since 1907 a system of honors has been in effect in the University except in the Graduate School. Honors are calculated on the student's entire record but are granted only to those who have completed a minimum of their last two years of work in residence at the University of Idaho, (64 semester hours) except for students in the College of Law, where honors are based on grades in law courses only. Students receiving an average between 3.30 and 3.80 will be graduated Cum laude and those receiving an average of 3.80 or higher will be graduated Summa cum laude.

### L. SCHOLASTIC PROBATION AND WARNINGS

1. **Scholastic Probation.**—Scholastic Probation is the condition of a student who is permitted under special restrictions to be in residence in the University after failing to meet certain scholastic requirements according to Regulation M, Eligibility to Reregister.

2. **Special Warning.**—Instructors are expected to send written warnings for all students who are doing unsatisfactory work or who have excess absences. These warnings should also include one of the following notations:

- (a) Student should be notified of this warning.
- (b) Student should confer with his dean (or adviser).  
These warnings are routed through the Registrar's Office to the student's dean. In cases where the student should confer with his dean or adviser, the result of the conference is to be reported to the instructor concerned.

#### M. ELIGIBILITY TO REREGISTER

1. Any undergraduate student not making satisfactory progress toward graduation requirements (cumulative grade point average of 2.00 or better) is subject to probation or disqualification.

2. A student goes on probation automatically for the first semester he is more than 12 grade points deficient from a cumulative 2.0 grade point average. If he brings his cumulative grade point average within 12 grade points of a 2.0 average by the end of any semester he goes off probation automatically.

3. If a student fails to achieve the required cumulative grade point average by the end of the semester of probation he receives his first disqualification.

4. If a student passes in less than 10 credits and concurrently fails in more than one course he is disqualified at the end of the semester in which this failure occurs.

5. After any first disqualification a student may be reinstated by one of the following methods.

- (a) If he secures his Dean's approval for immediate reinstatement.
- (b) If he registers after the lapse of at least one semester without attendance at another institution.

6. After any second disqualification a student may be readmitted only by petition to and favorable action by the Administrative Council.

7. Once a student has been on probation (see No. 2) or has been disqualified once (see No. 3) any subsequent failure to meet the above academic requirements will result in disqualification even though in the meantime he might have removed himself from probation or disqualification by satisfactory work.

8. A student who has been re-admitted after a first disqualification may continue to be readmitted without additional disqualifications, with the approval of his Dean, as long as he attains a 2.0 or better average, or reduces the number of grade points he is deficient, for each semester following the first disqualification, even though his cumulative average may be more than 12 grade points deficient from a cumulative 2.0 average.

9. This regulation does not apply to the College of Law. See Part II for requirements for registration in the College of Law.

#### N. ELIGIBILITY FOR EXTRACURRICULAR ACTIVITIES

1. This regulation governs the eligibility of students who wish to participate in certain extra-curricular activities. The regulation does not apply to the following categories if the students concerned are not on conduct or scholastic probation. (See item 3-b).

- (a) Students who are engaged in activities which involve registration in a course for which the activity is required for all students registered.

- (b) Students who participate in intramural sports.
  - (c) Students who participate in intercollegiate athletics.
2. Eligibility rules will be applied to students who desire to participate in the following activities and projects:
- (a) All elected ASUI and class officers, appointments to all ASUI committees, and appointments to joint student-faculty committees.
  - (b) Management or major leadership positions (both paid and unpaid) in all student organizations and enterprises as determined by the Office of Student Affairs in consultation with the Deans of the respective divisions.
  - (c) Debating, dramatic or music projects of students not registered in a course for which participation in an activity is required.
  - (d) Other activities not covered in the above categories in which the participants represent the University of Idaho in public performances.
3. In order to be declared eligible to participate in the above categories of activities a student must:
- (a) Be currently enrolled for at least 14 credits in the University of Idaho unless exceptions are made by the Administrative Council.
  - (b) Not be suspended or expelled from the University, not be on conduct probation, and not be on academic probation or be academically disqualified.
  - (c) Have a cumulative grade point average of at least 2.2
4. No student may accept an elective or appointive office in any extracurricular or organization activity until he has a certificate of eligibility from the Office of Student Affairs. A student is automatically removed from any such office when he becomes ineligible for this certificate.
5. Before a student may represent the University of Idaho in intercollegiate athletics, he must comply with the eligibility regulations adopted by the Regents of the university in the spring of 1959 or of any conference with which the university may be affiliated.

#### O. ATTENDANCE

1. **General Attendance.**—Students are responsible for attending the courses in which they are enrolled. Regular class attendance is expected. Excessive absences are reported through the Registrar's Office to the dean of the college in which the student is registered.

2. **Concerted Absences.**—Students who participated in any unauthorized concerted action to absent themselves from class shall have their final grade reduced 10 points in each course affected by such absence.

3. **Absences Due to Activities.**—All excuses from classes for students participating in extracurricular activities must be approved by the Administrative Council in advance. No student may be absent from the campus in connection with extracurricular activities more than 16 instructional days a semester. No one extracurricular activity may take students away from the campus more than 12 instructional days in any one academic year.

#### P. CLASS RATING

The following table is used in determining the class rating of undergraduate students in the several divisions of the University.

Credits required for sophomore standing 26 semester hours.

Credits required for junior standing 60 semester hours.

Credits required for senior standing 94 semester hours.

Students in pre-law and combined curricula Letters and Science and Law, and Business and Law, see pages 103 and 104 for the number of credits required before they can enroll in Law courses.

Students enrolled and classified during the first semester are not re-classified at the beginning of the second semester.

#### Q. FIELD TRIPS

Students registered for courses in which field trips are announced in the catalog are required to participate in the field trips, which are considered to be an integral part of the course. Costs involved are part of the educational expense which students are expected to bear.

All field trips must be completed two weeks before the beginning of the scheduled final examination period.

#### R. MISCELLANEOUS

1. **Classroom Use.**—All meetings to be held in classrooms should be cleared with the Registrar's Office to avoid conflicts. Student organizations must have faculty sponsors request the use of classrooms.

2. **Minimum Number of Students for Which an Undergraduate Course May be Given.**—It shall be the policy of the University that undergraduate classes in which less than five students register shall not be offered; except that this policy shall not be applied to undergraduate research projects, special problems, senior thesis, Music courses 15, 19-20, 23-24, 67, 68, 167 and 168, and courses required for graduation by one or more of those enrolled. This rule may be waived as to any particular course by the Administrative Council.

3. **Student Events.**—A petition to the Calendar Committee is required for any student group or organization to receive approval for events planned by such groups or organizations. Such petitions are to be filed in the Office of Student Affairs at least two weeks prior to the event.

4. **Student Organizations.**—Student organizations, including fraternities, sororities, and clubs, are under the supervision of the Dean of Students with the aid of Student Faculty Council. In order to receive permission to form such an organization or to petition for a charter from a national organization, it is necessary first to petition the Dean of Students.

5. **Auditing of Accounts.**—All funds for public purposes within the University, (except those of fraternities, sororities, and boarding house organizations), which are contributed to or collected by any students or members of the faculty shall be deposited with the University Business Manager, subject to withdrawal upon the written approval of the President, or of the Business Manager in the president's absence. An accounting of all receipts and expenditures in these funds shall be made by those responsible for their collection immediately after they shall have been disbursed. This accounting to be audited by the Business Manager.

6. **Conduct.**—Students are held responsible for any breach of recognized rules of conduct. It is the University's attitude that regardless of where they occur, the actions of any currently enrolled student are a matter of University concern. Disciplinary action for misconduct shall be in accordance with the University Charter and Regents' By-Laws. Penalties may include (1) admonition, (2) censure, (3) conduct probation, (4) payment of damages, (5) fines, (6) suspension and (7) expulsion. Notation of penalty shall be placed on a student's permanent record only when specifically order-

ed, except that notations of expulsion are mandatory. While on conduct probation or under suspension, a student is not eligible to represent the University or any student organization in any extracurricular activity.

Students have the right of appeal to the Discipline Committee for review of any penalty assessed by administrative action. Similarly, they have the right of appeal through the administration to the Regents for review of any penalty assessed upon recommendation of the Discipline Committee.

**7. Alcoholic Beverages.**—The University of Idaho does not permit the use, possession or serving of beer, wine, and other alcoholic beverages on the campus or in any University building, or in any fraternity, sorority or other officially recognized student living group.

Alcoholic beverages shall not be used or served at any function sponsored by any officially recognized student living group or any other student organization. This policy applies to all social functions or events sponsored by any student organization regardless of whether the event is on-campus or off-campus.

This policy does not attempt to prevent a student of legal age, acting as an individual citizen, from exercising his rights to purchase and consume alcoholic beverages (provided the individual conforms with the above University regulations). However, drunkenness or failure of a student to conduct himself in a responsible manner at all times will not be condoned.

**8. Automobiles.**—A car is **not** necessary for single students attending the University of Idaho unless the student is in poor health or has a physical handicap. Those who operate cars do so subject to strict observance of traffic rules and regulations. Each student owning and/or operating a vehicle on the campus or in Moscow is required to register this vehicle at the time of regular registration in the fall and spring of each year. If at any time during the school year a student sells his vehicle, acquires a new one, or secures a new license number, it is his responsibility to file such information with the Office of Automobile Registration located in the Information-Security Center within one week following the transaction. Failure to comply with campus parking and traffic rules will make a student subject to loss of the privileges of operating a car on the University campus and to such other disciplinary action as may be ordered.

**9. Smoking.**—It is the policy of the University, in the interest of safety, that smoking in University buildings be restricted to designated places.

It is an order of the Regents that in all institutions under the jurisdiction of the State Board of Education and Board of Regents, smoking be limited to places and areas designated by institutional authorities. Smoking is prohibited in all student classrooms, laboratories, and corridors.

**10. Definition of the Term Campus.**—The area to be defined by the word "Campus" is that area between the Northern Pacific Railroad right-of-way and Taylor Avenue west of Main Street.

**11. Housing.**—The University establishes such rules and procedures as may be necessary and appropriate to promote and assure acceptable living arrangements for all students living on or off the campus.

**12. Credit Requirements for Full-Time Students.**—Undergraduate students will be required to carry fourteen or more semester hours to be classified as full-time students. A graduate student is considered to be engaged in full-time study when registered for 12 semester credits of course and thesis work, or when registered for less than 12 credits but paying full enrollment fees and certified by his major professor (to the Graduate Dean) as engaging in the equivalent of 12 credits of study in the pursuit of course work, research, preparation for examinations, and other activities of an academic nature.

**13. Academic Year.**—An academic year is defined as thirty-two semester hours for undergraduate students.

14. **Closed Nights.**—Social functions may not be scheduled eight days prior to the beginning of final examinations in each semester or during the final examination period. It is the spirit and intent of this regulation that, whenever possible to arrange, these closed periods of time before exams apply to meetings of student committees and to all major campus events as well as to group social functions.

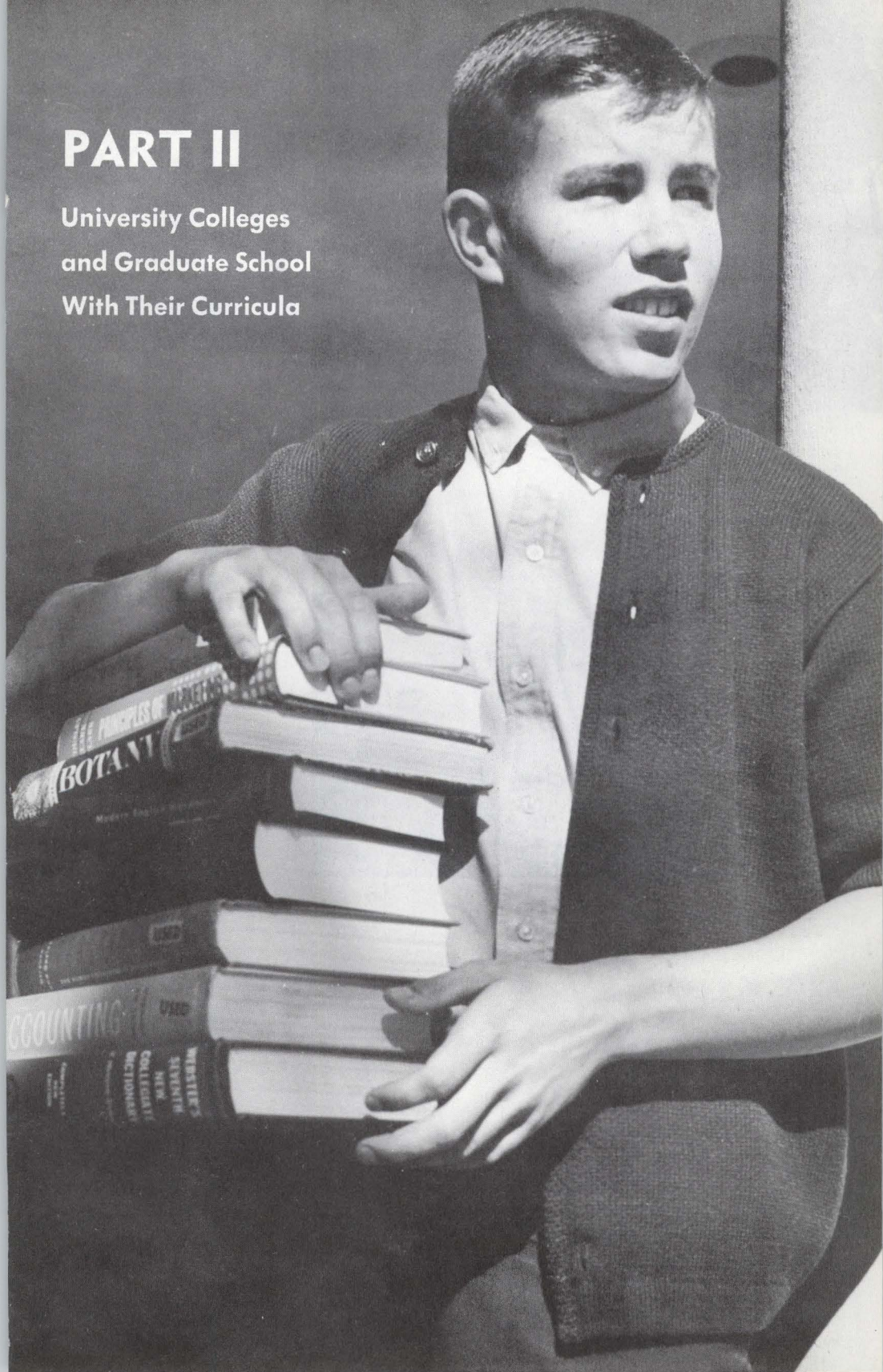
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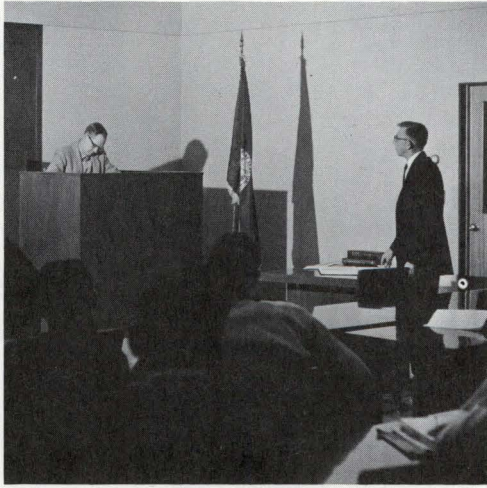
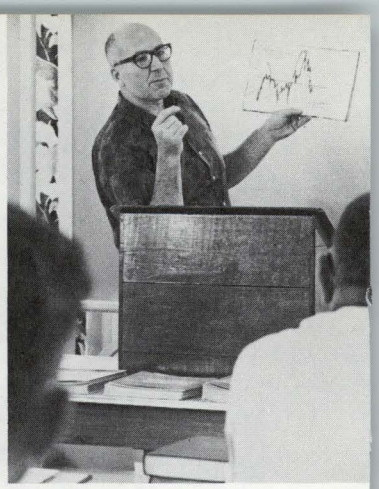
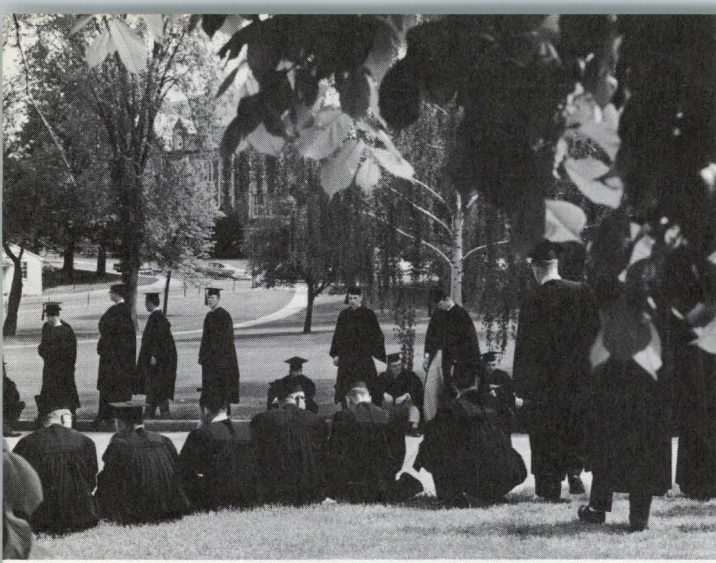
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# PART II

University Colleges  
and Graduate School  
With Their Curricula





# THE UNIVERSITY COLLEGES AND GRADUATE SCHOOLS WITH THEIR CURRICULA

## COLLEGE OF LETTERS AND SCIENCE

<p><b>Art and Architecture</b>            Architecture (B.Arch.)            Commercial Art            General Art            Interior Architecture and            Decoration</p> <p><b>Biological Sciences</b>            Bacteriology<sup>1</sup>            Bacteriology (Medical            Technology Option)<sup>1</sup>            Botany            Pre-Physical Therapy            Zoology</p> <p><b>Chemistry</b>            (Tech. Lit. Option)            Pre-Dental Studies            Pre-Medical Studies</p> <p><b>Communications</b>            Audio-Visual Aids            Journalism            Photography            Radio-TV</p> <p><b>Home Economics</b>            Home Economics            Food and Nutrition            Pre-Nursing Studies</p> <p><b>Humanities</b>            Dramatics            English            Foreign Languages            French            German            Greek</p>	<p>Italian            Latin            Russian            Spanish</p> <p style="text-align: center;">Speech</p> <p><b>Mathematics</b></p> <p>Music (B.A. and B.Mus.)</p> <p>Physics</p> <p><b>Social Sciences</b>            Economics<sup>3</sup>            Geography<sup>2</sup>            History            Law (Combined B.A. and            J.D.)            Museology            Philosophy            Political Science            Public Administration            Psychology<sup>5</sup>            Sociology-Anthropology            Anthropology            Sociology            Social Welfare</p>
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<sup>1</sup> The College of Letters and Science offers a major in bacteriology, but the courses and teaching staff are under the College of Agriculture.

<sup>2</sup> The College of Letters and Science offers a major in geography, but the courses and teaching staff are under the College of Mines.

<sup>3</sup> The College of Letters and Science offers a major in economics, but the courses and teaching staff are under the College of Business Administration.

<sup>4</sup> During the fourth, fifth, and sixth years, the student takes courses in the College of Law.

<sup>5</sup> The College of Letters and Science offers a major in psychology, but the courses and teaching staff are under the College of Education.

BOYD A. MARTIN, Ph.D. .... *Dean of the College*

JERRY J. CROCKETT, Ph.D. .... *Associate Dean*

EARL J. LARRISON, M.S. .... *Secretary of the College Faculty*

THE COLLEGE of Letters and Science is the oldest division of the University, having been established in 1900. Its aim is to provide opportunities for a liberal education as well as for specialization in many fields such as languages, literature, social sciences, natural sciences, and fine arts.

**Departments.**—The academic departments in this division include Art and Architecture, Biological Sciences, Chemistry, Communications, Foreign Languages, Home Economics, Humanities, Mathematics, Music, Physics and Social Sciences.

**Degrees.**—A student in the College of Letters and Science must enroll in a regular program unless he is attending on a part-time basis (6-credit maximum), is a special student (11-credit maximum), or is admitted to the Non-Degree program. Except for the two-year Pre-Dental program, a regular program is considered to be one that leads to a degree which the College offers. These degrees are as follows: Bachelor of Arts, B.A.; Bachelor of Science, B.S.; Bachelor of Science in Home Economics, B.S. (H.Ec.); Bachelor of Science in Pre-Dental Studies, B.S. (Pre-Dent.); Bachelor of Science in Pre-Medical Studies, B.S. (Pre-Med.); Bachelor of Architecture, B.Arch.; Bachelor of Music, B.Mus.; Bachelor of Naval Science, B.S.N.; Bachelor of Physics, B.P.; and Bachelor of Science in Pre-Nursing Studies, B.S. (Pre-Nurs.).

**Graduate Study.**—Students who intend to work toward advanced degrees must fulfill the requirements of the Graduate School (see page 53) and of the department in which they intend to study.

Graduate study leading to the master's degree is available in the fields of art, architecture, bacteriology, botany, chemistry, economics, English, French, German, history, home economics, mathematics, music, philosophy, physics, political science, psychology, sociology, Spanish, and zoology. A number of these fields also offer programs leading to the degree Master of Arts in Teaching that subject.

Graduate study leading to the degree of Doctor of Philosophy is available in the fields of bacteriology, botany, chemistry, history, mathematics, physics, political science, and zoology.

**Curricula.**—Majors are offered in Architecture (Structural Option, Design Option), Art (Options in Painting, Sculpture, General Art, Commercial Art), Interior Architecture and Decoration, Bacteriology, Bacteriology (Medical Technology Option), Botany, Chemistry, Chemistry (Technical Literature Option), Dramatics, Economics, English, French, Geography, German, History, Home Economics, Home Economics (Food and Nutrition), Journalism, Latin, Law, Mathematics, Music, Philosophy, Physics, Political Science, Pre-Dental Studies, Pre-Medical Studies, Pre-Nursing Studies, Pre-Physical Therapy, Psychology, Radio-TV, Sociology, Spanish, Speech, and Zoology.

**Special Curricula.**—Special curricula are offered in Anthropology, Pre-Dental Studies, Public Administration, and Social Welfare.

**Honors.**—The College of Letters and Science offers to superior students an Honors Program intended primarily to provide more advanced and more individual training than normally available to undergraduates. Those successfully completing the requirements of this program are awarded special recognition upon graduation.

**Honors Program.**—The Honors Program consists of five courses. Students are admitted to Honors courses only by invitation of the Honors Committee. Admission to the program will normally be at the beginning of the sophomore year. Students are encouraged to make their interests in Honors known to their instructors. Instructors are expected to recommend candidates for the Honors Program to the Honors Committee. It is stressed that the Honors Program is highly selective and completely voluntary. Although there are no specific honors courses for first-year students, there are several special classes available for exceptionally gifted, well prepared freshmen. Admission to these classes is secured through permission of the department concerned.

Honors work consists of a directed program of study offered by the various departments individually or collectively. The work offered by the participating departments is approved in consultation with the Honors Committee.

The Honors Committee is responsible for continuous supervision of the Honors Program and of the work of individual honors students, and makes the final decision as to the awarding of honors at graduation.

**Non-Degree Program.**—The College of Letters and Science offers a Non-Degree Program in which each student's course of study is worked out to meet his special needs. The program is intended primarily for students (1) who do not plan to obtain degrees at the University of Idaho, (2) who plan to transfer to other institutions, and (3) whose objectives are not provided for by any of the established curricula in the College of Letters and Science. Characteristic examples of these students are those who plan to become pharmacists, optometrists, dental technicians, or dental hygienists.

**Admission.**—For a statement of general admission requirements, see Part I of the catalog. Graduates of a four-year accredited high school ordinarily are eligible for admission to the College of Letters and Science.

**Bureau of Public Affairs Research.**—The Bureau of Public Affairs Research is a unit of the Department of Social Sciences which conducts advanced research studies in public affairs and administration and provides research and consultative services for state and local agencies.

**General Requirements for the B.A. and B.S. Degrees**—(See the general University requirements, page 60.) The general requirements for the Bachelor of Arts and the Bachelor of Science degrees include the following:

1. English—6 credits, English Composition.
2. Humanities—7 credits minimum.  
Shall consist of at least three courses totaling at least 7 credits to be taken in approved courses dealing with the history of, or appreciation of, Art, Architecture, Drama, Literature, Music.
3. Science—12 credits minimum.  
Shall consist of at least three courses totaling at least 12 credits to be taken in two or more of the following fields: Bacteriology, Biology, Botany, Chemistry, Entomology, Geology, Mathematics, Physics, and Zoology (Geog. 3, and Psych. 75-76 may be included as courses satisfying this requirement.) Except in Mathematics, no more than 4 credits are acceptable toward this requirement unless they are earned in courses that include laboratory work.
4. Social Sciences—7 credits minimum.  
Shall consist of at least three courses totaling at least seven credits, to be taken in two or more of the following fields: Anthropology, Economics, Geography (excluding courses in physical geography and cartography), History, Philosophy, Political Science, Psychology (excluding Psych. 55-56 and experimentally oriented courses in psychology), and Sociology.
5. Foreign Language—0-16 credits.  
The basic requirement is proficiency in one foreign language, equivalent to that gained by completion of four semesters of college courses. This requirement may be satisfied by four high school units of one foreign language. A student with two high school units may fulfill the requirement by completing a second year of the same language in the University. The language group includes French, German, Italian, Latin, Russian, and Spanish.
6. Physical Education.  
The Requirement is the same as the general university requirement.

A student must take a program that results in substantial progress toward the fulfillment of the preceding requirements by the end of the sophomore year. In particular:

1. A student seeking the degree of Bachelor of Arts must take courses in fulfillment of the foreign language requirement as early as possible. If he cannot do this during his first semester, he must immediately take a course that can be used in partial fulfillment of his Science-Mathematics requirement.
2. A student seeking the degree of Bachelor of Science must immediately take either a course that applies toward the foreign language requirements or a science course that can be used in fulfillment of the general requirements or the requirements of his major. He must begin to take courses in fulfillment of his foreign language requirement no later than the beginning of his sophomore year unless the program recommended for his major permits delay.

The general requirements for graduation are waived in the area of the major. Each student must select a major subject (curriculum) not later than the beginning of the junior year. The major requirements usually include twenty or more semester credits in courses numbered above 100, and generally about the same number of credits in related fields. The departmental requirements are stated under the respective curricula.

A total of 128 semester credits is required for a degree unless otherwise stated in the curriculum. Thirty-six semester credits must be taken in courses numbered above 100.

**Certification of Teachers.**—Students in this college who wish to qualify for a teacher's certificate on the secondary level should declare their intention as early as possible. Students seeking certification should assure themselves through consulting their advisors that they are registering for sufficient credits to meet state certification requirements. These requirements change from time to time and from state to state. It may be necessary for such students to take more than the minimum of 128 credits required for graduation.

## Curricula

### ARCHITECTURE (B. ARCH.)

#### Structural Option "A"

##### Freshman Year

Course	Credits	
	1st	2nd
Arch. 11-12 Elem. of Arch. ....	3	3
Arch. 13-14 Arch. Graphics .....	1	1
Art 1-2 Drawing I .....	2	2
Eng. 1-2 Eng. Comp. ....	3	3
Math. 9 Intro. to Math. ....	5	
Math. 50 Anal. Geom. & Calculus I .....		5
P.E. 31 Freshman P.E. ....	1/2	1/2
§Military .....	1	1
Electives .....	2	2

##### Junior Year

Arch. 115-116 Arch. Design II ....	5	5
Arch. 137-138 Arch. Lectures .....	1	1
Arch. 139-140 Arch. History .....	3	3
Phys. 51 Engr. Physics .....	5	
E.S. 66 Mechanics (Statics) .....	2	
E.S. 103 Mechanics of Materials .....		4
C.E. 51 Surveying .....		2

##### Fifth Year

Arch. 165-166 Arch. Thesis .....	5	5
Arch. 167-168 Office Practice .....	3	3
Electives .....		

##### Sophomore Year

Course	Credits	
	1st	2nd
Arch. 53-54 Arch. Design I .....	3	3
Arch. 55-56 Bldg. Constr. I .....	3	3
Math. 51 Calculus II .....		4
Math. 52 Calculus III .....		4
P.E. 33 Soph. P.E. ....	1/2	1/2
§Military .....		
Electives .....	4	4

##### Senior Year

Arch. 117-118 Arch. Design III ....	5	5
Arch. 135 Const. Problems .....	3	
Arch. 136 Mech. Plants .....		3
Art 161b-162b Pro-Seminar .....	3	
C.E. 129 Elem. of Struc. Engr. ....	4	
Electives .....		6

#### Suggested Electives

Arch. 175-176 Intro. to City Planning .....	3	3
Art 61-62 Painting I .....	2	2
Art 101-102 Water Color .....	2	2
Bus. 165-166 Bus. Law .....	3	3
C.E. 153 Engr. Economy .....	2	
Arch. 173 Landscape Garden. ....	3	
Arch. 174 Adv. Landscape Design ..		3
H.Ec. 82 House Construction .....		2

§ Optional

**Design Option "B"**

Freshman Year		Credits	
Course		1st	2nd
Arch. 11-12	Elem. of Arch.	3	3
Arch. 13-14	Arch. Graphics	1	1
Art 1-2	Drawing I	2	2
Eng. 1-2	Eng. Composition	3	3
*Math. 1	Fund. of Math.	4	
Math. 9	Intro. to Math. Analysis		3-5
P.E. 31	Freshman P.E.	1/2	1/2
§Military		1	1
Electives		2	2
<b>Junior Year</b>			
Arch. 115-116	Arch. Design II	5	5
Arch. 137-138	Arch. Lectures	1	1
Arch. 139-140	Arch. History	3	3
Arch. 131-132	Bldg. Constr. II	3	3
Electives		3	3
<b>Fifth Year</b>			
Arch. 165-166	Arch. Thesis	5	5
Arch. 167-168	Office Practice	3	3
Electives		6	6

Sophomore Year		Credits	
Course		1st	2nd
Arch. 53-54	Arch. Design I	3	3
Arch. 55-56	Bldg. Construc. I	3	3
Art 71-72	Sculpture I	2	2
	or		
Art 3-4	Design I	2	2
Art 77-78	Water Color	2	2
Math. 50	Anal. Geom. and Calculus I	5	
Phys. 3	Gen. Physics		4
P.E. 33	Soph. P.E.	1/2	1/2
§Military			
<b>Senior Year</b>			
Arch. 117-118	Arch. Design III	5	5
Arch. 135	Constr. Problems	3	
Arch. 136	Mech. Plants		3
Art 161b-162b	Pro-Seminar	3	2
C.E. 51	Surveying		2
Electives		3	4

**Suggested Electives**

Arch. 175-176	Intro. to City Planning	3	3
Art 61-62	Painting I	2	2
Bus. 165-166	Bus. Law	3	3
Arch. 173	Landscape Garden.	3	
Arch. 174	Adv. Landscape Design		3
H.Ec. 82	House Construction		2
Art 47-48	Lettering & Layout	2	2

° Student may start his Mathematics program with Math. 9 for 5 credits, upon evaluation from Math. tests.

§ Optional

Candidates for the degree Bachelor of Architecture, a five-year program, shall present a minimum of 150 credits for graduation. These shall include the above specified courses and in addition, 6 credits of Social Science, 9-12 credits of approved related courses and the University requirements for Physical Education.

**ART**

**Option "A" Painting**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Freshman Year		Credits	
Course		1st	2nd
Art 1-2	Drawing I	2	2
Art 3-4	Design	2	2
Art 41-42	Art Appreciation	2	2
Eng. 1-2	English Comp.	3	3
Foreign Language		4	4
P.E. Men		1/2	1/2
P.E. Women		3	1
Electives		0-3	2-3
		16 1/2	16 1/2
<b>Junior Year</b>			
Art 123-124	Composition	3	3
Art 107-108	Painting II	3	3
Science		4	
Soc. Science			3
Electives*		6	7
		16	16

Sophomore Year		Credits	
Course		1st	2nd
Art 61-62	Painting I	2	2
Art 75-76	Drawing II	2	2
Foreign Language		4	4
Science		4	4
Soc. Sciences		3	3
P.E. Men		1/2	1/2
P.E. Women		1	1
Electives		0-1	0-1
		16 1/2	16 1/2
<b>Senior Year</b>			
Art 129-130	Hist. of Painting	3	3
Art 141-142	Painting III	3	3
Art 161a-162a	Pro-Seminar	2	2
Electives*		8	8
		16	16

\* Electives shall include two of the following sequences: Art 127-128 Drawing III-4 cr., Art 77-78 Water Color I-4 cr., Art 133-134 Printmaking -4 cr.

## Option "B" Sculpture

(For the general requirements of the degree of Bachelor of Arts, see page 73)

## Freshman Year

Course	Credits	
	1st	2nd
Art 1-2 Drawing I .....	2	2
Art 3-4 Design .....	2	2
Art 41-42 Art Appreciation .....	2	2
Eng. 1-2 Eng. Comp. ....	3	3
Foreign Language .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	3	1
Electives .....	0-3	2-3
	16 1/2	16 1/2

## Junior Year

Art 65-66 Pottery I .....	2	2
Art 129-130 Hist. of Painting .....	3	3
Art 133-134 Printmaking .....	2	2
Art 171-172 Sculpture II .....	3	3
Science .....	4	
Soc. Science .....		3
Electives* .....	2	3
	16	16

\* To include 6 credits of Art electives.

## Sophomore Year

Course	Credits	
	1st	2nd
Art 61-62 Painting I .....	2	2
Art 71-72 Sculpture I .....	2	2
Art 75-76 Drawing II .....	2	2
Foreign Language .....	4	4
Science .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	1	1
Electives .....	0-2	0-2
	16 1/2	16 1/2

## Senior Year

Art 161a-162a Pro-Seminar .....	2	2
Art 163-164 Thesis .....	3	3
Social Science .....	3	3
Electives* .....	8	8
	16	16

## Option "C" Commercial Art

(For the general requirements of the degree of Bachelor of Arts, see page 73)

## Freshman Year

Course	Credits	
	1st	2nd
Art 1-2 Drawing I .....	2	2
Art 3-4 Design .....	2	2
Art 41-42 Art Appreciation .....	2	2
Eng. 1-2 Eng. Comp. ....	3	3
Foreign Language .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	3	1
Electives .....	0-3	2
	16 1/2	16 1/2

## Junior Year

Art 107-108 Painting II .....	2	2
Art 121-122 Comm. Design I .....	2	2
Art 133-134 Printmaking .....	2	2
Bus. 175 Prin. of Advert. ....	3	
Science .....	4	
Social Science .....		3
Humanities .....		2
Electives .....	3	5
	16	16

## Sophomore Year

Course	Credits	
	1st	2nd
Art 47-48 Lettering & Layout .....	2	2
Art 75-76 Drawing II .....	2	2
Art 77-78 Water Color I .....	2	2
Science .....	4	4
Foreign Language .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	1	1
Electives .....	0-2	0-2
	16 1/2	16 1/2

## Senior Year

Art 147-148 Comm. Design II .....	3	3
Art 161a-162a Pro-Seminar .....	2	2
Art 163-164 Thesis .....	2	2
Social Science .....	3	3
Electives .....	6	6
	16	16

## Option "D"—General Art

(For the general requirements of the degree of Bachelor of Arts, see page 73)

## Freshman Year

Course	Credits	
	1st	2nd
Art 1-2 Drawing I .....	2	2
Art 3-4 Design .....	2	2
Art 41-42 Art Appreciation .....	2	2
Eng. 1-2 Eng. Comp. ....	3	3
Foreign Language .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	3	1
Electives .....	0-3	3
	16 1/2	16 1/2

## Sophomore Year

Course	Credits	
	1st	2nd
Art 65-66 Pottery I .....	2	2
or Art 77-78 Water Color I .....	2	2
Art 75-76 Drawing II .....	2	2
Foreign Language .....	4	4
Science .....	4	4
P.E. Men .....	1/2	1/2
P.E. Women .....	1	1
Electives .....	1-2	1-2
	16 1/2	16 1/2

Electives shall include three of the following sequences: Art 71-72 Sculpture 4 credits, Art 77-78 Water Color, 4 credits, Arts 123-124 Composition, 6 credits, Art 141-142 Painting III, 6 credits.



## OPTION "D" GENERAL ART (Continued)

Junior Year			Senior Year		
Art 107-108	Painting II	3 3	Art 161-162	Pro-Seminar	2 2
Art 129-130	Hist. of Painting	3 3	Science		4 4
Art 133-134	Printmaking	2 2	Social Science		3 3
Social Science		3 3	Electives		7 14
Electives		5 5			16 16
		16 16			

## INTERIOR ARCHITECTURE AND DECORATION

(For the general requirements of the degree of Bachelor of Science, see page 73.)

Freshman Year			Sophomore Year		
Course	Credits		Course	Credits	
	1st	2nd		1st	2nd
Eng. 1-2	Eng. Comp.	3 3	Arch. 11-12	Elem. of Arch.	3 3
Art 1-2	Drawing I	2 2	Arch. 13-14	Arch. Graphics	1 1
Art 3-4	Design	2 2	Art 77-78	Water Color I	2 2
Art 41-42	Art Appreciation	2 2	Social Science		3 3
Foreign Language		4 4	Foreign Language		4 4
P.E. Men		1/2 1/2	P.E. Men		1/2 1/2
P.E. Women		3 1	P.E. Women		1 1
Electives		0-2 2	Electives		0-3 0-3
		16 1/2 16 1/2			16 1/2 16 1/2
Junior Year			Senior Year		
Arch. 53-54	Arch. Design I	3 3	Art 145-146	Int. Art Design	4 4
Art 75-76	Drawing II	2 2	H.Ec. 144	Adv. Home Furn.	2 2
Art 107-108	Painting II	3 3	Arch. 139-140	Arch. History	3 3
Science		4 4	Art 133-134	Printmaking	2 2
Art 129-130	Hist. of Ptg.	3 3	Social Science		2 2
Electives		1-3 1-3	Science		4 4
		16 16	Electives		3 3
					16 16
Suggested Electives					
Course	Credits				
	1st	2nd			
Arch. 55-56	Bldg. Constr. I	3 3			
Art 65-66	Pottery	2 2			
Art 71-72	Sculpture I	2 2			
Art 161b-162b	Pro-Seminar	2-4 2-4			
Arch. 173	Landscape Garden.	3 3			
H.Ec. 23	Textiles	3 3			
H.Ec. 82	House Construc.	2 2			

## BACTERIOLOGY

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Required			Electives		
Course	Credits		Course	Credits	
				1st	2nd
Bact. 51	General Bacteriology	4	Chem. 53	Quantitative Analysis	5
Bact. 102	Food & App. Microbiol.	4	Chem. 77, 78-172, 174	Org. Chemistry	8
Bact. 104	Pathogenic Bacteriology	4	Math. 9	Intro. to Math. Anal.	5
Bact. 106	Dairy Bacteriology	3	Phys. 3-4	General Physics	8
Bact. 109	Immunology & Serology	4	Women students enrolled in this curriculum need not take P.E. 1, Healthful Living.		
Bact. 111-112	Bacteriological Literature	2			
Bact. 114	Clinical Lab. Methods	4			
Chem. 3	Introduction to Chemistry	5			
	or				
Chem. 11	Principles of Chemistry	4			
Chem. 12	Inorg. Chem. & Qual. Anal.	4 or 5			

## Electives

A wide choice of electives may be exercised in consultation with the Head of the Department.

**BACTERIOLOGY (MEDICAL TECHNOLOGY OPTION)†**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

<b>Required</b>		Credits
Course		
Bact. 51	General Bacteriology .....	4
Bact. 102	Food & App. Microbiol. ....	4
Bact. 104	Pathogenic Bacteriology .....	4
Bact. 109	Immunology & Serology .....	4
Bact. 111-112	Bacteriological Literature .....	2
Bact. 114	Clinical Lab. Methods .....	4
Chem. 3	Introduction to Chemistry .....	5
	or	
Chem. 11	Principles of Chemistry .....	4
Chem. 12	Inorg. Chem. & Qual. Anal. ..	4 or 5
Chem. 53	Quantitative Analysis .....	5
Chem. 77, 78	Organic Chemistry .....	4
	or	
Chem. 75, 76	Carbon Compounds .....	4

Course	Credits
Eng. 115 Technical Writing .....	3
Math. 1 Fundamentals of Math. ....	4
	or
Math. 9 Intro. to Math. Anal. ....	5
Biol. 11 Intro. to Life Sci. ....	4
Biol. 12 General Zoology .....	4

Women students enrolled in this curriculum need not take P.E. 1, Healthful Living.

**Electives**

A wide choice of electives may be exercised in consultation with the Head of the Department.

† OPTION I: Twelve months' hospital training in an approved school of medical technology is required to qualify for registration with the American Society of Clinical Pathologists. A maximum of 32 semester credits can be obtained, following the junior year, for the satisfactory completion of this work in hospitals affiliated with the University of Idaho. Under this plan the student becomes a candidate for the B.S. degree when the internship is completed. Hospitals now affiliated with the University include St. Luke's in Boise and the Deaconess and St. Luke's in Spokane, Washington. Students electing Option I must consult the Head of the Department of Bacteriology before the end of their freshman year.

† OPTION II: Those students who wish to receive the B.S. degree before entering hospital training may do so by completing 32 credits during the senior year in courses approved by the Head of the Department of Bacteriology.

**BOTANY**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

<b>Required</b>		Credits
Course		
Biol. 11	Intro. to Life Sci. ....	4
Biol. 12	General Zoology .....	4
Biol. 13	General Botany .....	4
Chem. 3	Intro. to Chem. ....	5
	or	
Chem. 11	Principles of Chem. ....	4
Chem. 12	Inorg. Chem. & Qual. Anal. ..	4-5
	or	
Chem. 14	General Chemistry .....	4

Course	Credits
Chem. 75-76 Carbon Compounds & Lab. ..	4
	or
Chem. 77-172 Organic Chemistry .....	6
	or
Chem. 77-78 & 172-174 Org. Chem. & Lab ..	8
Biol. 114 General Genetics .....	2-4
Biol. 102 Biological Literature .....	1

**Electives**

Twenty credits of 100's courses in Botany are required of majors. P.P. 101 General Plant Pathology, 4 credits and Biology 100's courses may count toward a Botany major with the consent of the Head of the Department of Biological Sciences.

**CHEMISTRY**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

<b>Required</b>		Credits
Course		
Chem. 3	Introduction to Chem. ....	4-5
	or	
Chem. 11	Principles of Chemistry .....	4
Chem. 12	Inorg. Chem. & Qual. Anal. ....	5
Chem. 53	Quantitative Analysis .....	5
Chem. 105-106	Physical Chemistry .....	6
Chem. 107-108	Physical Chemistry Lab ..	2
Chem. 109	Pro-Seminar .....	1

Course	Credits
Chem. 77-172 Organic Chemistry .....	6
Chem. 78-176 Organic Chemistry Lab ..	3
Math. 50-51-52 Analytic Geometry & Calculus I, II, III .....	13
Phys. 51-52 Engineering Physics .....	10

Appropriate courses in chemistry, physics, and mathematics are available for students who wish to qualify for certification to the American Chemical Society.

**CHEMISTRY (TECHNICAL LITERATURE OPTION)**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

Required		Credits			Credits
Course			Course		
Chem. 3	Introduction to Chem.	4-5	French 1-2	Elementary French	8
	or			or	
Chem. 11	Principles of Chemistry	4	Russian 1-2	Elementary Russian	8
Chem. 12	Inorg. Chem. & Qual. Anal.	5	German 1-2	Elementary German	8
Chem. 53	Quantitative Analysis	5	German 13	Intermediate German	4
Chem. 105-106	Physical Chemistry	6	German 52	Scientific German	4
Chem. 107-108	Physical Chemistry Lab	2	Math. 50-51-52	Analytic Geometry & Calculus I, II, III	13
Chem. 109	Pro-Seminar	1	Phys. 3-4	General Physics	8
Chem. 77-172	Organic Chemistry	6		or	
Chem. 78-176	Organic Chemistry Lab	3	Phys. 51-52	Engineering Physics	10
Eng. 115	Technical Writing	3			

**DRAMATICS**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

Required		Credits
Course		
Dram. 5	Basics of Performance	2
Dram. 63-64	Stagecraft	6
Dram. 71	Play Analysis for Production	3
Dram. 72	Intermediate Acting	3
Dram. 162	Costume for the Stage	2
Dram. 167-168	The Theatre	6
Dram. 171-172	Directing	6

Four credits in Dram. 105-106, Stage Movement and Diction, or Dram. 107-108, Styles of Interpretation.

Twenty credits in related fields approved by the Chairman of Dramatics.

**ECONOMICS**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

Required		Credits
Course		
Bus. 31-32	Principles of Accounting	6
Bus. 83	Statistics	4
Math. 1-2	Fundamentals of Mathematics	8
	or	
Math. 9	Introduct. to Mathematical Analysis	5
	or	
Math. 50	Analytic Geometry and Calculus	5
Econ. 51-52	Principles of Economics	6
Econ. 103	Money and Banking	3
Econ. 121	Intermediate Microeconomic Analysis	3
Econ. 122	Intermediate Microeconomic Analysis	3

Choice of 15 credits from any of the following:

Economics courses numbered 100 or above, and/or  
 Bus. 160 Quantitative Methods in Business and Economics  
 Bus. 168 Government Regulation of Business  
 Bus. 193 Business Conditions  
 Bus. 198 Advanced Statistics

Choice of 15 credits in courses numbered 100 or above from the following, 9 credits to be in one field: Anthropology, Geography, History, Philosophy, Political Science, Sociology. Credits presented in Mathematics beyond the general requirements outlined at the left will be accepted in satisfaction of this requirement.

**ENGLISH**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

Required		Credits
Course		
Eng. 67-68	Survey of English Literature	6

Twenty-six or more additional credits in English courses numbered 53 or above. The minimal 26 credits must include at least 8 credits in American literature, and may not include more than 3 credits in expository composition or literary composition, nor more

than 3 credits in linguistics courses. English 111, 113, and 115 do not count toward the English major. English 11-12 are especially recommended for the prospective English major.

Twenty credits in related fields approved by the Chairman of English.

At the discretion of the English faculty a final comprehensive examination will be required of all majors. It may include such a test as the Graduate Record Examination.

**FRENCH**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

**Required**

Course	Credits
French 13-14 Intermediate French .....	8
A reading knowledge of another foreign language.	
Twenty additional credits in French.	
Twenty credits in related fields approved by the Chairman of Foreign Languages.	

**GEOGRAPHY**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

**Required**

Course	Credits
Geog. 3 Physical Geography .....	4
Geog. 12 Economic Geography .....	3
Geog. 51 Intro. to Cartography .....	3
Geog. 52 Cultural Geography .....	3
Geog. 54 World Regional Geography .....	2
Geog. 195-196 Pro-Seminar .....	2
Geol. Fund. of Geology .....	4
or	
Geol. Physical Geology .....	4

Eighteen credits in Geography courses numbered above 100.

Twenty credits in courses in related fields, chosen with the approval of the Head of the Department of Geology and Geography. It is normally expected that the main related fields shall be Economics, History, Political Science, Sociology and Anthropology.

**GERMAN**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

**Required**

Course	Credits
Ger. 13-14 Intermediate German .....	8

A reading knowledge of another foreign language.

Twenty additional credits in German.  
Twenty credits in related fields approved by the Chairman of Foreign Languages.**HISTORY**

(For the general requirements of the degree of Bachelor of Arts, see page 73.)

**Required**

Course	Credits
Twelve credits from the following:	
Hist. 3-4 History of Civilization .....	6
Hist. 9-10 Introduction to United States History .....	6
Hist. 57-58 History of England .....	6

Twenty credits in History in courses numbered above 100.

Twenty credits in related fields.  
The choice of specific courses in the above groups must receive the approval of the Head of the Department.*Recommended Preparation:* Choice of at least 6 credits from introductory courses in any two other Social Sciences.

**HOME ECONOMICS  
(Basic Program)**

**Required**

Course		Credits
Chem. 3	Introduction to Chemistry .....	4-5
or		
Chem. 11	Principles of Chemistry .....	4
Chem. 14	General Chemistry .....	4
or		
Chem. 75-76	Carbon Compounds .....	4
Eng. 1-2	English Composition .....	6
H.Ec. 6	Elementary Nutrition .....	2
H.Ec. 8	Introduction to Foods .....	4
H.Ec. 9	Intro. to Home Economics .....	1
H.Ec. 13	Art .....	3
H.Ec. 23	Textiles .....	3
H.Ec. 24	Elementary Clothing .....	2
H.Ec. 73	Food Management .....	3
H.Ec. 106	Problems in Nutrition .....	2
H.Ec. 124	Advanced Clothing .....	2
H.Ec. 130	Family Relations .....	2
H.Ec. 135	Child Development .....	3
H.Ec. 141	Housing & Home Furnishings .....	3
H.Ec. 146	Principles of Home Mangt. ....	2
H.Ec. 147	Home Management House Res. ....	3
or		
H.Ec. 149	Home Mangt. for Married Stu. ....	3
P.E. Activities	.....	4
P.E. 1, Bact. 51, or Bact. 54	.....	2-4
Psych. 1	General Psychology .....	3
Social Science electives	.....	6
Soc. 1	Introduction to Sociology .....	3
Soc. 121	The Family .....	3
Zool. 7	Introductory Human Anatomy ....	3
Zool. 8	Introductory Human Physiology ..	3

Plus one of the following options:

**Option A. General Home Economics**  
Foreign Lang. or Humanities ..... 7-9

**Option B. Home Economics  
Education-Teaching**

1) Required Courses		
Ag. Ed. 151	Principles of Voc. Ed. ....	2
Bact. 51	General Bacteriology .....	4
H.Ec. 52	Household Equipment .....	2
H.Ec. 152	Methods in Tchg. Home Ec. ....	3
H.Ec. 153	Problems in Tchg. Home Ec. ....	2
H.Ec. 156	Methods in Adult H.Ec. Ed ....	2

Course		Credits
H.Ec. 157	Student Tchg. in Hmkg. Classes .....	9
H.Ec. 187	Consumers in the Market .....	2
2. Additional credits in education to complete Idaho State Certification requirements:		
a. Psych 56	Human Growth & Dev. ....	3
b. Ed. 87	Found. of Education .....	4
c. Approved subjects for a second teaching field or minor		
3. Recommended electives: Bus. 197, Drama 162, H. Ec. 82, H. Ec. 144, H. Ec. 161, Psych. 115 and Psych. 225.		

**Option C. Home Economics  
Education-Extension**

Ag. Ed. 150	Extension Methods in Ag. ....	2
Bact. 51	General Bacteriology .....	4
H.Ec. 52	Household Equipment .....	2
H.Ec. 152	Methods in Tchg. Home Ec. ....	3
H.Ec. 156	Methods in Adult H.Ec. Ed. ....	2
H.Ec. 161	Prob. in Tailoring (Suggested) ..	2
Advanced Soc. or Psych. ....		3

**Option D. Home Economics  
Journalism**

Journ. 81	News Writing .....	2
Journ. 82	Reporting .....	4
Journ. 162	Mag. Art Writing .....	2
Journ. 172	Prin. of Public Relations ....	2
Journ. 184	News Editing .....	3
Journalism, Photography, or Radio-TV ..		7

**Option E. Home Economics Business**

Bus. 31-32	Prin. of Accounting .....	6
Bus. 103	Marketing .....	3
Econ. 51-52	Principles of Economics ....	6
Business Administrative electives .....		6

**HOME ECONOMICS**

**(Food and Nutrition)**

Course		Credits
Ag.S. 105	Principles of Nutrition .....	3
Bact. 51	General Bacteriology .....	4
Chem. 3	Introduction to Chemistry .....	4-5
or		
Chem. 11	Principles of Chemistry .....	4
Chem. 12	Inorganic Chem. & Qual. Anal. ....	5
Eng. 1-2	English Composition .....	6
H.Ec. 6	Elementary Nutrition .....	2
H.Ec. 8	Intro. to Foods .....	4
H.Ec. 9	Intro. to Home Economics .....	1
*H.Ec. 13	Art .....	3
*H.Ec. 23	Textiles .....	3
*H.Ec. 24	Elementary Clothing .....	2
H.Ec. 73	Food Management .....	3
H.Ec. 104	Dietetics .....	4
H.Ec. 106	Problems in Nutrition .....	2
H.Ec. 107	Investigation of Foods .....	2
*H.Ec. 135	Child Development .....	3

H.Ec. 146	Principles of Home Mangt. ....	2
P.E. Activities	.....	4
Psych. 1	General Psychology .....	3
Social Science electives	.....	6
Soc. 1	Introduction to Sociology .....	3
Zool. 7	Introducing Human Anatomy .....	3
Zool. 8	Introducing Human Physiology .....	3

Plus one of the following options:

\*Not required for Option B.

(Continued on page 82)

## HOME ECONOMICS (Continued)

Course	Credits	
<b>A. Dietetics and Institution Management</b>		
Bus. Ad. 31 Principles of Accounting	3	
Bus. 151 Personnel Management	3	
Chem. 75 Carbon Compounds	3	
Chem. 76 Carbon Compounds Lab.	1	
Chem. 180 Elements of Biochemistry	3	
Chem. 183 Biochemistry Laboratory	1	
Econ. 51 Principles of Economics	3	
H.Ec. 182 Quantity Cookery	3	
H.Ec. 183 Institution Administration	4	
H.Ec. 185 Institution Food Buying	2	
Psych. 151 Educational Psychology	3	
Recommended but not required:		
H.Ec. 147 Home Mgt. House Residence	3	
H.Ec. 149 Home Mgt. for Married Students	3	
<b>B. Food and Nutrition Research</b>		
Bact. 102 Food and Applied Microbiol.	4	
Chem. 53 Quantitative Analysis	5	
Chem. 77-172 Organic Chemistry	6	
Chem. 78-174 Organic Chem. Laboratory	2	
Math. 9 Intro. to Math. Analysis	4	
Math. 50 Analy. Geom. and Calculus I	5	
At least 15 credits for the following courses:		
Ag. 121 Biometry	3	
Ag. Biochem. 128 Food Chem. and Anal.	3	
Ag. Biochem. 131 The Chem. & Physiol. of Vitamins	3	
Biol. 11 Intro. to Life Sciences	4	
Chem. 181-182 Biochemistry	8	
Chem. 183-184 Biochemistry with Lab.	8	
Eng. 115 Technical Writing	3	
Proficiency in one foreign language		
Fr. or German 1-2 Elementary	3	
Fr. or German 13-14 Intermediate	8	
Math. 51-52 Anal. Geom. & Calculus II, III	8	

## HOME ECONOMICS

## (Child Development)

Course	Credits	Course	Credits
Home Economics Required			
H.Ec. 6 Elementary Nutrition	2	Humanities (Electives)	8-10
H.Ec. 8 Introduction to Foods	4	P.E. Activities	4
H.Ec. 9 Introduction to Home Ec.	1	P.E. 1, Bact. 51, or Bact. 54	2-4
H.Ec. 13 Art	3	Psych. 1 General Psychology	3
H.Ec. 23 Textiles	3	Psych. 55 Human Growth & Develop.	3
H.Ec. 24 Elem. Clothing	2	Psych. 102 The Exceptional Child	3
H.Ec. 34 Introduction to Child Dev.	2	Psych. 115 Prin. & Pract. of Guidance	3
H.Ec. 82 House Construction	2	Soc. Sci. (Electives)	6
H.Ec. 130 Family Relations	2	Soc. 1 Intro. to Sociology	3
H.Ec. 135 Child Development	3	Soc. 121 The Family	3
H.Ec. 141 Housing & Home Furn.	3	Sp. 31 or 32 Fundamentals of Speech	2
H.Ec. 146 Principles of Home Mgt.	2	Zool. 7 Intro. Human Anatomy	3
H.Ec. 147 Home Mgt. House Residence	3	Zool. 8 Intro. Human Physiology	3
or		*Merrill-Palmer Institute (approved courses)	15-16
H.Ec. 149 Home Mgt. for Married Stu.	3	Additional electives to total	128
Additional Credits			
Chem., Math., or Physics	8-10	*Student attends Merrill-Palmer Institute, Detroit, Michigan, second semester of junior year or first semester of senior year at own expense through University of Idaho Cooperative Plan.	
Dram. 65 Children's Theater	3		
Dram. 66 Creative Dramatics	3		
Educ. 71 Music Methods for Elem. Tch.	2		
Educ. 75 Methods in Elem. School Art	2		
or			
Educ. 125 Art Methods Workshop	3		
Educ. 134 Children's Lit. & Story Telling	3		
Eng. 1-2 English Composition	6		

**JOURNALISM**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

**OPTION A—NEWS EDITORIAL**

**I. Journalism course requirements:**

No fewer than 24 nor more than 30 credits including:

Course	Credits
Jour. 81 News Writing .....	2
Jour. 82 Reporting .....	4
Jour. 97 Newspaper Production .....	3
Jour. 181 Advanced Reporting .....	4
Jour. 184 News Editing .....	3
Jour. 185 History of Journalism .....	2
Jour. 196 Pro-Seminar .....	2
	<hr/>
	20

Plus any two of the following courses:

Jour. 162 Magazine Article Writing .....	2
Jour. 172 Principles of Public Relations ..	2
Jour. 183 Interpreting Cont. Affairs .....	2
Jour. 188 Newspaper Advertising .....	3
Jour. 191 Law of the Press .....	2
Jour. 192 Jour. and Public Opinion .....	2

**II. Collateral course requirements:**

Comm. 20 Mass Communications in a Free Society ..... 2  
and no more than 10 additional credits in Communications, Radio-TV, and Photography.

**III. Courses required in other departments:**

Economics 51-52 .....	3-6
Advertising (Bus. 109) .....	3
Literature .....	6
History .....	6
Political Science .....	6

With no fewer than 15 upper division credits (which may include the History and Political Science requirements above) in these related fields: Anthropology, Economics, English, Geography, History, Philosophy, Political Science, Psychology, Sociology.

**OPTION B—ADVERTISING**

**I. Journalism course requirements:**

Course	Credits
Jour. 81 News Writing .....	2
Jour. 97 Newspaper Production .....	3
Jour. 128 Advertising in Print .....	3
Jour. 190 Advertising Media .....	2
Jour. 196 Pro-Seminar .....	2
	<hr/>
	12

**II. Collateral course requirements:**

Comm. 20 Mass Communications in a Free Society .....	2
Art 48 Lettering and Layout .....	2
Econ. 51 & 52 Principles of Economics ..	6
Bus. 83 Statistics .....	4
Bus. 103 Marketing .....	3
Bus. 109 Principles of Advertising .....	3
Bus. 171 Marketing Research & Analysis ..	3
Rad.-TV 193 Commercial Broadcasting ..	3
	<hr/>
	28

**III. At least two courses selected from the following:**

Rad.-TV 87 Station Writing .....	3
Bus. 170 Marketing Problems .....	3
Jour. 172 Principles of Public Relations ..	2
Jour. 187 Retail Advertising .....	2
Rad.-TV 187 Advanced Station Writing ..	3
Jour. 191 Law of the Press .....	2
Jour. 192 Journalism & Public Opinion ..	2

**IV. Related fields requirement:**

No fewer than 12 upper division credits (100 and above) in these related fields: Anthropology, Art, Economics, English, Geography, History, Philosophy, Political Science, Psychology, and Sociology.

**LATIN**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

**Required**

Course	Credits
Latin 13-14 Intermediate Latin .....	8

A reading knowledge of another foreign language.  
Twenty additional credits in Latin.  
Twenty credits in related fields approved by the Chairman of Foreign Languages.

**LAW**

(A combined six-year curriculum for the degrees of B.A. and J.D. For the general requirements for the degree of Bachelor of Arts, see page 73. For the first year of law see College of Law section, Part II.)

A student may secure the degrees of Bachelor of Arts and Juris Doctor in six years under the following regulations: The candidate for the Bachelor of Arts Degree shall by the end of the junior year complete 98 semester hours. These credits shall include 12 in courses numbered above 100 chosen with the approval of his advisor. The student must also satisfy all other requirements of the College of Letters and Science for this degree. In his senior year the student may then take the full first year of the law course and upon completion of the same entitled to receive the de-

gree of Bachelor of Arts. Upon satisfactory completion thereafter of two years of advanced law study, the degree of Juris Doctor will be conferred. Students in this curriculum register in the College of Letters and Science for their first four years (supplying during the fourth year a duplicate study list to the College of Law) and in the College of Law for the last two years.

**Senior Year**

Course	Credits
Law (first year) .....	30

**MATHEMATICS**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

**Required**

Course		Credits
Math. 50-51-52	Analytic Geometry & Calculus I, II, III	13
Physics 51-52	Engineering Physics	10
	or	
Phys. 53-54-55		9
Math. 103	Linear Algebra	3
	Mathematics.	
Math 60*	Theory of Numbers	33
*May be waived by the Department of Mathematics.		

At least one of the sequences Math 109-110 or Math 121-122. An additional (different) sequence chosen from Math 109-110, Math. 119-120, Math. 121-122, Math. 131-132.

At least 5 additional credits in Mathematic courses numbered above 100.

**MUSIC (B.A.)**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

**A. Organized Music**

Regular participation each period of registration in one of the large choral or instrumental groups. See credit limitation in the note accompanying these classes at the beginning of the music course section of the catalog.

**B. Piano Proficiency**

Minimum piano requirements for all students not concentrating in a keyboard instrument, to be met by the end of the sophomore year: (1) ability to play a sonatina and a composition equal in difficulty to Schubert's "Moment Musical in A flat," Op. 95, No. 6; (2) ability to read at sight a simple accompaniment.

**C. Uniform Requirements in Music**

Course	Credits
Organized Music (See "A" above)	*
Piano (See "B" above)	*
(*No minimum credit requirement)	
Mus. 9-10 Theory of Music I	8
Mus. 11-12...History of Music I	4
Mus. 14 Convocation (each period of registration)	0
Mus. 30 Applied Music	16
Mus. 75-76 Theory of Music II	8
Mus. 79-80 History of Music II	4
Mus. 101-102 History of Music III	4
Mus. 103-104 Theory of Music III	6

**D. Options**

Satisfactory completion of one of the following options is required. The choice of the option is made at the end of the freshman year with the approval of the head of the Department of Music.

1. RECITAL—Mus. 67-167 and/or Mus. 68-168, 2 credits; Mus. 130, 16 credits; Mus. 199, Senior Recital.

2. SEMINAR—Mus. 67-167 and/or Mus. 68-168, 4 credits; Mus. 130, 2 credits; courses in related fields, 9 credits; Mus. 193, Senior Seminar.

**E. Certification of Teachers**

Candidates for the degree of Bachelor of Arts (music major) who wish to qualify for a teacher's certificate should declare their intention as early as possible. It may be necessary for such students to take more than the minimum of 128 credits required for graduation. To assist students in registering for the necessary courses in their proper sequence, a check list, "The Bachelor of Arts Degree with Certification in Music," is available in the Departmental office.

**MUSIC (B.Mus.)****A. General University Requirements**

Candidates for the degree of Bachelor of Music must complete 128 semester credits of which 36 must be in courses numbered 100 or above; English Composition, 6 credits; Physical Education—Men, 2 credits; Women, 6 credits.

**B. Liberal Arts Requirements**

Twenty-six credits in courses acceptable toward the College of Letters and Science general requirements for the degree of Bachelor of Arts, not counting courses in Music, English Composition, and Physical Education. As a part of this requirement, students under Option 2 (see "F" below) must complete two years of one foreign language, or one year each of two foreign languages. The satisfaction of the language requirement by equivalent proficiency does not relieve the student of the obligation to earn a total of 26 credits in liberal arts courses.

Mus. 30 Applied Music	24
(16 credits in a principal performing area, and 8 credits in a secondary performing area)	
Mus. 75-76 Theory of Music II	8
Mus. 79-80 History of Music II	4
Mus. 101-102 History of Music III	4
Mus. 103-104 Theory of Music III	6
Mus. 105 or 106 Modal or Tonal Counterpoint	2
Mus. 109-110 Composition	4
Mus. 199 Senior Recital	0

**F. Options**

Satisfactory completion of at least 22 credits in one of the following options is required:

1. PIANO—Mus. 67-167 and/or Mus. 68-168, 2 credits; Mus. 113 and 115; plus 16 credits in Mus. 130, Piano.

2. VOICE—See language requirement under "B" above; Mus. 67-167 (vocal) and/or Mus. 68-168, 4 credits; music literature elec-

(Continued on Page 84)



**MUSIC (Continued)****C. Organized Music**

Regular participation each period of registration in one of the large choral or instrumental groups. The 8-credit limitation in organized music courses does not apply to this curriculum.

**D. Piano Proficiency**

Minimum piano requirements for all students not concentrating in a keyboard instrument, to be met by the end of the sophomore year: (1) ability to play a sonatina and a composition equal in difficulty to Schubert's "Moment Musical in A flat," Op. 95, No. 6; (2) ability to read at sight a simple accompaniment.

**E. Uniform Requirements in Music**

Course	Credits
Organized Music (See "C" Above) .....	*
Piano (See "D" above) .....	*
(*No minimum credit requirement)	
Mus. 9-10 Theory of Music I .....	8
Mus. 11-12 History of Music I .....	4
Mus. 14 Convocation (each period of registration) .....	0

tive, 2 credits; plus 16 credits in Mus. 130 Voice.

3. INSTRUMENTAL—Mus. 67-167 (instrumental), 4 credits; music literature elective, 2 credits; plus 16 credits in Mus. 130 (one instrument).

4. COMPOSITION—Mus. 67-167 and/or Mus. 68-168, 2 credits; Mus. 130, 2 credits; plus 18 approved credits in music theory, composition, counterpoint, arranging, and orchestration.

**G. Certification of Teachers**

Candidates for the degree of Bachelor of Music who wish to qualify for a teacher's certificate should declare their intention as early as possible. It may be necessary for such students to take more than the minimum of 128 credits required for graduation. To assist students in registering for the necessary courses in their proper sequence, a check list, "The Bachelor of Music Degree with Certification," is available in the Departmental office.

**NAVAL SCIENCE**

The University of Idaho offers the degree of Bachelor of Naval Science under the following conditions:

- (a) Completion of at least 128 credits.
- (b) Completion of Navy requirements to include as a minimum:
  - (1) All Naval Science Courses
  - (2) One year of college-level mathematics
  - (3) One year of college-level physics
  - (4) One semester of speech
  - (5) Psychology 1
- (c) Recommendation for this degree by the Professor of Naval Science.
- (d) Normal progress toward another University degree as approved by the dean of the division concerned. (Except under unusual circumstances the requirements shall be interpreted to require completion of at least eighty per cent of the requirements for the degree in question.)

A student in the Naval ROTC who concurrently qualifies for both the Bachelor of Naval Science degree and another University degree will be awarded but one degree, namely the regular University degree.

The awarding of this degree shall be administered through the Dean of the College of Letters and Science. Nevertheless, the academic records of the student concerned will remain with the college wherein he is registered for his regular baccalaureate degree.

**PHILOSOPHY**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Course	Required	Credits
Phil. 61	Ethics .....	3
Phil. 71	Logic .....	3
Phil. 109	History of Ancient Phil. ....	3
Phil. 110	History of Modern Phil. ....	3

Fifteen additional credits in Philosophy in courses numbered above 100.

Twenty credits in Literature, Art, Social Sciences, and other related fields, selected with the approval of the Head of the Department.

**PHYSICS (B.S.)**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

Course	Required	Credits
Chem. 3	Introduction to Chem. ....	4-5
	or	
Chem. 11	Principles of Chemistry .....	4
Chem. 12	Inorg. Chem. and Qual. Anal. ..	5
	or	
Chem. 14	General Chemistry .....	4
Math. 50-51-52	Analytic Geometry and Calculus I, II, III .....	13
Phys. 51-52	Engineering Physics .....	10
	or	
Phys. 53-54-55	.....	9
Phys. 121-122	Analytical Mechanics .....	6
Phys. 125	Intro. to Modern Physics .....	3
Phys. 131-132	Electricity and Magnetism ..	6
Phys. 161	Pro-Seminar .....	1

Three additional credits in Physics laboratory in courses above 100.

Nine additional credits in non-laboratory Physics courses numbered above 100, not including Physics 104.

Six credits in Mathematics courses numbered above 100.

**PHYSICS (B.P.)  
(Bachelor of Physics)**

Course	Required	Credits
Chem. 3	Introduction to Chem. ....	5
	or	
Chem. 11	Principles of Chemistry .....	4
Chem. 12	Inorg. Chem. & Qual. Analysis ..	5
	or	
Chem. 14	General Chemistry .....	4
Math. 50-51-52	Analytic Geometry and Calculus I, II, III .....	13
Phys. 51-52	Engineering Physics .....	10
	or	
Phys. 53-54-55	.....	9
Phys. 121-122	Analytical Mechanics .....	6
Phys. 125	Intro. to Modern Physics .....	3
Phys. 129	Physical Instrumentation.....	3
Phys. 131-132	Electricity and Magnetism ..	6
Phys. 141	Optics .....	4
Phys. 155	Thermodynamics and Kinetic Theory .....	3
Phys. 161	Pro-Seminar .....	1
Phys. 185	Elementary Quantum Mechanics .....	3

Eleven credits in Mathematics courses numbered above 100.

Three additional credits in Physics courses numbered above 100, not including Physics 104.

Candidates for the degree of Bachelor of Physics must complete: English Composition—6 credits; Physical Education—one activity course each semester during the freshman and sophomore years; 6 credits of Social Sciences (Anthropology, Economics, History, Philosophy, Political Science, or Sociology); and the equivalent of one year of a modern foreign language (French, German, Italian, or Russian).

**POLITICAL SCIENCE**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Course	Required	Credits
1.	Nine credits of lower division political science which shall include Pol. Sci. 5, Elements of Political Science, 3 cr.....	9

(Note: Students who have earned a grade better than a C in High School Civics should not register for Pol. Sci. 1).

Course	Credits
2. Six credits in introductory courses in other Social Sciences .....	6
3. Nine credits in political philosophy (Phil. 109-110; Pol. Sci. 126) .....	9
4. Fourteen additional credits in Political Science courses numbered above 100 ..	14
5. Seventeen additional credits in related fields .....	17
Total credits for major .....	55

The choice of specific courses in the above groups must receive the approval of the Head of the Department.

**Public Administration.**—The following courses are recommended for Political Science majors wishing to prepare for a career in public administration, depending on the special field they expect to enter.

Pol.Sci. 1-2 Amer. Govt.  
 Pol.Sci. 75 State Govt.  
 Pol.Sci. 76 City & County Govt.  
 Pol.Sci. 132 Legislatures & Legisl. Bodies  
 Pol.Sci. 135 Pol. Research Meth.

Pol.Sci. 151 Intro to Public Adm.  
 Pol.Sci. 152 Admin. Law  
 Pol.Sci. 153 Pub. Manag. Tech.  
 Pol.Sci. 154 Adm. Org. & Behavior  
 or  
 Soc. 136 Sociology of Organizations

The following may also be helpful:

Pol.Sci. 85-86 Comp. Govt.  
 Pol.Sci. 137 Internat'l Rel.  
 Pol.Sci. 138 Cond. of Amer. For. Policy  
 Pol.Sci. 162 Govt. & Bus.  
 Pol.Sci. 167 Const. Law  
 Arch. 175-176 Intro. to City Planning  
 Bus. 83 Statistics

Bus. 165 Bus. Law  
 Econ. 51-52 Principles of Econ.  
 Econ. 109 Pub. Finance  
 Eng. 115 Technical Writing  
 Geog. 170 Urban Geography  
 Soc. 1 Intro. to Soc.  
 Soc. 58 Org. of Social Services

**PRE-DENTAL STUDIES**

**Freshman Year**

Course	Credits	
	1st Sem.	2nd Sem.
*Chem. 11 Principles of Chemistry..	4	
Chem. 12 Inorganic Chem. and Qual. Anal. ....		5
Eng. 1-2 English Composition .....	3	3
Social Sciences .....	3	3
Biol. 11 Intro. to Life Sciences ...	4	
Biol. 12 General Zoology .....		4
P.E. Men .....	1½	1½
P.E. Women .....	1	1
Elective .....	1-1½	0-½
	16	16

Women students enrolled in this curriculum need not take P.E. 1, Healthful Living.

\*Students not having had high school chemistry take Chem. 3 in place of Chem II.

\* Chem. 56 may be substituted for Chem. 53 if approved by the Chairman of Pre-Dental Studies.

**Junior Year**

Course	Credits	
	1st Sem.	2nd Sem.
Chem. 172 Organic Chemistry II ....	3	
Chem. 176 Organic Chem. II Lab.....	2	
Phys. 3-4 General Physics .....	4	4
Zool. 113 Comparative Vertebrate Embryology .....		4
Foreign Language .....	3-4	3-4
Elective .....	1-0	9-8
	16	16

**Sophomore Year**

Course	Credits	
	1st Sem.	2nd Sem.
*Chem. 53 Quantitative Analysis ....	5	
Chem. 77 Organic Chemistry I .....		3
Chem. 78 Organic Chem. I Lab. ....		1
Foreign Language .....	4	4
*Math 9 Introduction to Math Analysis .....		5
or		
Math 1-2 Fundamentals of Math ....	4	4
Zoology 54 Comparative Anatomy ..		4
P.E. Men .....	1½	1½
P.E. Women .....	1	1
Elective .....	1-2½	0-3½
	16	16

**Senior Year**

*Option I.*—Completion of the first year of dental study in an approved college of dentistry.

*Option II.*—Completion of sufficient credits to total 128 (approx. 32). At least 36 of the total credits must be in courses numbered above 100 and at least 12 of these 100's credits must be in the humanities and/or social sciences. One additional course in mathematics or statistics.

**PRE-DENTAL STUDIES**  
(Two-Year Program)

Students who plan to enter a college of dentistry after completing the minimum of two years of college pre-dental training should follow the schedule of courses listed below.

**Freshman Year**

Course	Credits	
	1st Sem.	2nd Sem.
*Chem. 11 Principles of Chem. ....	4	
Chem. 12 Inorg. Chem. and Qual. Anal. ....		5
Eng. 1-2 English Composition ....	3	3
Social Science .....	3	
Biol. 11 Intro to Life Sciences .....	4	
Biol. 12 General Zoology .....	4	
Math. 9 Intro. to Math. Anal. ....	1	5
P.E. (men) .....	1/2	1/2
P.E. (women) .....	1	1
Elective .....	1-1 1/2	
	16	17 1/2-18

Women students enrolled in this curriculum need not take P.E. 1 Healthful Living.

\* Students not having had high school chemistry take Chem. 3 in place of Chem. 11.

**Sophomore Year**

Course	Credits	
	1st Sem.	2nd Sem.
Foreign Language .....	4	4
Chem. 77 Organic Chemistry I .....	3	
Chem. 78 Organic Chem. I Lab ....	1	
Chem. 172 Organic Chemistry II ....		3
Chem. 176 Organic Chem. 11 Lab. ....		2
Social Science .....	3	
Phys. 3-4 General Physics .....	4	4
P.E. (men) .....	1/2	1/2
P.E. (women) .....	1	1
Elective .....	0-1/2	3-3 1/2
	16	16

**PRE-MEDICAL STUDIES**

**Freshman Year**

Course	Credits	
	1st Sem.	2nd Sem.
*Chem. 11 Principles of Chem. ....	4	
Chem. 12 Inorganic Chem. & Qual. Anal. ....		5
Eng. 1-2 English Composition ....	3	3
Social Sciences .....	3	3
Biol. 11 Intro to Life Sciences....	4	
Biol. 12 General Zoology .....		4
P.E. (men) .....	1/2	1/2
P.E. (women) .....	1	1
Elective .....	1-1 1/2	0-1/2
	16	16

Women students enrolled in this curriculum need not take P.E. 1, Healthful Living.

\* Students not having had high school chemistry take Chem. 3 in place of Chem. 11.

**Junior Year**

Course	Credits	
	1st Sem.	2nd Sem.
Chem. 172 Organic Chemistry II. ....	3	
Chem. 176 Organic Chemistry II Laboratory .....		2
Phys. 3-4 General Physics .....	4	4
Zool. 113 Comparative Vertebrate Embryology .....	4	
Foreign Language .....	3-4	3-4
Elective .....	1-0	9-8
	17	16

**Sophomore Year**

Course	Credits	
	1st Sem.	2nd Sem.
*Chem. 53 Quantitative Analysis ..	5	
Chem. 77 Organic Chemistry I .....		3
Chem. 78 Organic Chemistry I Laboratory .....		1
Foreign Language .....	4	4
Math. 9 Introduction to Math Analysis .....		5
or		
Math. 1-2 Fundamentals of Math. ....	4	4
Zoology 54 Comparative Anatomy ..		4
P.E. (men) .....	1/2	1/2
P.E. (women) .....	1	1
Elective .....	1-2 1/2	0-3 1/2
	16	16-17

\*Chem. 56 may be substituted for Chem. 53 if approved by the Chairman of Pre Medical Studies.

**Senior Year**

*Option I.*—Completion of the first year of medical study at an approved college of medicine.

*Option II.*—Completion of sufficient credits to total 128. At least 36 of these credits must be in courses numbered above 100, and at least 12 of these 100's credits must be in the humanities and/or social sciences. One additional course in mathematics or statistics.

**PRE-NURSING STUDIES (B.S. (Pre-Nurs.))**

(For General University Requirements see page 60)

**Freshman Year**

Course	Credits	
	1st Sem.	2nd Sem.
Chem. 3 Intro. to Chem. ....	4-5	
or		
Chem. 11 Prin. of Chem. ....	4	
Chem. 14 General Chemistry .....		4
Chem. 75-76 Carbon Compounds .....		4
Eng. 1-2 English Composition .....	3	3
H.Ec. 6 Elementary Nutrition .....	2	
Social Studies .....	3	3
P.E. ....	1	1
Elective .....	3	1
	16-17	16

Women students enrolled in this curriculum need not take P.E. 1, Healthful Living.

**Junior Year**

Course	Credits	
	1st Sem.	2nd Sem.
Bact. 51 Gen. Bacteriology .....	4	
Bact. 104 Pathog. Bacteria .....		4
H.Ec. 130 Family Relations .....		2
H.Ec. 135 Child Development .....	3	
Soc. 121 The Family .....	3	
Soc. 57 Intro. to Social Welfare....	3	
*Elective .....	3	10
	16	16

\*These elective credits must be in courses numbered above 100.

**Sophomore Year**

Course	Credits	
	1st Sem.	2nd Sem.
Psych. 1 Gen. Psychology .....		3
P. E. ....	1	1
Soc. 1 Introduction to Sociology .....	3	
Zool. 7 Intro. Human Anatomy.....		3
Zool. 8 Intro. Human Physiology.....		3
Electives .....	5	9
	16	16

**Senior Year**

To receive the degree of B.S.(Pre-Nurs.), the student may choose from the following options:

1. Graduation from an approved school of nursing.\*
2. Completion of a total of 128 credits, 36 of which must be in courses numbered above 100.

\* Having graduated from an approved school of nursing, a prospective candidate sends her transcript to the Registrar for evaluation.

**PRE-PHYSICAL THERAPY**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

**Freshman Year**

Course	Credits	
	1st Sem.	2nd Sem.
Chem. 3 Introduction to Chemistry .....	5	
or		
Chem. II Principles of Chemistry..	4	
Eng. 1-2 English Composition .....	3	3
Math. 1 Fund. of Math. ....		4
Psych. 1 Gen. Psychology .....	3	
Biol. 11-12 General Zoology .....	4	4
Mil. & P. E. (Men) .....	1-2	1-2
P.E. 1, 5, 6, 7, or 8 (Women) .....	3	1
Electives .....	3	3
Totals (Men) .....	16-17	17
Totals (Women) .....	17	18

**Junior Year**

Course	Credits	
	1st Sem.	2nd Sem.
Psych. 111 Ab. Psych. ....	3	
or		
Psych. 115 Prin. & Prac. in Guidance .....		3
Psych. 161 Psychology of Personality .....	3	
P.E. 52 P.E. Act. in Elem. Schools .....	3	2
Social Science .....	3	6
*Foreign Language .....	4	4
Humanities .....	3	
Electives .....		5
Totals (Men) .....	16-15	13-18
Totals (Women) .....	16-15	13-18

\* Electives may be substituted if general Bachelor of Science language requirement has been satisfied.

**Sophomore Year**

Course	Credits	
	1st Sem.	2nd Sem.
Physics 1 Elementary Physics .....		4
Psych. 55-56 Human Growth and Development .....	3	3
P.E. 40 (Men) or .....	1	
P.E. 11 Fund. of Movement (Women) .....		1
Zool. 7-8 Intro. Anatomy and Physiology .....	3	3
Zool. 54 Comparative Anatomy .....		4
Mil.-P.E. (Men) .....	1-2	1-2
P.E. 5, 6, 7, or 8 (Women).....	1	1
*Foreign Language .....	4	4
Totals (Men) .....	16-17	15-16
Totals (Women) .....	17	17

**Senior Year**

Course	Credits	
	1st Sem.	2nd Sem.
P.E. 119 Kinesiology .....	3	
P.E. 124 Theory of Ind. ....		2
Psych. 102 Ex. Indiv. ....		3
Humanities .....	3	3
Electives .....	10	8
Totals (Men) .....	16	16
Totals (Women) .....	16	16

**PSYCHOLOGY**

(For the general requirements of the degree of Bachelor of Science, see page 73.)

Required		Course	Credits		
Course					
Math. 1-2	Fundamentals of Math	Psych. 1	Introduction to Psychology	8	3
or		Psych. 75-76	Gen. Experiment Psych.	8	3
Math. 9	Introduction to Math. Anal.	Psych. 105	Comparative Psychology	5	3
and		Psych. 117	Statistics for Psychology and Education	5	3
Math. 50	Anal. Geom. and Calc.	Psych. 141	Physiological Psychology	5	3
Zool., including Zool. 1	Gen. Zool.	Psych. 198	Systems of Psychology	7-8	3

At least eight additional upper division credits in Psychology; it is recommended that credits in upper division courses in the major be kept reasonably close to the college minimum of twenty.

Secondary areas or related courses should be selected in consultation with the departmental advisor. Recommended: Mathematics, Biological Science, Physical Science, Social Science. Students who are interested in psychiatry should qualify for admission to medical school.

**RADIO-TELEVISION**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

**I. Radio-Television Course Requirements**

Course		Credits
Rad-TV 41	Intro. to Rad-TV Broadcasting	3
Rad-TV 53	Recording Broadcasting Technique	3
Rad-TV 82	Intro. to TV Production	3
Rad-TV 87	Station Writing	3
Rad-TV 122	Educational Uses of Radio-TV	2
Rad-TV 187	Adv. Station Writing	3
Rad-TV 191	Announcing II	2
Rad-TV 192	Adv. TV Production	3
Rad-TV 193	Commercial Broadcasting	3
Rad-TV 194	Radio-TV News	3
	Ability to use the typewriter	

**II. Collateral course requirements:**

Course		Credits
Comm. 20	Mass Communications in a Free Society	2
	and 10 additional credits in Communications, Journalism, and Photography.	

**III. Course requirements in other departments:**

Advertising (Bus. 109)	3
Speech	2
Literature	6
History	6
Education	3

**SOCIOLOGY—ANTHROPOLOGY**

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Course		Credits
Anthro. 72	Introduction to Anthropology	3
Soc. 1	Introduction to Sociology	3
Soc. 2	Social Problems	3
Soc. 191	Contemporary Sociology	3
	Seventeen additional credits in Sociology in courses numbered above 100.	

Twenty credits in related fields, including one of the following courses:

Hist. 173 or 174	Social and Cultural History of Europe
Phil. 109	History of Ancient Philosophy
Phil. 110	History of Modern Philosophy
Pol. Sci. 126	Political Thought

The choice of specific courses in the above groups must receive the approval of the Head of the Department.

Recommended Preparation: Choice of at least 6 credits from introductory courses in any two other Social Sciences.

**Anthropology.**—Majors wishing to prepare for a career in Anthropology should include the following recommended courses:

Course	Credits	Course	Credits
Biol. 1-2 General Biology .....	8	Anthro. 124 New World Archeology .....	3
Geog. 3 Phys. Geography .....	4	Psych. 117 Statistics for Psychology and Education .....	3
Geog. 12 Economic Geography .....	3	Soc. 121 The Family .....	3
Psych. 1 General Psychology .....	3	Soc. 191 Contemporary Sociology .....	3
Anthro. 117 Cultural Anthropology .....	3		
Anthro. 123 Old World Archeology .....	3		

**Social Welfare**—Majors wishing to prepare for a career in the field of Social Welfare should include the following recommended courses:

Course	Credits	Course	Credits
Three credits each from lower-division courses in Political Science, Psychology, History, Philosophy and Economics.....	15	Soc. 160 Methods and Techniques of Social Work .....	3
Bact. 54 Public Health and Hygiene.....	3	Soc. 161 Spec. Study and Field Observation .....	3
Soc. 57 Introduction to Social Welfare	3	Anthro. 116 Culture and Personality, or 117 Cultural Anthropology .....	3
Soc. 58 The Organization of Social Services .....	3	Psych. 102 The Exceptional Individual	3
Soc. 121 The Family .....	3	Psych. 111 Elementary Abnormal	3
Soc. 130 Juvenile Delinquency, or 132 Criminology .....	3	Psych. 161 Psychology of Personality.....	3

### SPANISH

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Course	Credits	
Span. 13-14 Intermediate Spanish .....	8	A reading knowledge of another foreign language.
		Twenty additional credits in Spanish.
		Twenty credits in related fields approved by the Chairman of Foreign Languages.

### SPEECH

(For the general requirements of the degree of Bachelor of Arts, see page 73)

Required		Course	Credits
Course	Credits	Sp. 162 Speech & Social Control .....	2
Sp. 31-32 Fundamentals of Speech .....	4	Sp. 185 Voice and Speech Improvement .....	2
Choice of one .....	1-2	Sp. 186 Speech Correction .....	2
a. Sp. 9 Intercollegiate Debating or		Sp. 191 Propaganda and Public Opinion	2
b. Sp. 62 Parliamentary Law		Sp. 192 American Public Address .....	2
and Procedures		Twenty credits in related fields, including Drama 105-106, Advanced Interpretation, 4-8 credits.	
Sp. 151-152 Advanced Speaking .....	4		
Sp. 161 Discussion and Conference Methods .....	2		

### ZOOLOGY

(For the general requirements of the degree of Bachelor of Science, see page 73.)

Required		Course	Credits
Course	Credits	Biol. 102 Biological Literature .....	1
Biol. 11 Intro. to Life Sci. ....	4	Biol. 114 General Genetics .....	2-4
Biol. 12 General Zoology .....	4	Zool. 105 General Physiology .....	4
Biol. 13 General Botany .....	4	Zool. 54 Comparative Anatomy of Vertebrates .....	4
Chem. 3 Introduction to Chemistry .....	5	or	
or		Zool. 153 Invertebrae Zoology .....	5
Chem. 11 Principles of Chemistry .....	4	Twenty credits of 100's courses in Zoology are required of majors.	
Chem. 12 Inorg. Chem & Qual. Analysis	4-5	Entomology and Biology 100's courses may count toward a Zoology major with the con- sent of the Head of the Department of Bio- logical Sciences.	
or			
Chem. 14 General Chemistry .....	4		
Chem. 75-76 Carbon Compounds & Lab.	4		
or			
Chem. 77-172 Organic Chemistry .....	6		
or			
Chem. 77-78 & 172-174 Organic Chemistry & Lab. 8	8		

# THE COLLEGE OF AGRICULTURE

<b>Agricultural Biochemistry and Soils</b>	<b>Dairy Science</b>
<b>Agricultural Economics</b>	<b>Entomology</b>
<b>Agricultural Education</b>	<b>Plant Sciences</b>
<b>Agricultural Engineering</b>	<b>Poultry Science</b>
<b>Animal Science</b>	<b>Veterinary Science</b>
<b>Bacteriology</b>	

JAMES E. KRAUS, Ph.D. .... *Dean of the College*

DON A MARSHALL, Ph.D. .... *Associate Dean*

The equipment of the College of Agriculture and Agricultural Experiment Station at Moscow consists of 1,145 acres of land. In addition, the University owns or leases for purposes of agricultural experiments, 1,426 acres located at other points in the state.

The equipment for agricultural instruction consists of the Agricultural Science Building, used as a central office, classroom, and laboratory building; Dairy Science Building and Dairy Science Research Center; Agricultural Education and Field Crops Building; Laboratories in Life Sciences Building, Kirtley Engineering Laboratory, Engineering Building, and Agricultural Engineering Laboratory Building; Veterinary Science Building, and Disease Research Barn; greenhouses; Entomology Building; dairy cattle, sheep, swine, and beef cattle barns, abattoir, judging pavilion; poultry brooder and laying houses. A number of poultry, dairy cattle, beef cattle, sheep and swine representing several breeds are maintained for instructional and research purposes. In addition, acreages of land are available and are used for instructional purposes in breeding, production, and applying scientific principles to all fields of agriculture.

## FACILITIES

**Agricultural Biochemistry and Soils.**—The laboratories are modern and fully equipped for instruction and research in animal and plant biochemistry, animal nutrition, food technology, soil chemistry, soil physics, soil morphology and soil fertility. Greenhouse facilities are available for research and instructional purposes, field plots on the University Farm are used for soil research, and equipment for research involving radioisotopes is available. Pertinent reference books and technical journals are available in the library.

**Agricultural Economics.**—Facilities for instruction and research are provided in the Agricultural Science Building. An office library is maintained which contains the chief source of agricultural statistics, both historical and current, together with bulletins, textbooks, and periodicals. Electric calculating machines and other devices are at hand as an aid to research.

**Agricultural Engineering.**—The Laboratories are equipped for instruction and research in the four major fields in agricultural engineering, including land and water reclamation and conservation, farm structures and equipment, field power and machinery and rural electrification. The instructional and research equipment and apparatus include weirs, pumps, and tanks for water measurement, farm levels and field measuring equipment, farm water supply systems and household facilities, farm machinery, stationary and field power units, dynamometers, motors and generators, farm shop and farm machinery repair facilities, including gas and electric welding outfits. These laboratories are used for the farm shop and farm equipment repair work in the vocational agriculture teacher training program.



**Animal Science.**—Courses in animal science include instruction in judging, nutrition, feeding, breeding, meats, and livestock production, management and marketing. The University maintains for instructional purposes and for research studies 247 beef cattle representing the Aberdeen-Angus, Hereford and Shorthorn breeds; 535 sheep representing the Rambouillet, Hampshire, Suffolk, Panama and Targhee breeds; and 367 head of swine representing Duroc and Yorkshire breeds.

**Bacteriology.**—The Department of Bacteriology occupies the lower floor of Life Sciences Building. The laboratories are well equipped for teaching and research work. The student laboratories are adjacent to research laboratories where studies are being made on human and animal diseases and on agricultural and industrial problems, thus offering the student an excellent opportunity for observation in research methods. Leading national and foreign publications in bacteriology are on file in the library.

**Dairy Science.**—The Department of Dairy Science occupies the Dairy Science Building. This building contains facilities for instruction in Dairy Manufacturing and Dairy Production. These include a dairy products laboratory containing all modern equipment usually found in commercial creameries. There are well equipped laboratories for research in manufacturing, nutrition, physiology, breeding and management. A Dairy Research Center houses the herd of 125 registered Jersey and Holstein cattle. This Center contains modern equipment to feed and house these animals and for use in teaching, research and demonstrations. The dairy department utilizes about 85 head of dairy cattle for research at the Caldwell Station.

**Entomology.**—The Department of Entomology occupies the entire Entomology Building. The laboratories are equipped with apparatus and materials necessary for undergraduate and graduate teaching and research in this field of science. Adequate greenhouse, field plot and library facilities are available. In addition, the department maintains an excellent insect collection for teaching and research purposes. The area in the vicinity of the University is ideally suited for the field study of insect biology, since it contains a varied insect fauna and exhibits marked differences in altitude, climate, flora and soil types.

**Plant Sciences.**—This department encompasses the staff and facilities formerly assigned to the departments of Agronomy, Horticulture and Plant Pathology. The facilities include well equipped classrooms, laboratories and greenhouses for research and instruction in genetics, field and forage crops production, weeds, vegetable growing, fruit growing, ornamental horticulture and plant pathology.

Farm facilities include a 250 acre Plant Industry Farm and a test garden of ornamental materials at Moscow and a Horticultural Field Station at near-by Lewiston, where both undergraduate and graduate students may observe and participate in research programs.

**Poultry Science.**—Instruction is offered in breeding, nutrition, incubation, housing and management; also in quality, grades, processing and utilization of poultry products. Laboratories in the Agricultural Science Building and at the University Poultry Farm provide facilities for instruction and research for both undergraduate and graduate study. Approximately 2,500 laying hens of popular breeds are maintained in several types of modern buildings.

**Veterinary Science.**—Facilities for instructing students of the animal sciences in the field of disease prevention include classrooms, laboratories and a research barn in which animal diseases can safely be studied. Well-equipped research laboratories and facilities for veterinary service are maintained. An active cattle and disease research program is carried out by the department at the Caldwell Branch Agricultural Experiment Station.

## CURRICULA AND DEGREES

Five curricula of study are offered toward the degree of Bachelor of Science in Agriculture. One hundred and thirty-six credits are required for graduation.

Requirements for the degrees Master of Science in Agriculture, Master of Agriculture, and Doctor of Philosophy will be found in the section of this catalog devoted to the Graduate School.

Instruction is given in Agricultural Biochemistry and Soils, Agricultural Economics, Agricultural Education, Agricultural Engineering, Animal Science; Bacteriology, Dairy Science, Entomology, Food Science, Plant Sciences, Poultry Science, and Veterinary Science.

Before the end of the freshman year, a student should file a written statement in the Dean's office indicating the curriculum under which he wishes to graduate, the department or subject matter field in which he wishes to major, and his major advisor.

**Agricultural Economics.**—Agricultural Economics prepares the student in the principles and analytical methods of economics as they apply to the businesses of agriculture. Course work is designed for the individual student's vocational objective whether it be farming, management of an agriculturally related business, finance, government, or graduate studies.

**Agricultural Education.**—The teacher training curriculum is the course of study approved by the State Board for Vocational Education for the preparation of high school vocational agriculture teachers. Graduates who have completed at least twenty (20) credits in Agricultural Education, plus the state certification requirements which include one teaching major of twenty (20) credits, are eligible for an Idaho Standard Secondary Certificate valid for five years.

**Agricultural Engineering.**—This curriculum is offered jointly by the College of Agriculture and the College of Engineering and will be found outlined in the catalog section devoted to the College of Engineering.

**Agricultural Management.**—This curriculum is designed for students who desire to prepare themselves for management responsibilities on farms and in farm-related businesses and enterprises.

**Agricultural Science.**—This curriculum is designed for the students who desire to prepare themselves for careers in agriculture as farm operators, technical farm advisors, extension agents, research workers, or other professional careers in scientific agriculture. An option in Range Livestock Management is offered in Animal Science.

**Food Science.**—This curriculum is designed to prepare students for positions in the fields of food processing, food regulatory work, and research.

**Pre-Veterinary Science.**—For those students who desire to enter the field of veterinary medicine, a two-year curriculum in Pre-Veterinary Science is offered.

## REQUIREMENTS FOR GRADUATION

### One hundred and thirty-six credits are required for graduation

The curricula outlines presented on the following pages have been developed to guide the student in the preparation of his course of study. The credit hours listed in each of the subject matter areas are the minimum requirements which must be satisfied for graduation. Additional credit hours of work in specific subject matter areas may be required to satisfy departmental requirements. The specific courses which may be taken to satisfy these requirements are the option of the student with the consent and approval of his major advisor. Certain subject matter areas and general requirements are defined by footnotes to avoid confusion.

## AGRICULTURAL ECONOMICS

Course	Required	Credits	Electives:	Credits
Specific:			Agriculture	12
Ag. 1	Ag. Orientation	1	Unspecified	31
Eng. 1 and 2	English Composition	6	Humanities and Social Science <sup>2</sup>	14
Eng. 53, 113, or 115	Adv. English	3	Major Field <sup>3</sup>	20
P.E. 31 and 33	Physical Education	2	Mathematics	8
Speech		2	Physical Sciences:	
General:			<sup>4</sup> Chemistry	8
<sup>1</sup> Biological Sciences		8	Total	136
Business and Economics		21		

<sup>1</sup>—Credits in Bacteriology may be counted as Agriculture or Biological Science, but the same credits may not be used to meet both requirements.

<sup>2</sup>—May include only courses in the Departments of Humanities and Social Sciences.

<sup>3</sup>—Major offered in the Department of Agricultural Economics.

<sup>4</sup>—One additional course in mathematics may be substituted for four credits of chemistry without petition.

## AGRICULTURAL EDUCATION

Course	Required	Credits	General:	Credits
Specific:			Biological Sciences <sup>1</sup>	8
Ag. 1	Ag. Orientation	1	Electives:	
Eng. 1 and 2	English Composition	6	Agriculture	44
Eng. 115	Advanced English	3	Unspecified	21
P.E. 31 and 33	Physical Education	2	Humanities and Social Science <sup>2</sup>	14
Psych. 55, or 56	Psychology	3	Major Field	20
Speech		2	Mathematics	4
			Physical Sciences:	
			Chemistry	8
			Total	136

<sup>1</sup>—Credits in Bacteriology may be counted as Agriculture or Biological Science, but the same credits may not be used to meet both requirements.

<sup>2</sup>—May include only courses in the departments of Humanities and Social Sciences except that Ed. 87 and Psych. 1 may be substituted for credits in Humanities without petition.

## AGRICULTURAL MANAGEMENT

Course	Required	Credits	General:	Credits
Specific:			Ag. Economics	12
Ag. 1	Ag. Orientation	1	Biological Sciences <sup>1</sup>	8
Eng. 1 and 2	English Composition	6	Business and Economics	21
Eng. 53, 113, or 115	Adv. English	3	Electives	31
P.E. 31 and 33	Physical Education	2	Humanities and Social Sciences <sup>2</sup>	14
Speech		2	Major Field <sup>3</sup>	20
			Mathematics	8
			Physical Sciences:	
			Chemistry	8
			Total	136

<sup>1</sup>—May include courses offered in the Departments of Bacteriology, Botany and Zoology. Biology courses 1 and 2, may not be used.

<sup>2</sup>—May include courses offered in the Department of Humanities and Social Sciences only.

<sup>3</sup>—Majors are offered in the following departments: Agricultural Biochemistry and Soils, Agricultural Economics, Agricultural Engineering, Animal Science, Dairy Science, Entomology, Food Science, Plant Sciences and Poultry Science.

## AGRICULTURAL SCIENCE

Course	Required	Credits	General:	Credits
Specific:			Biological Sciences <sup>1</sup> .....	15
Ag. 1 Ag. Orientation .....		1	Electives:	
Eng. 1 and 2 English Composition ....		6	Agriculture .....	12
Eng. 53, 113, or 115 Adv. English .....		3	Unspecified .....	36
P.E. 31 and 33 Physical Education .....		2	Humanities and Social Sciences <sup>2</sup> .....	14
Speech .....		2	Major Field <sup>3</sup> .....	20
			Mathematics .....	8-10
			Physical Sciences:	
			Chemistry .....	11-13
			Physics .....	4
			Total .....	136

<sup>1</sup>—May include courses offered in the Departments of Bacteriology, Botany and Zoology. Biology courses 1 and 2 may not be used. Seven credits in Physical Sciences may be substituted without petition. Credits in Bacteriology may be counted as Agriculture or Biological Science, but the same credits may not be used to meet both requirements.

<sup>2</sup>—May include courses offered in the Departments of Humanities and Social Science only.

<sup>3</sup>—Majors are offered in the following departments: Agricultural Biochemistry and Soils, Animal Science, Bacteriology, Dairy Science, Entomology, Plant Sciences and Poultry Science. Students majoring in Agricultural Biochemistry and Soils may substitute twenty (20) credits in Physical and Biological Science courses for courses in Agriculture, and those majoring in Entomology may substitute nine (9) credits in Forestry for courses in Agriculture.

<sup>4</sup>—Agricultural Biochemistry 80 may be used to satisfy part of this requirement.

## RANGE LIVESTOCK MANAGEMENT OPTION

(Department of Animal Science)

In addition to the courses listed above in the AGRICULTURAL SCIENCE curriculum, students electing this option will take at least 6 credits in Range Management courses.

Suggested electives for this option are: Ag. 121, Biometry; Ag. Econ. 156, Ag. Programs and Policies; Soils 51, General Soils; Pl. Sci. 108, Forage Crops; Bot 53, Systematic Botany; Bot. 101, Plant Physiology; Bot 105, Plant Ecology; Bot. 107, Agrostology.

## FOOD SCIENCE

Course	Required	Credits	General:	Credits
Specific:			Biological Sciences <sup>1</sup> .....	12
Ag. 1 Ag. Orientation .....		1	Electives:	
Eng. 1 and 2 English Composition ....		6	Agriculture .....	12
Eng. 113 or 115 Advanced English .....		3	Unspecified .....	34
P.E. 31 and 33 Physical Education .....		2	Humanities and Social Sciences <sup>2</sup> .....	14
Speech .....		2	Major Field <sup>3</sup> .....	22
			Mathematics .....	8
			Physical Sciences:	
			Chemistry .....	16
			Physics .....	4
			Total .....	136

<sup>1</sup>—May include courses offered in the Departments of Bacteriology, Botany and Zoology. Biology Courses 1 and 2 may not be used. Credits in Bacteriology may be counted as Agricultural or Biological Science, but the same credits may not be used to meet both requirements.

<sup>2</sup>—May include courses offered in the Departments of Humanities and Social Sciences only.

<sup>3</sup>—Areas of specialization are offered in the following departments: Animal Sciences (meats), Dairy Science (dairy manufacturing), Plant Sciences (fruit and vegetables), and Biochemistry

## CURRICULUM IN PRE-VETERINARY SCIENCE

The aim of the Pre-veterinary Curriculum is to prepare students for admission to the veterinary institutions of the United States. It is not possible to obtain a veterinary degree at the University of Idaho.

Admission to a Veterinary College requires a minimum of two years of pre-professional study at the college level. At the present time the pre-veterinary course requirements differ at the various veterinary institutions. Students are advised to plan, in consultation with their advisor, their course of study to fit the Veterinary College of their choice, including the first year courses in the Agricultural Curriculum and second year courses listed below.

Since all veterinary schools limit their enrollment, many applicants are rejected each year. Pre-veterinary students who are unable to gain admission to a Veterinary School are advised to elect a major from one of the curricula in the College of Agriculture to complete their college training. This, in most

instances, will require an extra year for completion of basic courses. Courses offered by the Department of Veterinary Science are designed primarily for students in Animal, Poultry, and Dairy Science and are not acceptable as substitute courses in a veterinary institution.

Freshman Year		Sophomore Year	
Course	Credits	Course	Credits
Ag. 1 Ag Orientation .....	1	Bact. 51 Bacteriology .....	4
Eng. 1 and 2 English Composition .....	6	Chem. 77,78,172,174 Organic Chemistry .....	8
Chem. 11 and 12 Chemistry .....	8	Phys. 3 General Physics .....	4
D.S. 1 Dairy Science .....	3	A.S.: 2 The Livestock Industry .....	3
Biol 11 Intro. to Life Sciences .....	4	*Electives .....	12
Biol. 12 Gen. Zoology .....	4	P.E. 33 Physical Education .....	1
Math. 1 Mathematics .....	4		
P.E. 31 Physical Education .....	1	Total .....	32
Total .....	31		

\* To be taken with the approval of the major professor. (Emphasis is placed upon Social Sciences and Humanities electives for the first two years.)

### SUGGESTED ELECTIVES:

Ag Econ. 55, Agricultural Economics, 3 credits; Art 41, Art Appreciation, 2 credits; Bot. 3, Principles of Botany, 4 credits; Bus. 31, Principles of Accounting, 3 credits; Chem. 180, Elements of Biochemistry, 4 credits; Econ. 51, Principles of Economics, 3 credits; Eng. 65, Introduction to Literature, 3 credits; Geog. 12, Economic Geography, 3 credits; Hist. 3 & 4, History of Civilization, 3 or 6 credits; Hist. 9 & 10, History of the United States, 3 or 6 credits; Eng. 11 & 12, Introduction to the Humanities, 2 or 4 credits; Mus. 5-6, Survey of Music 2 or 4 credits; Phil 1, Introduction to Philosophy, 3 credits; Phil. 61, Ethics, 3 credits; Pol. Sci. 1 & 2, American Government, 3 or 6 credits; Pol. Sci. 75, State Government, 3 credits; Pol. Sci. 76, City and County Government, 3 credits; Soc. 51, Introduction to Sociology, 3 credits; Soc. 72, Introductory Anthropology, 3 credits; Sp. 31, Fundamentals of Speech, 2 credits.

### GRADUATE PROGRAM

Graduate studies leading to the Master's degree are offered in each of nine departments in the College of Agriculture. Two degrees are offered—the Master of Science in Agriculture and the Master of Agriculture degree. The Master of Science in Agriculture degree is available to students who meet the requirements as outlined in the section of this catalog devoted to the Graduate School. A thesis is required. The Master of Agriculture degree is a terminal professional degree designed to give broader training than the Master of Science degree. A professional paper is required.

Graduate studies leading to the Doctor of Philosophy degree are offered in the Departments of Agricultural Biochemistry and Soils, Bacteriology Entomology and Plant Sciences.

#### Graduate Fellowships

A number of research fellowships are available to help qualified students in their graduate programs. Normally two years are required to complete the degree requirements and usually a research project in the department in which the student is majoring serves to meet the requirements for the thesis.

#### Graduate Work in the Departments

The Department of Agricultural Biochemistry and Soils offers graduate study leading to the Master's degree and the Doctor of Philosophy degree with specialization in animal biochemistry, plant biochemistry, animal nutritional biochemistry, soil chemistry, soil fertility, soil genesis and classification.

The Department of Agricultural Economics offers graduate study leading to the Master's degree with specialization in production economics, marketing agricultural products, agricultural programs and policies, economics of resource development and use, agricultural statistics, and food processing plant efficiency and management.

The Department of Agricultural Education offers graduate study leading to the Master of Science degree with specialization in agricultural education.

The Animal Science Department offers graduate study leading to the Master's degree with specialization in animal nutrition, animal breeding, and physiology of reproduction in beef cattle, sheep, or swine.

The Bacteriology Department offers graduate study leading to the Master's degree and the Doctor of Philosophy degree with specialization in bacterial physiology, serology, food microbiology, and soil microbiology.

The Department of Dairy Science offers graduate study leading to the Master's degree with specialization in dairy cattle nutrition, dairy cattle breeding and physiology, and dairy manufacturing.

The Entomology Department offers graduate study leading to the Master of Science degree and the Doctor of Philosophy degree with specialization in economic entomology, systematic entomology, forest entomology, insect ecology, and insect physiology.

The Department of Plant Sciences offers graduate study leading to the Master's degree and the Doctor of Philosophy degree with specialization in plant breeding, plant pathology, crop production, olericulture, pomology, ornamental horticulture, and weed control.

The Poultry Science Department offers graduate study leading to the Master's degree with specialization in poultry nutrition, poultry management and poultry products.

# THE COLLEGE OF ENGINEERING

Agricultural Engineering	Civil Engineering
Chemical Engineering	Electrical Engineering
Mechanical Engineering	

\*ALLEN S. JANSSEN, M.S., P.E. .... *Dean of the College*

MARGARET STEWART ..... *Secretary of the College Faculty*

## PURPOSE

The purpose of the College of Engineering is to offer qualified students programs of training (1) in the practical and economic application of the sciences, (2) in the control and utilization of the forces, materials and energy of nature, and (3) in the organization and direction of human effort, all for the improvement of production, industry and commerce contributory to better living, social progress and national safety.

## THE ENGINEERING PROFESSION

Engineering is a profession concerned with and utilizing the training described above. Professional engineers use their technical training to plan and erect industrial plants, bridges, dams, buildings, and other large structures; to design and supervise the making of all kinds of industrial products; to plan and operate industrial processes and equipment; to sell technical products and recommend them for special uses; and to manage technical enterprises or industrial plants. An engineer usually specializes in a particular branch of the profession. Some of the important branches of engineering are:

**Agricultural Engineering** — the application of power and machinery to agriculture; rural electrification; soil and water conservation and irrigation methods; farm structures.

**Chemical Engineering**—design, construction and operation of industrial plants in which matter undergoes a change of state and composition.

**Civil Engineering**—design, construction and operation of fixed works and structures; transportation; hydraulic and sanitary systems; surveying and mapping.

**Electrical Engineering**—electric power generation, transmission and distribution; electronics; radio, radar, and telephony; illumination.

**Mechanical Engineering**—aeronautical, automotive, and other machine and engine design and production; heat and combustion; refrigeration; air conditioning; industrial production.

For those who want to specialize in such work as aeronautics, refrigeration, or air conditioning, basic training in mechanical engineering is recommended first to be followed by advanced training either in industry or in a recognized graduate school.

To qualify as an engineer one usually takes at least a four-year course in a recognized engineering college offering bachelors' (B.S.) degrees in the major branches of engineering. Following graduation, all states, including Idaho, require a period of practical experience and a qualifying examination before granting a license to do engineering work affecting public health and safety.

\*H. Sidwell Smith, Ph.D., P.E., Dean of the College of Engineering-Designate; Appointment Effective July 1, 1967.

### ENGINEERING APTITUDES

Those likely to succeed in engineering are young men of serious purpose, willing to do consistently hard work, and with high school records that show marked ability in mathematics, physics, and chemistry. Equally important are: (1) ability to visualize in three dimensions the parts of a structure or the operation of a machine or electrical device, (2) facility in the use of written and spoken English, and (3) possession of those desirable personal attributes which enable one to inspire associates, assistants and other laborers to work together effectively. Without these qualifications, the chances for a successful professional career are poor. Aptitude for mathematics and science counts most because an engineer's job is the practical application of science.

If the above qualifications and aptitudes are lacking, it is not advisable to undertake the study of engineering. A desire or ability to tinker with machines, to make things with one's hands, or to operate machinery is helpful but not enough. Students with these aptitudes only should consider the desirability of vocational or technical institute training in preference to professional engineering.

### PREPARATION AND ADMISSION

To enter a regular college course in engineering the student should have completed in four years of high school: 3 units of English, 3 units of mathematics, 3 units of natural science including 1 unit of physics and 1 unit of chemistry, and 2 units of social science. A student may be admitted with less than the above, but the deficiency must be made up before he can progress very far in his college engineering course. There is no foreign language requirement but the taking of such work in high school is recommended. A statement of admission requirements is included in Part II of this catalog.

Students who contemplate entering the College of Engineering with advanced standing from junior colleges or other institutions should include as many freshman and sophomore requirements listed in the curricula as possible. Freshman mathematics should include college algebra, trigonometry, and analytic geometry. Calculus and physics are prerequisites to many advanced courses and their omission will delay graduation.

A junior engineering student must have at least a 2.00 grade average before being permitted to register in upper division courses offered by the College of Engineering.

### COURSES AND FACILITIES

The College of Engineering offers accredited four-year courses in Civil Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, and (in cooperation with the College of Agriculture) Agricultural Engineering.

The work for the first year in engineering is basic and essentially the same for all curricula given in the College of Engineering. Consequently, if a student is undecided as to which branch of engineering to follow, the decision can be postponed until the beginning of the second year.

In addition to the normal drafting rooms and science laboratories for basic work in the freshman and sophomore years, there are specialized laboratories for junior and senior work in engineering. Of particular note are: a remodeled agricultural engineering laboratory building with excellent facilities for farm shop, farm building and rural electrification instruction; a complete chemical engineering laboratory; an hydraulic and irrigation laboratory; a mechanical engineering laboratory with typical, full-size engines, machine tools, and steam, gas, and aeronautical apparatus for student use; an electrical engineering laboratory equipped for work in power, electronics, and radio; and a structural and materials testing laboratory used not



only by the students but also by the Idaho Department of Highways and by engineers, architects, and construction agencies throughout the state and region.

### STANDING AND ADVANTAGES

The University of Idaho, supported by both state and federal funds to serve primarily the interests of Idaho students, is a nationally recognized training center for engineers. Among the 180 or more engineering colleges in the country, the College of Engineering ranks as medium size—neither so large that the individual student is lost in the crowd, nor so small that facilities are inadequate for complete training. One often hears about the advantages of the larger schools, but when one considers that the College of Engineering is inspected periodically by the same agency that inspects and accredits all other engineering colleges, that the same textbooks are used, that the same amount and standard of student work is required, and that instructors come from various other institutions, it is reasonable to conclude that the training is on a par with that obtainable at other places. Other schools, mainly the larger ones, often merit their reputation primarily for their graduate facilities—not their undergraduate work.

The outstanding accomplishments of College of Engineering graduates in competition with engineers from all other engineering colleges and in all branches of engineering provide the real proof of the value of the training they received. Large industries on the Pacific Coast, in the Midwest and in the East regularly interview and recruit College of Engineering graduates because they know what other graduates have done. In normal times many students from other states come to Idaho to study engineering despite the fact that they have to pay out-of-state tuition—an extra cost not charged Idaho students.

If the engineering profession is to be practiced in this state or region, there are special advantages in studying here because the student will learn the background and potentialities of the region and make acquaintances with other students who in later life will be his professional contemporaries.

### DEGREES

Curricula are offered in the College of Engineering leading to the degrees of Bachelor of Science in Civil Engineering, B.S.(C.E.); Bachelor of Science in Electrical Engineering, B.S.(E.E.); Bachelor of Science in Mechanical Engineering, B.S.(M.E.); Bachelor of Science in Chemical Engineering, B.S.(Ch.E.); Bachelor of Science in Agricultural Engineering, B.S.(Ag.E).

For the requirements of the advanced degrees of Master of Science in the respective branches of engineering, M.S.(C.E.), etc., and the professional engineering degree, see the description of the Graduate School.

Graduate study leading to the degree Doctor of Philosophy is available in Chemical Engineering.

The degree, Bachelor of Science in Agricultural Engineering, B.S.(Ag.E.), may be granted to students who have completed a four-year course in civil, mechanical, or electrical engineering followed by one year of prescribed work approved by the faculties concerned. The degree B.S.(C.E.), may be awarded to students who have satisfactorily completed the agricultural engineering curriculum followed by one year of work approved by the faculty.

The degree B.S.(E.E.) may be granted to students who have completed the respective courses in mechanical engineering followed by one year of prescribed work approved by the faculty. Likewise the degree B.S.(M.E.) may be awarded to students who have satisfactorily completed the electrical engineering curriculum followed by one year of work approved by the faculty. Students planning on securing a second degree should make such

decision before the beginning of the junior year to arrange for the necessary sequence of courses.

The courses in the four-year engineering curricula listed below may be distributed advantageously over five undergraduate years. This may be especially desirable for students entering with deficiencies in mathematics and natural sciences. Regular NROTC students should plan a minimum of four and one-half years and preferably five years for satisfactory completion of their engineering degree work. A five-year program also permits more time for the choice of electives from other departments and for participation in worthwhile student activities, especially in student chapters of the various national engineering societies. Electives should be broadly chosen and the student should give careful attention to their sequence and coherence.

### REQUIREMENTS FOR GRADUATION

It is to be noted that in each of the five curricula a total of 136 semester credits is required for a degree. The requirement that 36 semester credits must be in courses numbered above 100 is automatically provided in each curricula.

The freshman year for all curricula in the College of Engineering shall conform with the following list of required course work. Chemistry 11 and 14 will be required in the 3-credit form in all curricula as a minimum; some curricula will require the 4-credit form (with laboratory) with a corresponding reduction in technical elective requirements. Students may change curriculum at the end of the freshman year with no loss of credit.

#### Freshman Year

Course	Credits	
Chem. 11 Principles of Chemistry.....	3-4	Math 9 Intro. to Math Analysis.....5
Engr. 1 Engineering Graphics .....	2	Math 50 Anal. Geom. & Calc. I .....
Engr. 6 Survey of Engineering .....	2	P. E. Freshman Physical Education .....
Engr. 31 Digital Computer Programming..	1	Phys. 53 Engineering Physics I .....
Enl. 1 English Composition .....	3	*Dept. Curriculum Requirement .....
Enl. 2 English Composition .....	3	
		28 plus

\*The courses required in the separate curricula are:

Agr. Engr. . . .	Chem. 14, 4 cr.
Chem. Engr. . . .	Chem. 14, 4 cr.
Civil Engr. . . .	C.E. 51, 2 cr.; Engr. 2, 2 cr.; Elective H-S, 2 cr.
Elec. Engr. . . .	Chem. 14, 3 cr.; E.E. 21, 3 cr.
Mech. Engr. . . .	Chem 14, 3 cr.; Elective Technical, 2 cr.

To obtain the recommendation of the faculty for the degree of Bachelor of Science in Agricultural, Chemical, Civil, Electrical, or Mechanical Engineering, the candidate must have completed, in addition to the freshman year above, the curriculum corresponding to the degree as outlined below. Elective courses must be approved by the Dean of the College of Engineering and will be selected in consultation with the student's advisor.

At least the equivalent of one-half year shall be taken in humanistic-social courses. Humanistic-social electives may be taken in history, economics, government, literature, speech, religion, sociology, philosophy, psychology, fine arts, or modern language; not every course in these areas, however, will qualify. Some students may elect a broad program involving selections from several of these areas. Others may elect to develop sequences. Either possibility is acceptable, subject to the approval of the Dean of the College.

**CURRICULUM IN AGRICULTURAL ENGINEERING**

Administered jointly by the Colleges of Engineering and Agriculture

**Sophomore Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
C.E. 51 Fundamentals of Surveying .....	2	E.E. 21 Electric Circuits .....	3
Engr. 2 Engr. Graphics .....	2	E.S. 69 Mechanics II (Dynamics) .....	2
E.S. 66 Mechanics I (Statics) .....	2	Econ. 51 Principles of Economics .....	3
Math. 51 Anal. Geom. & Calculus II .....	4	Math. 52 Anal. Geom. & Calculus III .....	4
Phys. 54 Engineering Physics II .....	3	Phys. 55 Engineering Physics III .....	3
P.E. Sophomore Physical Education .....	1/2	P.E. Sophomore Physical Education .....	1/2
Elective, Humanistic-Social .....	3	Elective, Humanistic-Social .....	2
Total .....	16 1/2	Total .....	17 1/2

**Junior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. E. 160 Hydrology .....	2	Ag. E. 123 Agr. Mach. & Tr. Design .....	3
E. E. 113 Basic Electrical Machy. ....	2	Ag. E. 163 Fund. of Irr. & Drainage .....	2
E. E. 115 Elect. Lab. (Machines) .....	1	Math 101 Adv. Engr. Math .....	3
E. S. 102 Fluid Mechanics .....	3	E. S. 120 Thermo. and Heat Trans. ....	3
E. S. 103 Mech. of Materials .....	3	Elective, Technical .....	4
Eng. 111 Engineering Reports .....	3	Elective, Humanistic-Social .....	2
Elective, Humanistic-Social .....	3	Total .....	17
Total .....	17		

**Senior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. 121 Biometry .....	3	Ag. E. 116 Environ. Systems Design .....	2
Ag. E. 140 Elect. Power & Process .....	3	Ag. E. 162 Agr. Engr. Appns. ....	3
Ag. E. 129 Elems. Struct. Engr. ....	4	Ag. E. 168 Irrig. & Drainage Design .....	3
Engr. 151 Senior Engr. Confs. ....	1/2	Engr. 152 Senior Engr. Confs. ....	1/2
Elective, Humanistic-Social .....	2	Elective, Technical .....	6
Elective, Technical .....	2	Elective .....	3
Elective .....	3	Total .....	17 1/2
Total .....	17 1/2		

**Option in Irrigation and Drainage**

Students entering this program must complete the first 6 semesters of the regular Agricultural Engineering curriculum or its equivalent. Technical electives must include C.E. 110 Soil Mechanics.

**Senior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. 121 Biometry .....	3	Ag. E. 116 Environ. Systems Design .....	2
Ag. E. Elems. Struct. Engr. ....	4	Ag. E. 152 Agr. Engr. Appns. ....	3
Ag. E. 129 Elems. Struct. Engr. ....	4	Ag. E. 167 Drainage Theory .....	2
C. E. 153 Engr. Economy .....	2	Ag. E. 168 Irrig. & Drainage Design .....	3
Engr. 151 Senior Engr. Confs. ....	1/2	C. E. 141 Hydraulics .....	3
Elective, Humanistic-Social .....	2	Engr. 152 Senior Engr. Confs. ....	1/2
Elective .....	3	Elective .....	4
Total .....	17 1/2	Total .....	17 1/2

Total credits required, 136

## CURRICULUM IN CHEMICAL ENGINEERING

## Sophomore Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
†Chem. 77 Organic Chemistry I	3	E. E. 21 Electric Circuits	3
*Ch.E. 21 Introduction to Ch.E.	2	Chem. 172 Organic Chemistry II	3
Econ. 51 Principles of Economics	3	Math. 52 Anal. Geom. & Calculus III	4
E.S. 66 Mechanics I (Statics)	2	E.S. 69 Mechanics II (Dynamics)	2
Math. 51 Anal. Geom. & Calculus II	4	Phys. 55 Engr. Physics III	3
Phys. 54 Engr. Physics II	3	P.E. Sophomore Physical Education	1/2
P.E. Sophomore Physical Education	1/2	Elective, Humanistic-Social	2
Total	17 1/2	Total	17 1/2

†—One (1) credit of laboratory recommended.

\*—May take in junior year if transfer student, who should have taken humanistic-social elective in sophomore year in its place.

## Junior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Chem. 105 Physical Chemistry	3	Chem. 106 Physical Chemistry	3
Chem. 107 Physical Chemistry Lab.	1	Chem. 108 Physical Chemistry Lab.	1
Ch.E. 123 Material & Energy Bal.	2	Ch.E. 130 Stagewise Operations	2
E.S. 102 Fluid Mechanics	3	Ch.E. 124 Thermo. and Kinetics	3
E.S. 120 Thermo. and Heat Transfer	3	E.E. 114 Electron. & Cont. Systems	2
Math. 101 Advanced Engr. Math.	3	E.E. 116 Elect. Lab. (Electron. & Cont.)	1
Elective, Humanistic, Social	2	Eng. 111 Engineering Reports	3
Total	17	Elective, Humanistic-Social	2
		Total	17

## Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ch.E. 131 Transport Processes	3	Ch.E. 110 Pro-Seminar	1
Ch.E. 132 Rate Processes	2	Ch.E. 142 Chem. Engr. Lab. II	2
Ch.E. 141 Chem. Engr. Lab. I	2	Ch.E. 144 Automatic Proc. Control	3
Ch.E. 153 Chemical Process Analysis	3	E.S. 103 Mechanics of Materials	3
Engr. 151 Senior Engr. Confs.	1/2	Engr. 152 Senior Engr. Confs.	1/2
Elective, Humanistic-Social	2	Elective, Humanistic-Social	4
Elective	4	Elective	4
Total	16 1/2	Total	17 1/2

Total credits required, 136

## CURRICULUM IN CIVIL ENGINEERING

## Sophomore Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Chem. 14 General Chemistry	3	E.S. 69 Mechanics II (Dynamics)	2
E.S. 66 Mechanics I (Statics)	2	Econ. 51 Principles of Economics	3
Geol. 11 Physical Geography	4	Math. 52 Anal. Geom. & Calculus III	4
Math. 51 Anal. Geom. & Calculus II	4	Phys. 55 Engr. Physics III	3
Phys. 54 Engr. Physics II	3	P.E. Sophomore Physical Education	1/2
P.E. Sophomore Physical Education	1/2	Elective, Humanistic-Social	5
Total	16 1/2	Total	17 1/2

**Junior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
C.E.108	Matls. of Construction ..... 3	Ag. E. 160	Hydrology ..... 2
C.E. 114	Advanced Surveying ..... 3	C.E. 104	Mech. of Materials II ..... 2
C.E.153	Engr. Economy ..... 2	C.E. 110	Soil Mechanics ..... 3
E.S. 102	Fluid Mechanics ..... 3	C.E. 120	Theory of Structures ..... 4
E.S. 103	Mech. of Materials ..... 3	C.E.141	Hydraulics ..... 3
Eng. 111	Engr. Reports ..... 3	C.E.170	Transportation Engr. I ..... 2
Total	..... 17	Total	..... 16

**Senior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
C.E. 121	Struct. Des.-Rein. Conc. .... 3	C.E. 154	Contracts and Specifications .... 2
C.E.131	Sanitary and Municipal Engr. 4	E.E. 113	Basic Elect. Mchy. or
C.E. 152	Pro-Seminar ..... 1	E.E. 114	Electron. & Cont. Systems ..... 2
C.E.171	Transportation Engr. II ..... 3	Engr. 152	Senior Engr. Confs. .... 1/2
E.E. 21	Electric Circuits ..... 3	E.S.120	Thermo. & Heat Transfer..... 3
Engr. 151	Senior Engr. Confs. .... 1/2	Elective,	Humanistic-Social ..... 5
Elective,	Technical ..... 3	Elective,	Technical ..... 5
Total	..... 17 1/2	Total	..... 17 1/2

Total credits required, 136

**CURRICULUM IN ELECTRICAL ENGINEERING**

**Sophomore Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E.30	Network Analysis ..... 4	Econ. 51	Principles of Economics ..... 3
E.S. 66	Mechanics I (Statics) ..... 2	E.E.36	Polyphase Circuits ..... 2
Math. 51	Anal. Geom. & Calculus II ..... 4	E.S. 69	Mechanics II (Dynamics) ..... 2
M.E.53	Machine Tool Lab. I ..... 1	Math. 52	Anal. Geom. & Calculus III .... 4
Phys. 54	Engr. Physics II ..... 3	Phys. 55	Engr. Physics III ..... 3
P.E.	Sophomore Physical Education ..... 1/2	P.E.	Sophomore Physical Education ..... 1/2
Elective,	Humanistic-Social ..... 2	Elective,	Humanistic-Social ..... 2
Total	..... 16 1/2	Total	..... 16 1/2

**Junior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E. 106	Elect. Transients ..... 3	E.E. 123	Electron. Circ. & Ampl. .... 3
E.E. 109	Elect. Instrumentation ..... 2	E.E. 126	Electronics Lab. I ..... 2
E.E. 122	Intro. Electronic Circs. .... 4	E.E. 135	Elect. Machinery Lab. I ..... 1
E.E. 133	Elect. Machinery I ..... 3	E.E. 141	Elect. Machinery II ..... 3
Elective,	Advanced Math. .... 3	E.E. 158	Transmission Lines ..... 3
Elective,	Humanistic-Social ..... 2	Eng. 111	Engr. Reports ..... 3
Total	..... 17	E.S. 120	Thermo. and Heat Transfer ..... 3
		Total	..... 18

**Senior Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E. 127	Electronics Lab. II ..... 1	E.E. 146	Pro-Seminar ..... 1
E.E. 143	Elect. Mach. Lab. II ..... 2	E.S. 103	Mech. of Materials ..... 3
E.E. 145	Pro-Seminar ..... 1	Engr. 152	Senior Engr. Confs. .... 1/2
E.E. 149	Elect. and Mag. Fields ..... 3	*Elective,	Technical ..... 6
E.E. 175	Auto. Control Theory ..... 5	Elective,	Humanistic-Social ..... 6
E.S. 102	Fluid Mechanics ..... 3	Total	..... 16 1/2
Engr. 151	Senior Engr. Confs. .... 1/2		
Elective	..... 2		
Total	..... 17 1/2		

Total credits required, 136

\*Five credits of technical electives should be taken from E.E. 103, E.E. 142, E.E. 148, E.E. 150, E.E. 153, E.E. 154, E.E. 155, E.E. 165, E.E. 166 and E.E. 182. Departure may be acceptable subject to approval by advisor and department head.

## CURRICULUM IN MECHANICAL ENGINEERING

## Sophomore Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.S. 66	Mechanics I (Statics) ..... 2	Econ. 51	Principles of Economics ..... 3
Math. 51	Anal. Geom. & Calculus II .... 4	E.E. 21	Electric Circuits ..... 3
M.E. 53	Machine Tool Lab. I ..... 1	E.S. 69	Mechanics II (Dynamics) ..... 2
M.E. 61	Materials & Processes ..... 3	Math. 52	Anal. Geom. & Calculus III ..... 4
Phys. 54	Engr. Physics II ..... 3	M.E. 54	Machine Tool Lab. II ..... 2
P.E.	Sophomore Physical Education ..... 1/2	Phys. 55	Engr. Physics III ..... 3
Elective,	Humanistic-Social ..... 4	P.E.	Sophomore Physical Education ..... 1/2
Total	.....17 1/2	Total	.....17 1/2

## Junior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E. 113	Basic Elect. Machinery ..... 2	E.E. 114	Electron. and Cont. Systems .... 2
E.E. 115	Elect. Lab. (Machines) ..... 1	E.E. 116	Elect. Lab (Electronics & Cont.) 1
E.S. 103	Mech. of Materials ..... 3	E.S. 102	Fluid Mechanics ..... 3
Eng. 111	Engineering Reports ..... 3	M.E. 63	Kinematics ..... 3
Math. 101	Adv. Engr. Math. ..... 3	M.E. 122	Thermodynamics II ..... 4
M.E. 121	Thermodynamics I ..... 3	M.E. 136	M.E. Laboratory I ..... 1
Elective,	Humanistic-Social ..... 2	Elective,	Humanistic-Social ..... 3
Total	.....17	Total	.....17

## Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Engr. 151	Senior Engr. Confs. .... 1/2	Engr. 152	Senior Engr. Confs. .... 1/2
M.E. 123	Compressible Fluid Mech. .... 3	M.E. 125	Machine Design II ..... 4
M.E. 124	Machine Design I ..... 3	M.E. 132	Energy Conv. Systems II ..... 2
M.E. 131	Energy Conv. Systems I ..... 2	M.E. 138	M.E. Laboratory III ..... 2
M.E. 137	M.E. Laboratory II ..... 3	M.E. 140	Pro-Seminar ..... 1
M.E. 145	Heat Transfer ..... 3	M.E. 172	Mechanical Vibrations ..... 3
Elective,	Technical ..... 2	Elective,	Technical ..... 2
Elective,	Humanistic-Social ..... 2	Elective,	Humanistic-Social ..... 3
Total	.....16 1/2	Total	.....17 1/2

Total credits required, 136

A minimum of six technical elective credits is required.

# THE COLLEGE OF LAW

GEORGE M. BELL, B.S., J.D. .... *Acting Dean of the College*

THOMAS R. WALENTA, B.S., LL.B., LL.M., S.J.D. .... *Secretary*

## HISTORY

The College of Law was established as a college of the University of Idaho in 1909. It is the only school devoted to the study of law in the state of Idaho. The College is a member of the Association of American Law Schools, the highest accrediting agency in law, and is approved by the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association.

## PURPOSE

The role of a College of Law is to educate students for admission into the legal profession. Our faculty trains students for the practice of law anywhere in the United States, whether as advocate, counselor, judge or law teacher, and in the course of this instruction stresses the responsibilities assumed by the professional man. The study of law also serves as a valuable asset to the young man or woman who desires to pursue a career in government, politics or business.

The College of Law is conducted upon the theory that law teaching is a task requiring all the working time of well-trained legal scholars who have decided upon and made special preparation for law teaching as a career. The members of the teaching staff, though called upon to perform consulting services, do not practice law but devote their full time to teaching and research. Members of the teaching faculty have obtained the experience which provides such invaluable insight into law in operation prior to entry upon their teaching career.

The curriculum and methods of instruction are adapted to development in each student of his highest potential. Methods of instruction vary with the professor and the course. Basically, instruction is accomplished by way of the case system, a study of the actual decisions of appellate courts supplemented by selected readings which provide insight into the nature of the judicial and legislative process. Problem and seminar methods are utilized in upper-class courses. Stress is placed upon techniques which encourage individual initiative and develop perceptive and communicative powers. Mere accumulation of information is subordinated to the more important ends of individual development and training in scientific habits of thought. The atmosphere and situation of the College of Law enable the faculty to concentrate upon attention to the individual student.

## STANDING

The University of Idaho College of Law is the only law school in Idaho. It is a member of the Association of American Law Schools, the highest accrediting agency in the United States for law schools. It is also approved by the American Bar Association.

## ADMISSION TO THE BAR

A degree from the University of Idaho College of Law admits the graduate to any bar examination in the United States. Pre-legal requirements may vary slightly and inquiry should be made to the Secretary of the Bar Association in the state in which the applicant intends to practice or to the Dean of the College of Law.

## SCHOLARSHIPS AND AWARDS

**Title Insurance Company Scholarships.**—The Title Insurance Company of Boise, Idaho, provides three scholarships each of the value of \$350 which

are awarded annually on the basis of ability or scholarship, character and need. One of these scholarships is awarded in each of the three Law School classes. The holder of the scholarship in the first-year class will retain the scholarship in the second year, if his need continues and if he was in the upper half of his class during the first year. The holder of the scholarship in the second year will retain the scholarship in the third year, provided his need continues and he was in the upper half of his class during the second year. Otherwise the scholarships are re-awarded in the second and third years.

**MacLane Scholarship.**—John F. MacLane, the first Dean of the University of Idaho's College of Law, provided the University with a fund, the income from which is used to finance annual scholarships for students in the College of Law. It is planned that three MacLane Scholarships will be awarded each year. Applications for these scholarships will be judged on the basis of ability, scholarship and need. The specific amount of each award will be based on need.

**Rocky Mountain Mineral Law Foundation Scholarship.**—Each year a \$200 scholarship is awarded by this foundation to a student in the College of Law who (a) has maintained above-average grades in all of his courses; (b) obtained a high grade in Irrigation and Mining Law; (c) has demonstrated a superior ability to think independently, constructively and analytically in his general law school work and in the field of mineral law in particular; (d) has written as a condition of the receipt of the scholarship, a case note or brief article upon some phase of mineral law.

**College of Law Foundation Awards.**—This scholarship has been made available by an anonymous donor. Two scholarships, each in the amount of \$200, are provided first-year students in the College of Law who are residents of the state of Idaho. Selection will be based on need, worthiness and ability. Applications should be made to the Dean of the College of Law, University of Idaho.

**Charles Hamilton Darling Scholarship.**—This scholarship is made available by an anonymous donor to perpetuate the memory of Charles Hamilton Darling, '21. The income from this \$1,000 fund is to be awarded in the sole discretion of the Dean of the College of Law.

## AWARDS

**American Law Book Company Awards.**—The American Law Book Company through West Publishing Company annually awards a book gift to a student selected by the faculty in each of the three law classes.

**William E. Borah Memorial Plaque.**—Phi Alpha Delta, national professional legal fraternity, engraves each year on the William E. Borah Memorial Plaque, donated to the College of Law by the fraternity, the name of the member of the graduating class who has made the highest scholastic average during the first five semesters of the law course.

**The Nathan Burkan Memorial Competition.**—The American Society of Composers, Authors and Publishers awards each year a first prize of \$250 and a second prize of \$100 for the best and next best paper by senior students in the College of Law on some phase of Copyright Law. National prizes of \$1,000, \$500 and \$250 are also awarded.

**Lawyers' Title Award.**—The Lawyers Title Insurance Corporation offers an annual prize of \$100 to the graduating senior who is most proficient in Real Property Law.

**Lawyers Co-operative Publishing Company Prize.**—The Lawyers Co-operative Publishing Company provides a book award from its American Jurisprudence series to the student receiving the best grades in each of a number of selected courses.



**Moot Court Award.**—Book awards are provided the finalists in the annual intraschool moot court competition by the Bobbs-Merrill Publishing Company and West Publishing Company.

**Rocky Mountain Mineral Law Foundation Essay Contest.**—The foundation offers three prizes each year; first prize, \$400; second prize, \$200; third prize, \$100, for essays on mineral law. The contest is open to students in law schools like the University of Idaho College of Law which are members of the foundation.

**The United States Law Week Award.**—The Bureau of National Affairs, Inc., of Washington, D.C., awards one year's complimentary subscription to LAW WEEK to the graduating student in law who, in the judgment of a faculty committee, has made the most satisfactory progress in his final year.

Some scholarships and awards available generally to students in the University are available to law students. See pages 19 to 34 for a list of these in the University Catalog.

### SUGGESTIONS FOR PRE-LEGAL WORK

The subject matter of pre-legal education is in general less important than the quality of work done and the caliber of the professors under whom the work is taken. The student preparing to enter law school should avoid easy courses and take those which will develop his thinking powers. Intensive work will enable him to acquire the intellectual discipline and experience necessary for success in law school. The student should aspire to a critical appreciation of values and political, economic and social institutions; he should stress understanding, not just knowledge, in his studies. We also point to the fact that words are the tools of the lawyer and strenuous effort, in course selection and in activities outside the classroom, should be devoted to development of the ability to communicate orally and in writing.

Pre-law advisers are generally available to guide students in selecting courses within the particular college or university which will meet these objectives. The faculty of the College of Law is also available for consultation or assistance in program planning.

### ACCOUNTING REQUIREMENT

Students must, as a condition to enrollment in the second year of law study, present evidence of successful completion of a course in accounting for which college credit has been received. Applicants are encouraged to complete this requirement prior to entering the College of Law.

### REQUIREMENTS FOR ADMISSION

Applicants for admission to the College of Law must have 96 semester credits or more of acceptable college work in residence at an accredited college or university with at least an average grade of "C" on all work attempted. These credits should include six semester credits of English Composition or their equivalent. In the discretion of the Dean of the College of Law, students may be admitted with less than 96 semester credits but with 90 or more semester credits if their total credits are equal to three-fourths of the credits acceptable for a bachelor's degree granted on the basis of four years of work at the university or college where the work was taken or the state university in the state where the work was taken, whichever is higher (principal college or university where no state university). In the event an applicant is admitted with 90 or more semester credits but less than 96, the deficiency must be made up before an LL.B. degree will be awarded.

The Law School Admission Test is required of all students. It is anticipated that the Law School Admission Test will be given at the University of Idaho College of Law in April and August. There is now a fee of \$12 which the applicant must pay. Arrangements for taking the test must be

made by the individual applicant directly with the Educational Testing Service in advance of the dates set for the test. The exact dates and places for the test, application blanks, and a bulletin of information about the test may be obtained by writing directly to: Law School Admission Test, Educational Testing Service, Box 944, Princeton, New Jersey, 08540.

#### DEFINITION OF ITALICIZED WORDS

*"Acceptable college work"* does not include credits in hygiene, domestic arts, physical education, vocal or instrumental music, typing, shorthand, practice teaching, teaching methods and techniques, non-theory courses in military science and similar courses *except that* required courses in such work are acceptable up to 10 per cent of the total credits offered for admission. The grade average requirement must be obtained on credits other than those offered in these subjects.

*"In residence"* means that the student must be in personal contact with the instructor. It does not include correspondence work. It does include work done off the campus in regular class sessions conducted by and under the personal supervision of members of the instructional staff.

*"Accredited college or university."* The most satisfactory way for a prospective student to ascertain whether or not a college or university is accredited is to write the Registrar of the University of Idaho, giving the name of the institution whose standing is in question.

#### PROCEDURE FOR ADMISSION

**Applicants who have taken their pre-legal work at the University of Idaho** should fill out and file with the Dean of the College of Law a Personnel Blank. Students in the combined curricula should file such Personnel Blank prior to taking any law course. Personnel Blanks should be filed at least four months before the beginning of the semester in which the applicants plan to take law work. Blanks may be obtained from the Dean of the College of Law.

**All other applicants should** (1) fill out and file with the Admissions Office of the University of Idaho an application blank for admission to the University of Idaho, (2) have the principal of the high school from which they graduated send their high school transcript direct to the Admissions Office of the University of Idaho, (3) have each university or college attended send a transcript direct to the Admissions Office of the University of Idaho, and (4) fill out and file with the Dean of the College of Law a Personnel Blank.

If the applicant is accepted, he will receive a permit to register from the Admissions Office. Applicants will be saved much inconvenience if all their credentials are received in sufficient time for the settlement of any question through correspondence.

#### ADMISSION TO ADVANCED STANDING

Students who have satisfactorily completed work in a law school which is a member of the Association of American Law Schools may transfer credits and be admitted to advanced standing. A student may be admitted to advanced standing and his credits transferred from a law school which is not a member of the Association of American Law Schools but is approved by the American Bar Association if, in the opinion of the Admissions Committee, academic performance at the institution warrants such action. The last 26 semester credits of law must be completed in residence at the University of Idaho.

### **SPECIAL STUDENTS**

In rare instances persons who cannot qualify as candidates for the degree of Bachelor of Laws may be admitted as special students on petition to the Committee on Admissions of the College of Law.

The applicant must show that he is unable to pursue such studies as will qualify him for admission as a regular student, and that he possesses such educational training and practical experience as will enable him to pursue the study of law satisfactorily. Application for permission to enter as a special student should be made in advance of the regular registration period. It must be distinctly understood that such special students are not candidates for a degree in Law.

### **COMBINED ARTS AND LAW COURSE**

A student may secure the degree of Bachelor or Arts and Juris Doctor in six years under the following regulations:

The candidate for the Bachelor of Arts degree shall by the end of the junior year complete 98 semester hours. These credits shall include 12 in courses numbered above 100 chosen with the approval of his Adviser. The student must also satisfy all other requirements of the College of Letters and Science for this degree. In his senior year the student may then take the full first year of the law course and upon completion of the same be entitled to receive the degree of Juris Doctor.

### **COMBINED BUSINESS AND LAW COURSE**

The College of Law and the College of Business Administration offer a combined six-year curriculum leading to the degree of Bachelor of Science in Business at the end of four years and to the degree of Juris Doctor at the end of six years. Details with respect to this combination curriculum may be found on pages 142-143 of the University Catalog. The student must be qualified for admission to the College of Law before taking any law courses. The requirements for admission are the same as for applicants who are not on the combined curriculum.

### **FEES AND EXPENSES**

There is no special tuition fee in the College of Law. General expenses are outlined in Part. I.

### **REQUIREMENTS FOR GRADUATION**

The degree of Bachelor of Laws (LL.B.) will be awarded to students who do not have a bachelor's degree but who have obtained 84 semester credits offered by the College of Law with an average grade of 2.00 (C) upon all work taken.

The degree of Juris Doctor (J.D.) will be awarded to students who, at the time College of Law requirements are completed, have a bachelor's degree.

The last 26 semester credits of law must be completed in residence at the University of Idaho. Students admitted to the College of Law with advanced standing must maintain the same average on all work taken here as that required for graduation. The courses of the first year are required for graduation.

### **OTHER REQUIREMENTS**

After a student has completed thirty semester hours of credit in the College of Law, in order to be eligible to register at the beginning of any semester, he must have a cumulative grade point average of 2.0. This eligibility requirement shall apply to students entering the College of Law in September, 1967 and thereafter.

A student ineligible to reregister may petition the faculty of the College of Law for reinstatement and if the position is granted, he may then register.

Any student registered for a third or fourth semester of law must repeat first-year courses offered in which he has a grade of (F). When a student repeats a course, both grades shall be used in determining his grade point average.

First-year law courses are not open to third-year law students except in unusual circumstances and by special permission of the Dean.

### **ENGLISH**

Skill of a professional standard in the use of English in legal writing and argumentation, both oral and written, is a prerequisite to graduation or continued study in the College of Law. The faculty may prescribe such remedial or other studies as may be deemed advisable in particular cases, and for such purposes may restrict the number or character of law courses to be taken by such students.

### **IDAHO LAW REVIEW**

The Idaho Law Review is prepared and published annually by the students of the College of Law, with the assistance of the Faculty Adviser. The Student Board of Editors is composed of honor students invited to membership on the basis of outstanding scholastic achievements together with ability in research and writing. Membership on the Board is a distinct honor and offers special opportunities for development to those students who are able to qualify.

### **PRACTICE COURT**

As an essential part of the work in procedure, the College of Law maintains a Practice Court as a supplement to classroom courses in procedure and evidence. The purpose of this course is to give the students an opportunity to coordinate their knowledge of procedure with their knowledge of substantive law in the conduct of actual cases.

The first semester of this course is devoted to a study of trial tactics. In the course of the semester, students interview a client, conduct deposition proceedings, participate in pre-trial and summary judgment hearings, subject witnesses to examination and cross-examination, and finally present final argument to a jury composed of their classmates. Each class is two hours in length. The first hour is devoted to the class assignment and the second hour to criticism by students and the faculty member conducting the course. In the second semester, narrative factual statements are prepared and submitted to students from the undergraduate colleges in the University who then act out the roles assigned to them in the course of actual litigation. Class members acting in teams of two carry a trial from its beginning stages through presentation to a jury to post-trial practice. The juries are normally composed of volunteers from various community organizations or high school groups. A faculty member officiates as judge and class members function as officers of the court in various capacities. Following each trial the conduct and tactics of counsel are subjected to criticism by the class. Concurrently with the trial in the second semester, a series of lectures on practice and procedure is delivered by the faculty member assigned to the course.

### **BENCH AND BAR**

The student organization of the College of Law, known as the Bench and Bar, holds regular meetings at which it is addressed by outstanding lawyers and other professional men.

**SPECIAL LECTURES**

It is the policy of the College of Law to bring to the school each year expert practicing lawyers and jurists for lectures in specialized subjects.

**EQUIPMENT**

The College of Law is housed in new and attractive quarters consisting of courtroom, classrooms, offices, library with stack and shelf space for 40,000 volumes, typing rooms, discussion and seminar rooms.

**LAW LIBRARY**

The library of the College of Law contains in excess of 31,000 accessioned volumes and is maintained as an integral part of the College. Operation and use of this facility is designed, through reading rooms and stack privileges, to insure maximum utilization by students and faculty in regular assignments and productive research. Included among its holdings are current statutory compilations from all fifty states and the federal government, the national reporter system which reports decisions of state and federal courts, state court reports, foreign materials and one hundred and fifty law reviews in addition to standard legal digests, encyclopedias and a broad range of texts.

The Law Library is supplemented by the excellent collections in the main University Library, which as a federal depository contains all publications issued by the United States government.

**CURRICULUM**

The course of study covers three academic years. The prescribed first-year work is required of all students. Students in the second and third years normally take 14 semester credits each semester. Students may register for three credits of advanced R.O.T.C. work in any semester. R.O.T.C. credits do not count toward the J.D. or LL.B. degree.

**CURRICULUM IN LAW****First Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Law 101	Contracts I .....	Law 102	Contracts II .....
Law 107	Procedure I .....	Law 108	Procedure II .....
Law 112	Real Property .....	Law 114	Constitutional Law I .....
Law 115	Torts I .....	Law 116	Torts II .....
Law 131	Criminal Law and Its Administration .....	Law 122	Trusts .....
	3	Law 141	Titles .....
	15		15

**Second Year**

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Law 235	Legal Writing .....	Law 207	Evidence .....
Law 243	Commercial Transactions I .....	Law 227	Legal Ethics .....
Law 268	Business Associations .....	Law 244	Commercial Transactions II .....
Law 274	Taxation I .....		8
	11		

## Third Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Law 217 Public Regulation of Business I	2	Law 218 Public Regulation of Business II	4
Law 251 Estate Planning	4	Law 236 Creditors' Rights	3
Law 255 Conflict of Laws I	2	Law 256 Conflict of Laws II	2
Law 279 Practice Court I	1	Law 280 Practice Court II	1
	<u>9</u>		<u>10</u>

## Either Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Law 205 Community Property	3	Law 227 Legal Ethics	1
Law 219 Security	2	Law 250 Natural Resources	2
Law 225 Wills and Administration of Estates	2	Law 214 Constitutional Law II	3
Law 226 Municipal Corporations	2	Law 240 Federal Jurisdiction	3
Law 239 Contracts III	3	Law 275 Taxation II	2
Law 282 Legal Research	1 or 2	Law 277 Labor Law	2
		Law 282 Legal Research	1 or 2

# THE COLLEGE OF MINES

Mining Engineering  
Metallurgical Engineering

Geology  
Geological Engineering

Geography

R. R. REID, B.S., M.S., PH.D. .... *Dean of the College*

C. J. SMILEY, B.A., M.A., PH.D. .... *Secretary*

THE UNIVERSITY OF IDAHO, situated in one of the foremost mining regions of the world, appropriately maintains courses in mineral industries technology and in the earth sciences. To enable this work to be carried on effectively, a College of Mines was created August, 1917, as an administrative unit of the University, and its scope was indicated in the following language:

Within this college will be included the work in mining proper, in metallurgy, and in geology; and it shall include the exploitation of the nonmetalliferous minerals (except road-making materials) as well as that of the precious and useful metals.

In accordance with these instructions, the College of Mines offers curricula leading to the degrees of Bachelor of Science in Mining Engineering, Metallurgical Engineering, Geological Engineering, Geology, and Geography. For requirements for the degree of Master of Science in these branches and in Hydrology, the professional degrees, E.M., Met.E., and Geol.E., and the Ph.D. in Geology, see the Graduate School section.

## ADVANTAGES OF LOCATION

The campus of the University of Idaho at Moscow is ideally located in relation to the mineral industry of the Northwest. Large commercial deposits of many metallic and non-metallic minerals are found in nearby areas which serve as "laboratories" for our students; more than 40 different mineral commodities are produced from Idaho mines and quarries. The great lead-zinc-silver deposits of Coeur d'Alene are within a few hours drive of the campus. The Coeur d'Alene district is one of the seven or eight "billion dollar" districts in the world—districts which have produced metal valued in excess of one billion dollars. Two other of these billion-dollar giants—Butte, Montana, and Bingham, Utah—are in nearby states.

The famous Sullivan lead-zinc deposit in British Columbia is just north of the Idaho boundary, and there are important uranium and gold deposits in northeastern Washington. East-central Idaho has the largest deposit of cobalt in the United States. Columbium, tantalum, yttrium, zirconium, hafnium, uranium, thorium, titanium, and rare earths have been produced from placer sands. In recent years Idaho has been a large producer of antimony and tungsten. Lemhi County has the world's largest reserves of thorium ores.

Two non-metallic mineral resources in Idaho warrant special mention. The great phosphate deposits of southern Idaho are the largest in the world, and they are being exploited on a large scale. In Latah County, within about 15 miles of Moscow, there are extensive clay beds, which are now being mined. These clays have been produced for their "conventional" uses—paper filler and coating filters, and ceramics, and have been intensively tested as a source of high-grade alumina for the production of metallic aluminum.

In addition to Idaho's phosphate and clays, there are many other important non-metallic deposits in Idaho and its neighboring states and provinces—magnesite in northeastern Washington; coal in Montana, Utah, and Wyoming; and petroleum in Alberta, Montana, and Wyoming.

Idaho is generously endowed with water although there are many

problems related to development and distribution. The major dams in the Columbia River system are within easy reach of the University for study in Hydrology and Geological Engineering. The Snake River Plain of south Idaho offers a natural laboratory for the study of surface and ground-water problems. In addition, many small basins in Idaho are available for the study of water resources problems.

**Geology.** Idaho presents excellent opportunities for general geologic investigations and research. Portions of four physiographic provinces, with their particular structural features, are included within the State. The sedimentary rock section in Idaho ranges from Precambrian to Present. Fossil plants or animals representing all geologic periods can be found within the state and in contiguous regions. The crystalline rocks are unusually varied and include metamorphic rocks; the great Idaho batholith; major dikes and sills; middle Tertiary and more recent lava flows that cover thousands of square miles; and recently active volcanoes. There are few areas in the world where the relationship of ore deposition to structure and igneous activity can be studied to better advantage.

**Geography**—The University provides the only geography degree program in the State of Idaho. Its scope covers the entire area of man-land-resource relations, spatial interaction and distribution, training students for work in industry, government employment, teaching and research. There are excellent regional opportunities for field research in land use, and economic development, applied climatology, transportation, and rural-urban studies. Other major aspects of geography available include quantitative analysis of diverse geographic problems facilitated by computer technology. There is strong emphasis on various aspects of cartography and photointerpretation. The geography program is closely integrated with a number of other departments, and the curriculum is designed for maximum flexibility. This permits the design of special programs to fit individual student needs and interests.

**Mining.**—Students have opportunities to observe all types of mining operations and see the machinery and equipment employed in the mining industry—in some of the smaller mines, as well as in the large mines of the Coeur d'Alene and Butte districts. Not only are these visited on field trips, but many students find summer employment in the mines.

**Metallurgy.**—There are many large metallurgical plants within relatively short distances of Moscow—concentrating mills, lead smelter, and zinc plant at Kellogg, Idaho; copper smelter and zinc plant at Anaconda, Montana; lead smelter and zinc plant at Trail, B.C.; and an aluminum smelter and rolling mill in Spokane, Washington. These, too, often provide students with opportunities for summer work.

**Other Organizations.**—The Idaho Bureau of Mines and Geology has its headquarters and research facilities on the University of Idaho campus, and works in close conjunction with the College of Mines. Bureau projects often provide employment for students enrolled in the College. There are field and research branches of both the U. S. Geological Survey and the U. S. Bureau of Mines in nearby Spokane, Washington. There are chapters of American Institute of Mining and Metallurgy Engineers and American Society of Metals in Spokane, and students in the College of Mines are encouraged to become student members of these societies.

## EQUIPMENT AND FACILITIES

The College of Mines equipment is conveniently described under the four heads of mining engineering; metallurgy; geological engineering, geology, and hydrology; and geography. In addition to the facilities here mentioned, the student has the use of the well-equipped laboratories of the departments of mechanical, electrical, and civil engineering, and of chemistry and physics, and enjoys many cultural benefits related to the University environment.



**Building.** The College of Mines is housed in the Mines Building completed in the summer of 1961. Half of the money for this modern 3-story structure was contributed by companies and individuals in the mining industry; the other half was appropriated by the Idaho Legislature on a matching basis.

**Mining Engineering.**—Facilities and equipment include a rock mechanics and geophysical laboratory equipped with polariscope, strain recorder and other instruments for stress-strain studies of rock structures. Mine surveying instruments, ventilation apparatus and other mining engineering tools are available. Illustrative material includes maps, drawings, films, and slide collections illustrating mining methods and practices. The greatest assets for laboratory or graduate studies in mining engineering, however, are the deep mines in the Coeur d'Alene District. Mining students who are interested in practical investigations or basic research can usually arrange to gather necessary data at the best source—an operating mine.

The Idaho College of Mines has a unique art collection—the Peschel collection, which was given on a permanent loan basis to the College by the heirs of William M. Peschel who lived for many years at Lewiston, Idaho. This contains a number of prints and water colors illustrating the parade uniforms worn by mining officials and workers in Germany about the seventeenth century. In addition to the illustrations, the collection contains a number of the ceremonial axes and canes which were carried by these officials.

**Metallurgical Engineering.**—The metallurgy laboratories are equipped for class instruction and research in ore dressing and process metallurgy. Equipment includes crushers, ball mills, pulverizers, screens and screen shakers, flotation machines, leaching equipment, and various other concentrating machines including a Carpco induced-roll magnetic separator and a Carpco high-intensity separator.

Physical metallurgy is centered in two laboratories. The metallography laboratory has facilities for polishing and etching metals, alloys, minerals, and ceramic materials for macroscopic and microscopic examination; metallographic microscopes for visual examination of specimens, and a metallograph, cameras, and darkroom for photographic work. The X-ray diffraction laboratory is equipped to handle a large variety of problems in metallurgy, ceramics, and mineralogy such as identification of alloy phases and minerals, texture studies, and phase diagram determinations. Other equipment includes pyrometers, calorimeter, hardness tester, and several electric furnaces for melting, thermal analysis, and heat treatment.

**Geological Engineering and Geology.**—Laboratories are maintained for work in introductory geology, mineralogy, paleontology, optical mineralogy, petrology, hydrology, geological engineering, geochemistry, and mineralography.

Working materials include crystal models; representative specimens of crystals, minerals, rocks, and fossils; thin sections and polished sections of minerals and rocks; and topographic and geologic maps. Reference materials include large collections of minerals, of rocks, and of specimens illustrating ore deposits. Equipment includes binocular, reflecting, and petrographic microscopes. Research facilities include universal stages, spindle stages, photomicrograph equipment, and equipment for rock sawing, grinding, polishing and preparing thin sections.

Equipment for use in geological engineering, such as a sonometer, and equipment for soil and aggregate testing, are available for regular laboratory use as well as research. A well equipped applied geochemistry laboratory is available in the Mines Building. A digital computer, an analog computer, resistivity equipment, hammer seismograph, water-level recorders, and some drilling equipment are available for use in problems relating to hydrology and geological engineering. Facilities for research in hydrology are also available in other divisions of the University.

**Geography.** Most geographic studies do not require special equipment other than the large holdings of the University library. The library maintains a special collection of some 50,000 maps, and the Department has extensive holdings of maps and air photos. The Geography staff and students maintain a multi-instrument complex of 8 meteorological stations. A computer and calculator are also available for class use.

Extensive modern cartographic equipment, drafting room, and darkroom are housed in the Department, and students are taught how to handle photographs to map conversions, model buildings, air brush work, and darkroom techniques.

**Field Trips.**—Appropriate field trips are arranged and conducted under close instructional supervision. The availability of areas of unusual geologic interest, mines, and metallurgical plants provide convenient opportunity for studies in the field to supplement class and laboratory work.

**Idaho Bureau of Mines and Geology Library.**—Mr. Joseph J. Taylor of Montpelier, one of the pioneer mining engineers of the West, gave the Idaho Bureau of Mines and Geology a number of years ago a small but select library of technical books and reports of great value. From this nucleus, gifts and loans from other friends and members of the faculty, and exchange of Idaho Bureau of Mines and Geology publications, an excellent reference and research library has been built up to supplement the University Library for purposes of instruction and research.

### GENERAL INFORMATION

**Summer Employment.**—The dean and faculty of the College aid students in securing employment in the mineral industries and in geological field work during summer vacations. Employment is sometimes available during Christmas and spring vacations.

**Graduate Assistantships and Research Fellowships.**—Several graduate teaching assistantships in geology, geography, mining, and metallurgy are offered, each providing an income of \$2,000 for 10 months, plus exemption from tuition. The Idaho Bureau of Mines and Geology supports, as funds permit, graduate research in geology, mining, and metallurgy according to the needs of the State. Graduate research fellowships are available from National Science Foundation, National Defense Education Act, National Aeronautics and Space Agency, local research funds, from the U. S. Bureau of Mines and from the Idaho Bureau of Mines and Geology.

**Scholarships, Grants-in-Aid, and Loan Funds.**—Students having a high academic standing at high school or while in college should refer to "Scholarships" in Part I of this catalog. The Idaho Mining Association Scholarships and the Idaho Mining Memorial Scholarships are open exclusively to freshmen entering the College of Mines. The Hecla-Bunker Hill, A. E. Larson (Sunshine Mining Co.), and ASARCO (American Smelting and Refining Co.) Scholarships are available to College of Mines students. The College of Mines also administers the J. R. Simplot grant-in-aid program to needy and deserving students. Two special loan funds (the Laney fund and the J. J. Day fund) are restricted to College of Mines students. For graduate students there are a number of teaching assistantships and research fellowships and the A. H. Featherstone Graduate Scholarship. Inquiries should be directed to Chairman, Scholarship and Awards Committee, College of Mines.

**Field Camps.**—The College of Mines operates a Geology Summer Camp for students in Geology and Geological Engineering and a Mine Surveying Summer Camp for students in Mining Engineering.

The Geology Summer Camp is held in different locations in different years. The sites that are selected generally permit ready access to folded and faulted sedimentary rocks and may also provide opportunity to study intrusive rocks, volcanic rocks, metamorphic rocks, and non-metallic mineral

deposits. The course lasts six weeks, with about two-thirds of the time being spent in mapping in the field on airphotos and topographic maps and with the plane table. The remaining time is equally divided between preparation of reports on the field projects and on trips to nearby areas of geologic interest.

The Mine Surveying Summer Camp is held at an operating mine. The course lasts three weeks, with the emphasis being on surveying a portion of an underground mine. Part of the time is spent in detailed underground and surface geologic mapping.

The camp programs are normally taken during the summer between the junior and senior years. The programs are designed to give the student the opportunity to apply the knowledge acquired in classroom and laboratory to actual field problems in situations approximating the conditions he will meet in his professional career.

## Curricula

A list of acceptable electives may be consulted in the office of the heads of departments concerned or in the office of the major professor or advisor. Electives must be approved by the head of the department or by the major professor involved.

### GEOLOGY

Required			
Course	Credits	Course	Credits
Biological Sciences .....	7	Mathematics 9, 50, 51, 52 .....	18
Chemistry 11, 12 .....	9	Metallurgy 53, 117 .....	4
Engineering 2 .....	2	Physical Education .....	2
English 1, 2 .....	6	Physics 53, 54, 55 .....	9
Foreign Language .....	8	*Electives .....	33
Geography 51 .....	3		
Geology 9, 10, 13, 51, 53, 101, 113, 114, 121, 131, 197 .....	33		

\*At least 12 credits are to be chosen from Humanities and Social Sciences.  
Credits required for graduation: 134

### GEOLOGY (Paleontology Option)

Required			
Course	Credits	Course	Credits
Biological Sciences .....	20	Geology 9, 10, 13, 51, 53, 101, 112, 113, 114, 121, 131, 197 .....	36
Chemistry 11, 12 .....	9	Math 9, 50 .....	10
Engineering 2 .....	2	Phys. Ed. ....	2
English 1, 2 .....	6	Physics 3, 4 .....	8
Foreign Language .....	8	*Electives .....	30
Geography 51 .....	3		

\*At least 12 credits are to be chosen from Humanities and Social Sciences.  
Credits required for graduation: 134

### GEOLOGICAL ENGINEERING

Required			
Course	Credits	Course	Credits
Chemistry 11, 12 .....	9	Geography 51 .....	3
Civil Engineering 53 .....	2	Geology 9, 10, 13, 51, 113, 121, 131, 141, 197 .....	27
Economics 51, 52 .....	6	Mathematics 9, 50, 51, 52, 101 .....	21
Electrical Engineering 21 .....	3	Metallurgy 53 .....	2
Engineering 2 .....	2	Physical Education .....	2
Engineering Sciences 66, 69, 102, 103, 120 .....	13	Physics 53, 54, 55 .....	9
English 1, 2 .....	6	*Electives .....	29

\*—A minimum of 11 credits must be in the Humanities or Social Sciences. Students wishing to specialize in mineral exploration will add Geol. 158—Mineral Deposits; Geol. 160—Exploration Geology or Geol. 180—Geochemical Prospecting; and Min. E. 128—Rock Mechanics. Students wishing to specialize in construction will add Geol. 145—Geological Engineering Design, Min. E. 128—Rock Mechanics and C. E. 110—Soil Mechanics. Students wishing to specialize in Hydrogeology will add Geol. 148—Ground Water, Geol. 145—Geological Engineering Design, Ag. E. 160—Hydrology and C. E. 110—Soil Mechanics.

Credits required for graduation: 134

**GEOGRAPHY**

Required		Credits		Course	Credits
Course					
Anthropology 72			3	Geology 9, 101	7
Biology, Botany, Chemistry, or Zoology			8	Math 1 and 2, or Math 9	8 or 5
Economics 51, 52			6	Physical Education	2
English 1, 2, 115			9	Physics 1 or 3	4
Foreign Language			8	Statistics Ag. (121, Psych. 117, or Bus. 83)	3
Geography 3, 12, 51, 52, 54, 101, 122, 137, 170, 180, 195			33	Geography Elective	6
				Approved Electives	31-34

Credits required for graduation: 128

**METALLURGICAL ENGINEERING**

Required		Credits		Course	Credits
Course					
Chemical Engineering 123			2	Geology 9	3
Chemistry 11, 12 (or 14) 103, 106			15-14	Mathematics 9, 50, 51, 52	18
Electrical Engineering 21, 113, 114			5	Metallurgy 10, 53, 56, 111, 117, 118, 127, 130, 142, 145, 148	23
Engineering Graphics 1			3	Mining Engineering 101	3
Engineering Science 66, 69, 102, 103, 120			13	Physical Education	2
English 1, 2, 111			9	Physics 53, 54, 55	9
				*Electives	31-32

\*At least 17 credits must be earned in courses from Social Science, Economics, Humanities, Psychology, Art, or Music.

Credits required for graduation: 136

**MINING ENGINEERING**

Required		Credits		Course	Credits
Course					
Chemistry 11, 14			8	Geology 9, 13, 51, 121, 158	15
Civil Engineering 51			2	Mathematics 9, 50, 51, 52, (101, 107 or 116)	21
Electrical Engineering 21, 113 or 114			5	Metallurgy 53, 111, 130	7
Engineering 1, 2, 31			5	Mining 101, 113, 118, 128, 161, 190	17
Engineering Science 66, 69, 102, 103, 120			13	Physical Education	2
English 1, 2, 111			9	Physics 53, 54, 55	9
				*Electives	25

\*A minimum of 17 credits of electives must be from Economics, Music, Psychology, Humanities, or Social Science.

Credits required for graduation: 138

# THE COLLEGE OF FORESTRY, WILDLIFE AND RANGE SCIENCES

<b>Forest Management</b>	<b>Range Management</b>
<b>Forest Resource Management</b>	<b>Wildlife Management</b>
<b>Forest Business Management</b>	<b>Game Management</b>
<b>Wood Utilization Technology</b>	<b>Fishery Management</b>
<b>Chemical Phase</b>	
<b>Engineering Phase</b>	

ERNEST WOHLLETZ, M.S. .... *Dean of the College*

ROBERT H. SEALE, PH.D. .... *Associate Dean*

Professional education leading to a degree in forestry was instituted at the University of Idaho in 1909. To the initial curriculum in forest management have been added those in wood utilization (1914), range management (1917), game management (1942), and fishery management (1951). These programs have been administered by a department, 1909-1917; by the School of Forestry, 1917-1953; by the College of Forestry, 1953-1963, and, beginning in 1963, by the College of Forestry, Wildlife and Range Sciences.

The purpose of the College is to train students as competent individuals and professionals. The goal is to offer an educational program which will give the student a well rounded college education, both scientific and cultural. These studies will prepare the individual for his responsibility in society and give him the educational background for a happier, more abundant, and productive life. The specific objective, however, is to superimpose on this general background a course of study of a professional nature. The training obtained qualifies the student for the technical, administrative, and research requirements necessary for the management and use of the resources of forest and range lands.

## ADVANTAGES OF LOCATION

The University of Idaho is ideally located for the training of students in the several professional fields described below. The State of Idaho is comprised largely of forest and range lands and a variety of vegetational types is close at hand for student study. Virgin and cut-over forested areas range from the ponderosa pine type in southern Idaho to the mixed coniferous and famous white pine types of northern Idaho. Range lands used by domestic livestock and big game cover extensive areas within the State. These grazing lands vary from spring-fall and winter ranges in the sagebrush-grass and bunchgrass to summer ranges in several of the forested zones. Also within the forest and range lands are found hundreds of lakes and streams and extensive wilderness areas, all of which provide habitat for game birds, fish and furbearers.

The values derived from these resources include wood products of all types, cattle and sheep in great numbers, abundant wildlife of many species, game fishes of world renown, water for domestic use, power and irrigation, and extensive recreational areas. These natural study areas and resources are available for directed effort of the student in preparing himself for his chosen profession.

In addition, the preparation of timber products for consumption constitutes the second most important industry in Idaho. Large sawmills, pulp plants, logging camps and numerous woodworking plants are located throughout the area. These operations provide study facilities in nearly every phase of the wood products industries. Production of range livestock creates a business enterprise of major importance in the State. Students have an opportunity to study this business on near-by ranches.

### FACILITIES

Facilities for training include the natural laboratories described above as well as the campus at the University of Idaho. The Forestry Building, a four-story brick structure, houses the College on the campus. Within this building are brought together the teachers, the classrooms, laboratories, technical equipment, and plant and animal collections necessary for the highest quality instruction. Supporting courses for forestry students are offered in modern, well-equipped classrooms and laboratories of seven other colleges of the University.

Two 20-acre forest nurseries are managed by the College for the production of planting stock, which is sold to the people of the State for erosion control, wildlife food and cover, windbreaks, farm woodlots and to timber landowners. The nurseries are also used for student training purposes. A tract of over 7,000 acres of forest land located 25 miles from the campus is used as an experimental and demonstration forest. An arboretum, comprising more than 100 species of trees, is maintained on the University campus for studies in dendrology and silviculture. Under lease from the State Land Board, a permanent Summer Camp site is maintained by the College on the shores of Payette Lake. These facilities not only provide the best for instructional purposes but also provide for work opportunities whereby experience can be gained and money earned while going to school.

### STANDING OF THE COLLEGE

The Society of American Foresters, founded in 1900, is the professional organization of foresters in the United States. In order to promote high professional standards in the training of foresters, the Society in cooperation with the various regional accreditation associations periodically rates the forestry schools of the United States. After careful examination, taking into consideration the adequacy of instruction, personnel, financial support, equipment, success of alumni and many other factors, each school is given a rating of "accredited" or "not accredited." Forestry education at the University of Idaho has always received accredited status. This accreditation assures to the student high quality education in any division of the University and guarantees an unexcelled professional training at both the undergraduate and graduate level in this College.

### FEEES AND EXPENSES

For a statement of fees and expenses, see Part I, pages 42 to 46 of the University of Idaho catalog.

### ADMISSION REQUIREMENTS

For a statement of admission requirements, see Part I, pages 46 to 53 of the University of Idaho catalog.

#### Transfer Students

Students who propose to complete a portion of their undergraduate studies at a junior college, or elsewhere, before entering the University of Idaho, should follow as closely as possible the curriculum for the freshman and sophomore years as set forth in the pages immediately following. A student whose program does not closely approximate this one, or who fails to transfer in time to complete Forestry Summer Camp at the end of his second year, will find it impossible to earn his degree in a total of four years.

Transfer to the University before the end of the sophomore year is usually to the student's advantage, but if this proves impossible, he should transfer directly to Summer Camp. Correspondence with the Dean of the College should be initiated not later than April 1 of the year in which the student wishes to transfer.

Enrollment in Summer Camp may be limited to the capacity of the camp facilities and equipment available. The University may exercise its prerogative to refuse surplus applications.

Students who transfer directly to Summer Camp must complete a minimum of one additional semester in residence at the University of Idaho before credit in Summer Camp courses will be validated for transfer to another institution.

## Undergraduate Program

The undergraduate program is designed to assure a fundamental and professional education in four years. All students take a common arrangement of courses during the freshman and sophomore years. The objective in these years is to give the student a good foundation in the biological, physical and social sciences and in speaking and writing skills. At Summer Camp he is introduced to the resources of wild lands and to their ecology and management.

After Summer Camp, the student chooses as his upper division option the field of resource management in which he is particularly interested. The options are (1) Forest Management in which the student may emphasize either (a) Forest Resource Management or (b) Forest Business Management; (2) Range Management; (3) Wildlife Management in which the student may emphasize (a) Game Management or (b) Fishery Management; (4) Wood Utilization Technology in which the student may emphasize (a) the Chemical phase or (b) the Engineering phase.

The course of study in each of the options is so arranged as to provide for a high degree of commonness among them, in both content and orientation, as well as a measure of concentration in the subject matter peculiar to their respective professional requirements. Flexibility and individuality of programs is provided not only by the choice among the options but also by the number of elective credits included in each of them. It is intended that, by judicious use of these elective opportunities, the student will augment the breadth of his education. Provision is also made for advanced military training leading to a commission in the Army, Air Force, Navy or Marine Corps if desired.

The knowledge required to manage and utilize effectively all of the forest, range, wildlife, and fishery resources is so extensive that no one can completely master it in four years. This is the reason for the separation of the curriculum into the various options. The field of resource management corresponding to each of the options has attained professional status, that of forestry being the oldest and most mature among them. Others, like wildlife and fishery management, though younger, are growing rapidly and attracting considerable attention.

The forester is primarily interested in the resource and/or business management aspects of tree growing. The range manager deals with forage production for domestic livestock and for big game on forested and non-forested ranges. The wildlife manager deals with either game or fish resources, or both, as a biologist or as an administrator. All the above are responsible for land management and most often in the multiple-use sense. A wood utilization technologist, however, deals with the quality, properties and uses of wood and is concerned with harvesting, manufacture, distribution and employment of wood products. Technologists of this nature usually specialize in either the chemical or engineering phase.

In practice, men from several professional groups often work as teams in assuring maximum and continuous production of all the crops or benefits which flow from forest and range land areas.

Job opportunities following training in these educational programs vary depending upon the option or field of concentration. A complete discussion

of employment possibilities is contained in a publication that can be obtained by writing to the Dean of the College of Forestry, Wildlife and Range Sciences.

## REQUIREMENTS FOR GRADUATION

### General

A total of 141 semester credits is required for the degree of Bachelor of Science in Forestry. Degree requirements include completion of the common program appearing immediately below for the freshman and sophomore years and Summer Camp and one of the optional programs described in the following pages for the junior and senior years. It is intended that courses be taken in sequence as listed. In particular, the student is expected to have completed the essentials of the lower division program and Summer Camp before commencing the technical-professional course work of an upper division option.

All elective selections are subject to the approval of the faculty adviser and the Dean. Of the indicated electives, at least twelve credits are to be chosen from approved social science or humanities courses.

The Faculty of the College of Forestry, Wildlife and Range Sciences may grant substitutions and waivers of the requirements specified below. Thus, for a student with special aptitudes or interests, a program can be devised which will effect a combination of established options, provide a foundation for advanced study or research, or meet other acceptable and well-defined career objectives.

### Freshman Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Biol. 11 Intro. to the Life Sci.....	4	Biol. 12 General Zoology .....	4
Eng. 1 English Composition .....	3	Chem. 11 Prin. of Chemistry .....	4
For. 1 Forestry Orientation .....	1	Eng. 2 English Composition .....	3
Math. 9 Intro. to Math. Anal. ....	5	Math. 50 Anal. Geom. & Calc. I.....	5
P.E. 31 Freshman Phys. Ed. ....	½	P.E. 31 Freshman Phys. Ed. ....	½
Elective: Soc. sci. or humanities .....	3		
	16½		16½

### Sophomore Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Biol. 13 General Botany .....	4	Chem. 75/77 Organic chemistry .....	3
Econ. 51 Prin. of Economics .....	3	Econ. 52 Prin. of Economics .....	3
P.E. 33 Sophomore Phys. Ed. ....	½	For. 50 Intro. to Wildland Mgt. ....	2
Phys. 3/53 Gen./Engr. Phys. ....	3	P.E. 33 Sophomore Phys. Ed. ....	½
Sp. 31 Fund. of Speech .....	2	Phys. 4/54 Gen./Engr. Phys. ....	3
Elective: Earth sci. or math.....	4	Elective .....	5
	16½		16½

### SUMMER CAMP

Course	Credits
For. 102 Field Surveying & Mapping....	3
For. 100 Field Mensuration .....	1
For. 101 Wildland Ecology .....	4
	8



**UPPER DIVISION PROGRAMS**  
**FOREST MANAGEMENT OPTION**

**A. Forest Resource Management**

**Junior Year**

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Course			Course		
For. 107	Biometry .....	3	Eng. 115	Technical Writing .....	3
For. 117	Elem. of Fishery Mgt. ....	2	For. 120	Dendrology .....	3
For. 121	Silvics .....	2	For. 124	Silviculture .....	3
For. 151	Elem. of Range Mgt. ....	2	For. 174	Mensuration .....	3
Soils 51	General Soils .....	3	For. 182	Econ. of Forest Enterprise....	2
Elective	.....	5	Elective	.....	3
		<hr/> 17			<hr/> 17

**Senior Year**

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Course			Course		
For. 131	Wood Technology .....	3	For. 164	Forest Pathology .....	3
For. 141	Elem. of Wildlife Mgt. ....	2	For. 176	Forest Regulation .....	3
For. 169	Forest Entomology .....	3	For. 184	Forest Policy & Admin.....	3
For. 175	Forest Finance .....	2	For. 194	Models for Resource Decisions	2
For. 183	Econ. of Conservation .....	2	Elective	.....	5
Elective	.....	5			<hr/> 16
		<hr/> 17			

**B. Forest Business Management**

**Junior Year**

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Course			Course		
Business Law	.....	3	Bus. 133	Intro. to Mgt. Theory .....	3
C.E. 118	Photogram. & Photointerp. ....	2	For. 124	Silviculture .....	3
Eng. 113/115	Bus./Tech. Writing .....	3	For. 174	Mensuration .....	3
For. 107	Biometry .....	3	For. 182	Econ. of Forest Enterprise .....	2
For. 121	Silvics .....	2	Elective	.....	6
For. 175	Forest Finance .....	2			<hr/> 17
Elective	.....	2			
		<hr/> 17			

**Senior Year**

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Course			Course		
Bus. 31	Prin. of Accounting .....	3	Bus. 32	Prin. of Accounting .....	3
For. 131	Wood Technology .....	3	For. 176	Forest Regulation .....	2
Forest Protection	.....	2	For. 184	Forest Policy & Admin.....	3
For. 183	Econ. of Conservation .....	2	For. 194	Models for Resource Decisions	2
Elective	.....	7	Elective	.....	6
		<hr/> 17			<hr/> 16

**RANGE MANAGEMENT OPTION**

**Junior Year**

FIRST SEMESTER		Credits	SECOND SEMESTER		Credits
Course			Course		
A.S. 105	Prin. of Nutrition .....	3	Bot. 53	Systematic Botany .....	4
For. 107	Biometry .....	3	Eng. 115	Technical Writing .....	3
For. 141	Elem. of Wildlife Mgt. ....	2	For. 152	Range Plants .....	4
For. 151	Elem. of Range Mgt. ....	2	For. 170	Prin. of Forest Mgt. ....	2
Soils 51	General Soils .....	3	Elective	.....	4
Elective	.....	4			<hr/> 17
		<hr/> 17			

## Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Bot. 101 Plant Physiology .....	3	A.S. 114/115 Beef/Sheep Sci. ....	3
Bot. 105 Plant Ecology .....	3	For. 154 Range Improv. & Mgt. Planning	3
For. 117 Elem. of Fishery Mgt. ....	2	For. 194 Models for Resource Decisions	2
For. 153 Range Methods & Tech. ....	3	Soils 154 Origin & Classif. of Soils. ....	3
For. 183 Econ. of Conservation .....	2	Elective .....	5
Elective .....	4		
	<u>17</u>		<u>16</u>

## WILDLIFE MANAGEMENT OPTION

For the student with a particular interest in Wildlife Law and Public Relations, the faculty adviser will recommend elective choices and modifications of the following programs to meet that objective.

## A. Game Management

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 115 Technical Writing .....	3	Computer Programming .....	1
For. 107 Biometry .....	3	For. 142 Wildlife Management .....	3
For. 117 Elements of Fishery Mgt. ....	2	For. 170 Prin. of Forest Mgt. ....	2
For. 141 Elements of Wildlife Mgt. ....	2	Soils 51 General Soils .....	3
For. 151 Elements of Range Mgt. ....	2	Elective .....	8
Elective .....	5		
	<u>17</u>		<u>17</u>

## Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
A.S. 105/106 Animal Nutrition .....	3	Communications .....	2
For. 143 Wildlife Mgt. Techniques .....	2	For. 144 Big Game Mgt. ....	3
For. 183/182 } Resource Economics. ....	2	For. 194 Models for Resource Decisions	2
or Ag. Ec. 150 }		Zool. 130 Ornithology .....	3
For. 193 Legal Aspects of Land Mgt. ....	2	Elective .....	6
Zool. 131 Mammalogy .....	3		
Elective .....	5		
	<u>17</u>		<u>16</u>

## B. Fishery Management

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
For. 107 Biometry .....	3	Eng. 115 Technical Writing .....	3
For. 117 Elem. of Fishery Mgt. ....	2	For. 116 Limnology .....	3
For. 141 Elem. of Wildlife Mgt. ....	2	For. 170 Prin. of Forest Mgt. ....	2
Zool. 153 Invertebrate Zoology .....	5	Genetics .....	3
Elective .....	5	Elective .....	6
	<u>17</u>		<u>17</u>

## Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
For. 111 Ichthyology .....	3	Ent. 128 Aquatic Entomology .....	3
For. 151 Elem. of Range Mgt. ....	2	For. 118 Fishery Mgt. Tech. ....	3
Zool. 105 General Physiology .....	4	For. 194 Models for Resource Decisions	2
Elective .....	8	Elective .....	8
	<u>17</u>		<u>16</u>

**WOOD UTILIZATION TECHNOLOGY OPTION****A. Engineering Phase****Junior Year**

FIRST SEMESTER			SECOND SEMESTER		
Course		Credits	Course		Credits
Chem. 14	General Chemistry .....	4	E.S. 103	Mechanics of Materials .....	3
E.S. 66	Mechanics I (Statics) .....	2	For. 164	Forest Pathology .....	3
For. 131	Wood Technology .....	3	For. 170	Prin. of Forest Mgt. ....	2
Math. 51	Anal. Geom. & Calc. II .....	4	For. 182	Econ. of Forest Enterprise .....	2
Elective .....		4	Elective .....		7
		<hr/> 17			<hr/> 17

**Senior Year**

FIRST SEMESTER			SECOND SEMESTER		
Course		Credits	Course		Credits
C.E. 118	Photogram. & Photointerp. ....	2	For. 134	Logging & Wood Industries ....	3
Eng. 111	Engineering Reports .....	3	For. 138	Utilization Technology II .....	3
For. 107	Biometry .....	3	For. 174	Mensuration .....	3
For. 121	Silvics .....	2	For. 194	Models for Resource Decisions ..	2
For. 137	Utilization Technology I .....	3	Elective .....		5
Elective .....		4			<hr/> 16
		<hr/> 17			

**B. Chemical Phase****Junior Year**

FIRST SEMESTER			SECOND SEMESTER		
Course		Credits	Course		Credits
Chem. 12	Inorg. Chem. & Qual. Anal. ....	5	Chem. 172	Organic Chemistry II .....	3
Chem. 78	Org. Chem. I Lab. ....	1	Chem. 174	Org. Chem. II Lab. ....	1
For. 107	Biometry .....	3	For. 164	Forest Pathology .....	3
For. 131	Wood Technology .....	3	For. 170	Prin. of Forest Mgt. ....	2
Elective .....		5	For. 174	Mensuration .....	3
		<hr/> 17	Elective .....		5
					<hr/> 17

**Senior Year**

FIRST SEMESTER			SECOND SEMESTER		
Course		Credits	Course		Credits
Eng. 111	Engineering Reports .....	3	For. 134	Logging & Wood Industries ....	3
For. 121	Silvics .....	2	For. 138	Utilization Technology II .....	3
For. 137	Utilization Technology I .....	3	For. 182	Econ. of Forest Enterprise .....	2
Elective .....		9	For. 194	Models for Resource Decisions ..	2
		<hr/> 17	Elective .....		6
					<hr/> 16

**Graduate Program**

Programs of study leading to advanced degrees are offered in each of the five fields covered by the undergraduate options. The graduate degrees offered are Master of Science (M.S.), Master of Forestry (M.F.), and Doctor of Philosophy (Ph.D.).

**MASTERS DEGREES**

The M.S. degree requires research and the submission of a thesis. The student may elect to major in any one of the five undergraduate options available in the College. Normally the student is expected to have completed undergraduate training essentially equivalent to that of one of the five undergraduate options of the College. In some cases, a student with a physical, biological or social science undergraduate major basic to one of the land management fields, may qualify for the M.S. program.

The M.F. degree is a professional degree normally limited to those with professional experience and undergraduate training in forest management. The purpose of this training is to increase professional competence rather than provide specialized training in research.

### **DOCTOR OF PHILOSOPHY**

Programs of study leading to the Ph.D. degree are offered in the areas of Forest, Range, Wildlife and Fishery Management. As in the case of the Masters degrees, the student's prior training may be either in one of the above fields or in one of the biological, physical or social sciences basic thereto.

### **ADMISSION AND DEGREE REQUIREMENTS**

The typical student taking his graduate work in this College will have completed course work essentially equivalent to that required for a Bachelor's degree in one of the undergraduate options. However, a student with a distinctly different undergraduate training may also be admitted. The design of graduate study plans for these two classes of students will be such as to allow for the differences in preparation and, in large measure, to provide them with comparable backgrounds by the time the program is completed. For doctoral students, an important feature will be the attainment of an understanding of the principles of resource management in the areas other than that which the student chooses for specialization.

General University requirements set a minimum of one year's resident study, beyond the Bachelor's degree, for the Master's degree, and three years for the Doctor's; these include minimum residence at the University of Idaho of one and two years, respectively. However, time normally taken to complete all requirements will exceed these minima according to (a) deficiencies in preparation, (b) nature of field research usually involved in the thesis problems, and (c) course load—specifically, holders of assistantships or fellowships which require them to render part-time service will take more time to earn the degree than a student carrying a full course load each term.

See the Graduate School section of the catalog for procedural details as to admission, requirements for the Masters degrees, and procedures and requirements for the Ph.D. common to all departments.

### **FACILITIES FOR GRADUATE STUDY**

Excellent opportunities for study and research are available in all subject matter fields in which the College offers graduate work. With approximately 90 percent of its area in forest and range land, together with a wealth of water resources, much of it close at hand, the State of Idaho offers unlimited possibilities for training and research in the areas of knowledge for which the College is responsible.

The College has its own research organization, the Forest, Wildlife and Range Experiment Station including the Idaho Cooperative Wildlife Research Unit and the Idaho Cooperative Fishery Unit. All faculty members of the College are also on the Experiment Station staff and are engaged in research as well as teaching. At the present time, there are numerous research projects under way in all areas of responsibility. A major advantage accruing from this research agency is the opportunity to divide current research projects into facets, any one of which might constitute a suitable thesis project. In this way, the student will be able to do independent research within the outlines of a more comprehensive project, with the resulting advantage of having much necessary supporting information already available. An organization of this type affords an ideal teaching and research environment.

Facilities available include well-equipped laboratories on the campus. Separate laboratories in wood utilization, pathology, entomology, soils, range

management, wildlife management and fishery management are available. Special herbaria or specimen collections for dendrology, wood technology, pathology, range plants, wildlife and fish are maintained.

The University has a 3-acre Arboretum, two 20-acre Forest Tree Nurseries, a 58-acre Summer Camp location and a 7000-acre Experimental Forest which includes an 800-acre deer enclosure. Cooperative arrangements with public and private agencies make available, either on or near the campus, several other excellent facilities. These include a Forestry Sciences Laboratory established by the U.S. Forest Service, located on the campus, and operated in cooperation with the University. Other facilities in the State include three Experimental Forests and two Experimental Ranges operated by the U.S. Forest Service and a 1000-acre controlled grazing area maintained in cooperation with the U.S. Bureau of Land Management. A field station for fishery research is operated in cooperation with the U.S. Bureau of Sport Fisheries and Wildlife. Opportunities for research in wood utilization include a great variety of tree species and sites coupled with several of the nation's largest wood processing industries. In addition to these specific facilities, an outdoor laboratory is available which includes millions of acres of forest and range land and countless lakes and streams set in a highly varied landscape.

#### GRADUATE FELLOWSHIPS

A number of research fellowships, teaching assistantships and National Defense Fellowships are granted to assist highly qualified students in their graduate programs. The research fellowships available in the College include several in our Experiment Station, the Potlatch fellowship for studies in wood utilization, fellowships supported by both the Wildlife and Fishery Units, two federally supported fellowships in range management and a number made available through the Special Research program of the University. Several fellowships have become available through the McIntire-Stennis program in addition to a number provided by various land management agencies through the University. A list of fellowships available for any particular year, with details of the stipends and other privileges offered, is contained in the annual fellowship announcements of the University, or may be obtained by writing to the Dean of the College of Forestry, Wildlife and Range Sciences.

## THE COLLEGE OF EDUCATION

Elementary Education	Guidance and Counseling
Secondary Education	Physical Education
Special Education	Business Education
School Administration	Music Education
Industrial Education	Library Science
Technical Education	Psychology

EVERETT V. SAMUELSON, Ed.D. .... *Dean of College*

MARGARET WALKER ..... *Administrative Assistant*

THE COLLEGE OF EDUCATION was organized as an independent unit of the University by the Board of Regents in June, 1920: It is the official teacher-education division of the University and consists of the departments of Education, Psychology, and Health, Physical Education and Recreation, and with special units of work in Music Education, Business Education, Industrial Education and Library Science.

The education of professional personnel for the public schools constitutes a service to the state and its people and to the education profession. One of the first duties of the College is that of assuming that persons applying for admission to the program of preparation for educational service be fitted for this important work both as to personal qualities and as to appropriateness of preparation. Once admitted, the student undertakes a program which has as its objectives assurance that the candidate has laid the foundation for a broad general education, has completed a basic study of the professional functions of the teacher and has made substantial preparation in the subjects he is preparing to teach or in the special fields in which he is preparing to serve.

Besides preparing personnel for the schools, the College of Education provides educational leadership to the people of the state, to the state educational system, and to the profession, through consultation service, through participation in organizational activities and through research. As the list of fields of educational services mentioned hereafter indicates, the College of Education offers training in all the major areas of professional education as it exists today. The College of Education is fully accredited by the National Council for Accreditation of Teacher Education.

The various programs of study are planned to meet certification requirements of the State of Idaho, those of most other states, and in addition, the requirements of the various accrediting agencies such as the Northwest Association of Secondary and Higher Schools.

**Admission and Selective Continuance.**—Two groups of requirements relate to admission to the College of Education and approval for continuance in the teacher education program. The one group consists of general University requirements and the other special requirements in the College of Education. For a statement of the University requirements of secondary school preparation for admission and the University scholastic requirements for continuance, see Part I of this catalog.

Students who have attended college, whether at another institution or in another division of the University, prior to matriculation in the College of Education must present a scholastic average of 2.0 ("C") or better.

Upon the completion of the first semester of the sophomore year, or 40 semester credits, all students in the College of Education make application for continuance in teacher education. For registration in upper division education courses a 2.00 (C) accumulative grade-point average is required.

A special committee reviews the total records of such applicants, as well as those of students in other divisions or colleges who request transfer into the College of Education. The approval of the Dean of the College of Education is necessary for the admission of transfer students and the continuance of all students in the teacher preparatory program.

All students must, of course, meet the general University scholarship standards for continuance in the University and for graduation. In addition, College of Education students to qualify for their degrees must have maintained at least a 2.0 grade point average in required Education courses and in the major secondary school teaching field.

### DEGREES

**Bachelor's Degrees.**—Upon successful completion of appropriate programs of studies the following bachelor's degrees are awarded:

- Bachelor of Science in Education
- Bachelor of Music Education
- Bachelor of Science in Business Education

**Master's Degrees.**—Upon successful completion of appropriate graduate programs of studies the following master's degrees are awarded:

- Master of Science
- Master of Education
- Master of Arts in Teaching

**Doctor's Degrees.**—Upon successful completion of appropriate advanced graduate programs the following doctor's degrees are awarded:

- Doctor of Education
- Doctor of Philosophy

**Graduate Studies and Degrees.**—The graduate program in Education is under the direction of the Graduate School. See the Graduate School section of this catalog. Students interested in graduate work toward a master's degree should obtain from the dean of the College of Education a bulletin entitled "Programs for Master's Degrees in Education." In addition to the master's degree program in School Administration, a two-year graduate program is offered leading to the Specialist in School Administration, a Specialist as School Counselor or School Psychologist, certificate. Students who are interested in these programs should secure a special pamphlet from the Department of Education or the Department of Psychology. Offerings at the doctoral level include Educational Administration, Secondary Education, Guidance and Counseling, and Elementary Education. As a prerequisite to recommendation for admission to candidacy for any higher degree, certain tests are required. Students interested in the possibility of carrying advanced graduate work should get in touch with the dean of the Graduate School or the dean of the College of Education for current information.

**Fields of Educational Service.**—The following are the types of educational positions for which the College of Education, with the cooperation of other divisions of the University, offers training:

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| 1. Primary School Teacher        | 11. Teacher of Exceptional Children |
| 2. Elementary School Teacher     | 12. School Librarian                |
| 3. Junior High School Teacher    | 13. Educational Researcher          |
| 4. Senior High School Teacher    | 14. School Psychologist             |
| 5. College or University Teacher | 15. Physical Education Teacher      |
| 6. Elementary School Principal   | 16. Health Education Teacher        |
| 7. Elementary School Supervisor  | 17. Recreation                      |
| 8. High School Principal         | 18. Camp Counselor                  |
| 9. Superintendent of Schools     | 19. Athletic Coach                  |
| 10. Educational Guidance Officer | 20. Pre-physical Therapy            |

**Advisement of Students.**—Each student in the College of Education is assigned an advisor and with the aid of this advisor prepares a program of studies. By means of this system each student is able to organize the work to meet one's own individual needs and be informed at all times as to the status and progress in his college career. The student's program should be developed during the freshman year or as early as possible in the sophomore year. The elementary teacher education program is offered exclusively in the College of Education. Students whose chief vocational objective is secondary school teaching are also expected to enroll in the College of Education.\*

Each student is also furnished a copy of an advisement publication,

**The Teacher Education Guide**, which has been developed with the cooperation of the academic departments of the University and contains, together with other information, suggested course content for teaching majors and minors.

**Certificates.**—Students who complete a four-year teacher training program are eligible to receive the Standard Elementary School Certificate or the Standard Secondary School Certificate issued by the State of Idaho. Students who complete appropriate programs for master's degrees in Education are eligible to receive the Advanced Elementary School Certificate or the Advanced Secondary School Certificate and, upon meeting experience requirements, an Administrator's Certificate. Students who complete the master's program in Guidance and Counseling are eligible for the Idaho Pupil Personnel Services Certificate. Students may qualify for the Idaho School Librarian Certificate by completing the requisite courses in Library Science.

The recommended programs of training and the degree requirements in the College of Education are so planned as to meet certification requirements in most other states with the exception of such courses as are required by the laws of other states to be studied in their own institutions. The teacher education programs are also designed to meet the requirements of the various accrediting associations and the employment requirements of the best school systems in the country. Although the Idaho State Department of Education issues emergency provisional teachers' certificates on the basis of less than standard preparation, the College of Education reserves recommendation for certification to students who have completed four years of preparation and hold a bachelor's degree.

**Student Teaching.**—Student teaching is done in regular public schools so that students may obtain practice work under typical school conditions. A number of public schools in Idaho cooperate in this program. Student teaching is scheduled for nine weeks of full-time teaching in designated centers in the state. Students should pre-plan their schedules for their senior year so that a semester is free for nine weeks of full-time student teaching and nine weeks of accelerated courses. During the year preceding the one in which the student teaching is done, students should confer with the director of student teaching and submit an application form provided for that purpose.

**School Visitation and Observation.**—Opportunity is provided for students in teacher education to visit and observe public schools in operation for a one, two or three week period. This is a voluntary experience that should result, for those who participate, in increased understanding of teaching methods and practices as found in our public schools.

Students who wish to participate may secure information material from the Department of Education. This material will include a letter to a school principal introducing the student and explaining the program. The observation may be done during September before University classes begin, during Christmas, or spring vacation. Upon return to the campus the student files a brief report on his observation.

\* Exceptions are Agricultural Education located in the College of Agriculture, and Home Economics Education in the College of Letters and Science.



**Extension and Correspondence Courses**—Many education courses are conducted each year at the extension centers in various parts of the state. These courses are offered in accordance with interest and need. A considerable number of undergraduate teacher-education courses are also available through correspondence study. Extension and correspondence study is administered by Idaho Continuing Education to which inquiries should be addressed. Teacher education courses are also available in the adult education centers.

**Placement**—The University maintains a placement bureau to assist in securing positions for educational workers. The first thought is for the home state, but many calls come for other states, and when students wish to go elsewhere assistance is cheerfully given to them. Graduates are urged to keep in touch with the Central Placement office in order to be in line for deserved promotions.

**DEGREE REQUIREMENTS**

**Requirements for the Degree of Bachelor of Science in Education**

- a. **Total Credits.**—Satisfactory completion of 128 semester credits of which 36 semester credits must be in courses numbered 100 or above.
- b. **General Requirements.**—Satisfactory completion of the following courses:

Course	Credits
Ed. 1 Education Lectures (Students transferring into the College of Education as juniors or seniors may have this requirement waived.)	1
Eng. 1-2 English Composition	6
General Education: Each candidate for the degree must include in his program of studies at least 42 semester credits in general education. Each of the following areas must be represented as indicated:	
Science* and/or Mathematics	12
(*Biological, Physical or Earth Science only.)	
Social Science, including American History or American Government	9
English, including composition and literature	12
Speech 31 Fundamentals of Speech	2
Physical Education—For Men—Four semesters of activity courses to be taken during freshman and sophomore years	2
Physical Education—For Women—Two credits in Healthful Living, to be taken during freshman year; and four credits in activity courses to be taken during freshman and sophomore years. Women Physical Education majors need not meet the activity requirement	6
Psych. 1 General Psychology	3
Psych. 55 Human Growth and Development	3
or	
Psych. 56 Human Growth and Development	3
or	
Psych. 151 Educational Psychology	3
Ed. 87 Foundations of Education	4

- c. **Additional requirements for secondary school teachers:**

Course	Credits
Ed. 114 Secondary School Methods	2
(Four credits of secondary school methods are required in the secondary education curriculum. Two of these must be earned in Ed. 114 and the remainder in the following special methods courses. Special methods courses in Music Education, Business Education, Physical Education and Industrial Education may be substituted for Ed. 115, 116, 117, 118, 119 and 141.)	
Ed. 115 Secondary School English and Language Arts Methods	2
Ed. 116 Secondary School Social Studies Methods	2
Ed. 117 Secondary School Science Methods	2
Ed. 118 Secondary School Mathematics Methods	2
Ed. 119 Secondary School Art Methods	2
Ed. 141 Secondary School Foreign Language Methods	2
Ed. 131 Student Teaching in Secondary Schools	9
(Subject to variation in accordance with state certification requirements.)	
or	
Ed. 132 Student Teaching in Music	9
(For Music Education majors only.)	

d. **Additional Requirements for Elementary School Teachers**

Course	Credits
English, in addition to Eng. 1 and 2 .....	6
Social Science, including American History or American Government .....	12
Music or Art .....	3
Math. 15 and 16 The Number System and Its Structure .....	6
Science—Two or more areas of natural science .....	8
Ed. 120 Primary Language Arts Methods .....	3
or	
Ed. 122 Intermediate Language Arts Methods .....	3
Ed. 121 Methods and Materials in Social Studies .....	2
Ed. 126 Methods and Materials in Mathematics .....	3
Ed. 130 Student Teaching in Elementary Schools .....	9
(Subject to variation in accordance with state certification requirements.)	
Ed. 144 Methods and Materials in Elementary School Science .....	2
5 credits from the following:	
Ed. 75 Methods and Materials in Art .....	2
Ed. 124 Elementary School Music .....	2
Ed. 134 Children's Literature and Storytelling .....	3
P.E. 52 Elementary School Physical Education .....	2
P.E. 116 Elementary School Health Materials .....	2

e. **Majors and Minors**—Candidates for the degree of Bachelor of Science in Education must complete **two** approved teaching majors of 30 semester credits each

or

**One** approved teaching major of 40 semester credits accompanied by one approved teaching minor of at least 20 semester credits

or

**One** approved teaching major of 30 semester credits accompanied by one approved teaching minor of 20 semester credits and a second approved teaching minor of 15 semester credits

or

**One** approved teaching major of 60 semester credits.

Note:—Elementary Education candidates may offer Elementary Education as a major.

**Requirements for the Degree of Bachelor of Science in Business Education**

- a. Satisfaction of the requirements under "a" in the requirements for the B.S.(Ed.) degree above.
- b. Satisfactory completion of the courses and other requirements under "b" and "c" in the requirements for the B.S.(Ed.) degree above.
- c. Satisfactory completion of the following listed courses, plus the satisfactory completion of an approved selection of 15 credits in office occupations, a general business, or a distributive education option.

Course	Credits
Bus. Ed. 191 Methods in Business Education (I) .....	2 or 3*
Bus. Ed. 192 Methods in Business Education (II) .....	3
or	
Bus. Ed. 193 Methods and Materials in Distributive Education .....	3
Bus. Ed. 198 Organization and Administration of Distributive Education .....	3
Bus. 31-32 Principles of Accounting .....	6
Bus. 165 Business Law .....	3
Econ. 51-52 Principles of Economics .....	6
Bus. 124 Financial Management .....	3
Eng. 113 Business Writing .....	3
Geog. 12 Economic Geography .....	3
O.Ad. 3 Typewriting Problems .....	2**
O.Ad. 16 Shorthand Dictation .....	4**
O.Ad. 85 Office Machines .....	2

\*—Office occupations optional students take for 3 credits. General option students take for 2 credits.

\*\*—May be waived by examination. O.Ad. 16 not required in distributive education and general business options.

- d. Satisfactory completion of one teaching minor of at least 20 semester credits in a high school teaching field or completion of one 60 credit teaching major.

**Requirements for the Degree of Bachelor of Music Education (B.Mus.Ed.)**

- a. **Total Credits**—Satisfactory completion of 150 semester credits of which at least 36 semester credits must be in courses numbered 100 or above.
- b. **General Requirements**—Satisfactory completion of the courses and other requirements under "b" and "c" in the requirements for the B.S.(Ed.) degree above, with the exception of the following: delete Speech 31; substitute Ed. 132, Student Teaching in Music, 9 credits, for Ed. 131.
- c. **Departmental Requirements**—Satisfactory completion of the following listed courses, plus an approved selection of one of the options shown under "d" and "e" below, and the completion of the piano proficiency requirements under "f" below.

Course	Credits
Mus. 9-10 Theory of Music I .....	8
Mus. 11-12 History of Music I .....	4
Mus. 14 Convocation (each period of registration) .....	0
Mus. 30 Applied Music (major instrument or voice) .....	16
Mus. 75-76 Theory of Music II .....	8
Mus. 79-80 History of Music II .....	4
Mus. 101-102 History of Music III .....	4
Mus. 103-104 Theory of Music III .....	6
Mus. 130 Applied Music (major instrument or voice) .....	2
Mus. 171 Elementary School Music .....	2
Mus. 172 Choral Music Education .....	2
Mus. 173 Instrumental Music Education .....	2
Mus. 179-180 Conducting .....	4

- d. **Vocal Option**—Regular participation in one of the large choral groups; Mus. 59-60, Diction for Singers (keyboard majors may substitute four credits in either Mus. 19-20, Voice Class, or individual instruction in voice for Mus. 59-60); Mus. 15, Instrumental Techniques, including basic proficiency in violin, clarinet, trumpet, and percussion; plus six additional credits selected from the following: Mus. 15, 67, 68, 107, 113-114, 115, 117, 119, 167, 168, 174, 175, 176, or other approved electives.
- e. **Instrumental Option**—Regular participation in one of the large instrumental groups; four credits in Mus. 19-20, Voice Class, or in individual instruction in voice; Mus. 15, including basic proficiency in violin, viola, cello, string bass, at least one double-reed, clarinet, flute, one other woodwind, trumpet, horn, trombone, and percussion; Mus. 177, Marching Band Techniques.
- f. **Piano Proficiency**—Minimum piano requirements for all non-keyboard majors, to be met by the end of the sophomore year: (1) ability to play a sonatina and a composition equal in difficulty to Schubert's "Moment Musical in A flat," Op. 95, No. 6; (2) ability to read at sight a simple accompaniment.

**TEACHING MAJORS AND MINORS**

In order that students be well grounded in the subjects they expect to teach, approximately one-half of the four-year teacher education program is devoted to the teaching majors and minors. Majors are offered in all the subject fields most commonly taught in the secondary schools, in elementary education and in the areas of specialized educational service.

Although a good deal of latitude is permitted students in choosing majors and minors, as well as the courses to be included in these teaching fields or areas of specialized service, certain limitations must be observed. These restrictions are based both upon the necessity of appropriate preparation and upon certification requirements. Students should therefore plan their majors and minors in consultation with their advisors. The College reserves the right to approve or disapprove the content of all proposed majors and minors.

**UNDERGRADUATE TEACHING MAJORS**

Majors in single subject fields contain a minimum of 30 semester credits earned in courses in one department. Normally composite majors contain a minimum of 40 semester credits and may be selected from more than one of the related subject fields. It is possible in selected subject fields, such as Music Education, for a single composite major of 60 semester credits to be accepted without a minor. With the cooperation of the academic departments of the University, lists of recommended courses for inclusion in the various majors have been prepared and are available to all students.

Teaching majors are offered as follows:

**Art**—A single subject 30 credit major.

**Art Area**—A 40 credit composite major, containing at least 20 credits specifically in Art, the remainder in strongly related courses.

**Biological Science**—A 40 credit composite major. May contain courses in Biology, Botany, Zoology, Bacteriology and Entomology. A minimum of 24 credits must be offered in Biology, Botany and Zoology.

**Business Education**—This major is offered only in the program for the Bachelor of Science in Business Education degree. See the requirements for that degree.

**Chemistry**—A single subject 30 credit major.

**Dramatics**—A single subject 30 credit major.

**Elementary Education**—A 30 credit major in Elementary Education to be accompanied by one 20 credit academic minor and one 15 credit academic minor.

**Earth Science**—A 40 credit composite major to be made up of courses in Geography and Geology.

**English**—A single subject 30 credit major. Must include Eng. 141, American English, 3 credits.

**English Area**—A composite 40 credit major made up of courses selected from English, Drama, Speech and Journalism. Must contain at least 24 credits in English, including Eng. 141, American English.

**French**—A single subject 30 credit major.

**Geography—Geology**—A 40 credit composite major to be made up of courses in Geography and Geology.

**German**—A single subject 30 credit major.

**Guidance and Counseling**—See the Psychology major.

**History**—A 30 credit major. A minimum of 27 credits must be in History of which 15 credits must be in American History. Must also include 3 credits in American Government.

**Industrial Arts**—A variable credit major (45—60 credits). Must contain 39 credits in required technical shop and professional courses, and 6-21 credits in elective shop courses.

**Latin**—A single subject 30 credit major.

**Library Science**—A major is not now offered. See the Library Science minor.

**Mathematics**—A single subject 30 credit major.

**Music**—This major is offered only in the program for the Bachelor of Music Education degree. See the requirements for that degree.

**Physical Education (Men)**—A 40 credit major with representation of each of the areas of physical education, health and recreation

or

a 30 credit major consisting wholly of basic physical education courses.

**Physical Education (Women)**—A 40 credit major with representation of each of the areas of physical education, health and recreation.

**Physical Science**—A 40 credit composite major, consisting of courses in Chemistry, Physics and Geology. Each major must include at least 18 credits in Chemistry or Physics.

**Physics**—A single subject 30 credit major.

**General Science**—A 40 credit composite major consisting of work in the following fields: Biological Science, Physical Science and Earth Science. A minimum of 18 credits is required in one of these fields.

**Psychology**—A 30 credit major. This major is not recommended as a secondary school teaching field, but as undergraduate preparation for students planning to pursue graduate work in Psychology or in Guidance and Counseling. Students who choose this major should plan to offer teaching minors in two usual secondary school teaching fields.

**Political Science**—A single subject 30 credit major.

**Recreation**—A 40 credit non-teaching major. Students majoring in this field will not qualify for teaching certificates.

**Social Science**—A 40 credit composite major. Courses may be chosen from History, Political Science, Sociology, Anthropology, Economics, Geography and Philosophy. Must include at least 18 credits in History, of which at least 9 credits must be in American History and a minimum of 3 credits in each of the following: American Government, Sociology, Economics and Geography.

**Spanish**—A single subject 30 credit major.

**Special Education**—A single subject 30 credit major.

**Technical Education**—A 45 credit major. Must contain 15 credits in required technical courses, 9 credits in professional courses, and 21-24 credits in one technical area of specialization. Areas of specialization are: Electricity-electronics, drafting, wood and metals.

**Zoology**—A single subject 30 credit major.

### UNDERGRADUATE TEACHING MINORS

**Secondary Teaching Minors**—Teaching minors are available in the following subjects: Art, Biological Science, Botany, Chemistry, Drama, Earth Science, English, French, Geography, Geology, German, Health Education, History, Industrial Education, Journalism, Latin, Mathematics, Library Science, Music, Physical Education, Physics, Political Science, Psychology, Spanish, Speech, and Zoology. All of the courses constituting a minor must be from the same subject, i.e. all Art courses, all History courses, all Spanish courses.

A history minor must include at least 6 semester credits of American History and 3 semester credits of American Government.

An English minor in secondary education must include Eng. 141, American English.

To meet Idaho teacher certification requirements, Political Science as a teaching field must include not less than 6 semester credits in American Government, 6 semester credits in American History, and 3 semester credits in Comparative Government.

**Elementary Education Minors**—Single subject minors of 15 to 20 credits may be offered in the following areas: Art, Drama, Industrial Education, Journalism, Library Science, Mathematics, Military, Music, Physical Education, Psychology, Speech, English, a Science, a Social Science, a Foreign Language.

Composite minors of at least 20 credits may be offered in the following areas:

- a. **English**—Must include Eng. 1 and 2, English Composition, 6 credits. May include a course in Speech.
- b. **Science**—The science group includes Agronomy, Bacteriology, Biology, Botany, Chemistry, Entomology, Physical Geography, Geology, Physics, Zoology. At least 8 credits must be in laboratory courses. A minor may be offered from any one of these areas or from any combination thereof.
- c. **Social Sciences**—This group includes Anthropology, Economics, Geography (excluding Physical Geography), History, Philosophy, Political Science and Sociology. A Social Science minor must include at least 3 credits of American History or 3 credits of American Government. A minor may be offered in any one of these areas or any combination thereof.

# THE COLLEGE OF BUSINESS ADMINISTRATION

Accounting  
Business and Applied Science  
Business and Law  
Economics

Finance  
General Business  
Marketing  
Office Administration

DAVID D. KENDRICK, B.S.(Bus.), M.A., Ph.D. .... *Dean of the College*

PHYLLIS VEIEN ..... *Secretary*

## PURPOSE OF THE COLLEGE

THE College of Business Administration was established as a separate professional college of the University in 1925. It provides training for young men and women who plan to make business their career. Forces in the modern business world which the College recognizes through curriculum changes, are increased awareness of human factors, need for long-range planning, rapid technological change, and a need for flexibility. The College of Business Administration provides the sound background in basic principles and in research possibilities which will help our graduates as they advance into positions of responsibility. As a part of a state-supported university, founded to train better citizens, the College also aims to give its students an appreciation of the social importance and responsibilities of business men.

In addition to instruction in the fundamental principles of business, the College of Business Administration also offers specific training in the techniques of business where this is feasible; as, for example, in accounting, accounting research techniques, and secretarial practice. In common with other university schools of business, however, the College avoids extremely specialized instruction in business practices. Since such practices vary greatly among business firms and change rapidly, they can in most cases be best learned on the job.

The University has three major objectives; namely, teaching, research and service. Through the formation of a Bureau of Business and Economic Research we are able to contribute to the advancement of knowledge about our State and its business activities. In addition, faculty and students are given increased opportunity to engage in basic research. Modern computer facilities and data processing equipment keep the program ahead of changing business methods.

The College of Business Administration also provides faculty and counsel for the continuation of education in business matters throughout the state. In cooperation with the other state agencies, courses in management and in more specialized areas are made available.

## FEES AND EXPENSES

For a statement of fees and expenses, see Part I, pages 43 to 47.

## ADMISSION REQUIREMENTS

For a statement of admission requirements, see Part I, pages 47 to 54.

## MAJOR FIELDS OF STUDY

Instruction in the College of Business Administration is divided into eight principle divisions: the seven majors listed below, and the combined curriculum in business and law. When he enters the College each student may select one of these specialized curricula. In general, shifts to other fields are possible during the first two years.

**Accounting.**—This field, in common with many others requiring specialized training, offers many opportunities for the college man and woman. The four-year course emphasizes cost accounting, corporation accounting, auditing, public accounting, and taxation.

**Business and Applied Science.**—Because the University affords strong technical training in Agriculture, Engineering, Forestry, and Mining, the College of Business Administration is able to offer instruction in combination with them. Most students interested in one of the above fields find it advantageous to take an intensive and complete technical course in the respective college offering such work. On the other hand, there are some students who plan to enter a field of business where complete technical training is not essential, but where some technical knowledge is highly desirable. The Business and Applied Science Major offers an opportunity to combine a major in Business Administration with training in one of the technical fields.

**Economics.**—This major prepares students for professional careers as economists in private business, government service, or teaching.

**Finance.**—Training in this curriculum provides excellent background for the fields of banking, investments and insurance. The student may elect to place emphasis upon one of these areas of finance.

**General Business.**—This major is intended for those students who prefer all-around training in business management to specialization in one field. Although there is no one major labeled "management," students can plan a program in this major which will be equivalent to the usual management major. Those students wishing to emphasize other broad segments of business such as foreign trade or statistics may use this major.

**Marketing.**—This major is intended for those students contemplating a career in retail or wholesale merchandising, advertising, or real estate.

Certain modifications of this major will be arranged for those wishing to prepare for advertising.

**Office Administration.**—This program is designed to equip students to enter the field of business through secretarial work. In addition to a background of business experience the student receives technical secretarial training leading to specialized skills in a field of the student's choice through course work and on-the-job experience.

### COMBINATION CURRICULUM IN BUSINESS AND LAW

For students who want training in both business and law, a combination curriculum is available. Students in this curriculum register in the College of Business Administration for their first four years, and in the College of Law for the last two. The degree of Bachelor of Science in Business is conferred upon the completion of the required courses of the first four years, and the degree of Juris Doctor at the end of the full six years. The requirements of the first four years are outlined below. The fifth and sixth years, which are the same as the second and third years of the College of Law curriculum, may be found on page 111.

### STANDING

Fully accredited by the Northwest Association of Secondary and Higher Schools, the College of Business Administration keeps abreast of developments in business training through various organizations and by constant consultation with Idaho businessmen. The quality of the program is attested to by the outstanding achievements of Idaho graduates in all fields of business throughout the nation.

### DEGREES

The degree, Bachelor of Science in Business, B.S.(Bus.), is conferred on all students satisfactorily completing any one of the seven majors in the



College of Business Administration or the first four years of the combined Business and Law Curriculum.

Graduate studies leading to the Master of Science in Business degree and the Master of Accounting degree are offered in the College of Business Administration. The General Requirements for graduate degrees are given on pages 151-154.

**In addition, the College requires that all graduate students take the Graduate Records Examination before admission to candidacy for either of the two degrees, and it is urged that they complete this examination and submit the results thereof to the College before entrance into the graduate program. Both the General Aptitude test and the area test in Business may be required of all candidates for the graduate degree in Business Administration.**

**All students receiving the Master of Science in Business degree (except economics majors) must satisfactorily complete three credit hours of graduate level courses in each of the following areas: accounting, economics, finance, management, marketing, and quantitative analysis. These courses may not be taken until the appropriate undergraduate courses have been completed. Six additional hours may be taken in graduate or undergraduate courses approved by the advisor, and six hours will be given for thesis.**

**All students receiving the Master of Accounting degree must satisfactorily complete thirty credits in accounting, business and economics. In addition, a comprehensive examination is required.**

#### **DIVISIONAL REQUIREMENTS**

In addition to the general University requirements for degrees (Page 60), and the specific courses indicated in the curricula below, candidates for the B.S.(Bus.), degree will complete either one foreign language through the intermediate level, or English 53 (Expository Composition) and a semester of Mathematics (Math. 2 or 50) besides the general requirements of Math. 1 or 9. Two years of a single foreign language at the high school level may be substituted for one year of the foreign language requirement. Four years of a single foreign language at the high school level would normally satisfy the entire foreign language requirement. Students would normally complete the foreign language or Mathematics and English requirements during the Freshman or Sophomore years. In case of scheduling difficulties, adjustments can be made in the program with the consent of the student's counselor.

Students accepted for advanced R.O.T.C. are assured opportunity for an adjustment of their program to permit scheduling the 12 credits in military science required in the Junior and Senior years.

It is strongly recommended that students familiarize themselves with the operation of the typewriter and other commonly used business machines.

Students registered in the College of Business Administration will be required to achieve a minimum overall average of 1.85 grade points for the first two academic years before being permitted fully to pursue upper division work. Specifically, this means that a student earning an overall average of less than 1.85 grade points for a minimum of 60 credits may not register for more than one course numbered above 100 in any one semester until his cumulative grade point average is raised to this minimum level.

A minimum of forty per cent (52 credit hours) of the total credits required for the B.S.(Bus.) degree must be taken in business and economics subjects; the major portion of the courses in this group shall be in business administration. A minimum of forty per cent (52 credit hours) of the total credits required for the B.S.(Bus.) degree must be taken in subjects other than business and economics. Economic Principles and Economic History may be counted in either the business or nonbusiness groups.

Where "Bus. or Econ. Elective" appears, courses numbered above 100 are required. History 135 and History 136 fulfill this requirement.

### CURRICULA

Below are stated the requirements in each of the major fields of study and in the combined Business and Law curriculum. Each student is assigned a counselor who will assist in the planning of a program through use of a "check sheet" for each major. The student, however, has final responsibility for completion of all requirements.

### REQUIREMENTS FOR GRADUATION

One hundred twenty-eight credits are required for graduation.

### GENERAL REQUIREMENTS FOR GRADUATION

#### All-University Course Requirements

Course	Credits
English Composition .....	6
P.E. Men: 4 activity courses .....	2
P.E. Women: 4 activity courses plus	
P.E. 1 Healthful Living .....	6

#### Non-Business Course Requirements

Course	Credits
Literature .....	6
Mathematics—Language option (see preceding page under Divisional Requirements) Math. 9 and 50 or Math. 1 and 2 plus Eng. 53 ..11-13 or	
Math. 1 or 9 and completion of a foreign language through the intermediate level .....	4-21
Speech 31 .....	2
Natural Science (physical or biological laboratory science) .....	4
Social Science, Psychology, or Economic Geography .....	6
English 113 .....	3
Additional courses (including courses required for the major) sufficient to bring total taken outside the fields of business administration and economics to 40% (52 credits) of the 128 credits required for graduation .....	0-21

#### Business Administration and Economics Course Requirements

Course	Credits
Bus. 1 Business Lectures .....	1
Bus. 31-32 Principles of Accounting .....	6
Bus. 83 Statistics .....	3
Econ. 51-52 Principles of Economics .....	6
Bus. 103 Marketing .....	3
Bus. 124 Financial Management .....	3
Bus. 133 Intro. to Management Theory.....	3
Bus. 165 Business Law .....	3
A third semester of Accounting .....	3
Econ. 103 Money and Banking .....	3
Econ. 152 Intermediate Micro-economic Analysis .....	3
Econ. 153 Intermediate Macro-economic Analysis .....	3
Additional courses in business administration, economics, and/or economic history (including the courses required for the major) sufficient to bring total taken in these fields to 40% (52 credits) of the 128 credits required for graduation .....	12

### MAJORS

#### Accounting

Completion of the general graduation requirements (see page 142).  
(The third semester of accounting is included below.)

##### Plus

Course	Credits
Bus. 91-92 Intermediate Accounting .....	6
Bus. 160 Quantitative Analysis in Economics and Business .....	3
Bus. 166 Business Law .....	3
Bus. 183 Federal Tax Accounting .....	3
Bus. 185 Cost Accounting .....	3
Bus. 187-188 Advanced Accounting .....	5
Bus. 191 Auditing Theory .....	3
Bus. 196 Managerial Accounting Controls .....	3

#### Business and Applied Science

Completion of the general graduation requirements (see page 142).

##### Plus

18 credits of technical electives in one of the following fields:

Agriculture  
Engineering  
Forestry  
Mining

A list of the courses required in the various fields may be obtained from the Dean of the College of Business Administration.

#### Business and Law Combined Curriculum

Completion of the general graduation requirements (see page 142).

##### Plus

Completion, after earning at least 98 credits, of the first year curriculum in the College of Law (30 credits).

**Economics**

Completion of the general graduation requirements (see page 142).

**Plus**

Any combination of 15 credits from the following: Upper-division economics courses (other than Econ. 103, 152, and 153, all of which are required in satisfaction of core requirements). Any or all of the following business courses may be taken to satisfy these requirements in Economics:

Course	Credits
Bus. 160 Quantitative Analysis in Business and Economics .....	3
Bus. 168 Government Regulations of Business .....	3
Bus. 193 Business Conditions .....	3
Bus. 198 Advanced Statistics .....	3

**Plus**

Any combination of 15 credits in social science subjects (other than economics), geography, psychology, or mathematics, beyond those taken in satisfaction of the College of Business Administration core requirements. No more than 9 of these 15 hours may be taken in any one subject.

**Finance**

Completion of the general graduation requirements (see page 142).

**Plus**

Course	Credits
Bus. 136 Investments .....	3
Bus. 146 Financial Institutions and Credit .....	3
Bus. 177 Insurance .....	3
Bus. 193 Business Conditions .....	3
Econ. 109 Public Finance .....	3

**General Business**

Completion of the general graduation requirements (see page 58).

**Plus**

Course	Credits
Bus. 142 Organization Theory .....	3
Bus. 182 Management Policy .....	3

The Student in General Business may, at his option, in consultation with his advisor, select an area of concentration from the following: management, business statistics, international business, or social science and its business applications.

**Marketing**

Completion of the general graduation requirements (see page 142).

**Plus**

Course	Credits
Bus. 109 Principles of Advertising .....	3
Bus. 170 Marketing Problems .....	3
Bus. 171 Marketing Research and Analysis .....	3
Bus. 173 Retail Merchandising Fund. ....	3

It is recommended that electives be selected from the following courses important to the marketing management function.

Bus. 132 Sales Management .....	3
Bus. 164 Electronic Computers in Business and Economics .....	3
Bus. 174 Retail Merchandising Problems .....	3
Bus. 193 Business Conditions Analysis .....	3

**Marketing—Real Estate Option**

Completion of the general graduation requirements (see page 142).

**Plus**

Course	Credits
Bus. 109 Principles of Advertising .....	3
Bus. 119 Real Estate .....	3
Bus. 132 Sales Management .....	3
Bus. 145 Real Property Appraisal .....	3
Ag.Econ. 161 Farm Appraisal .....	3

It is suggested, in addition, that the students in this option choose a substantial part of their elective courses from the following:

Arch. 11 Elements of Architecture
Arch. 55 Building Construction I
Arch. 57-58 Architectural History
Arch. 175 Introduction to City Planning
Psych. 1 General Psychology
Ag.Econ. 150 Land Economics
Geog. 170 Urban Geography
Soc. 51 Introduction to Sociology
Soc. 145 Rural Sociology
Soc. 146 Urban Sociology
Pol.Sc. 76 City and County Government
H.Ec. 82 House Construction

**Office Administration**

Completion of general graduation requirements (see page 142), with the exception of a third semester of accounting and Econ. 152 and 153.

**Plus**

Course	Credits
O.A. 2 Typewriting Skill Development ....	2
O.A. 3 Typewriting Problems .....	2
O.A. 15n Shorthand Theory .....	4
O.A. 16 Shorthand Dictation .....	4
O.A. 71 Shorthand Speed Development....	3
O.A. 72 Shorthand Transcription .....	3
O.A. 85 Office Machines .....	2
O.A. 195 Sec. Office Procedures .....	3
O.A. 196 Applied Sec. Procedures .....	3
O.A. 197 Applied Sec. Procedures .....	3
Business or Econ. electives .....	3

# THE GRADUATE SCHOOL

## THE GRADUATE COUNCIL

The Graduate Council consists of faculty members representative of the areas covered by graduate instruction, and with the dean of the Graduate School as chairman, coordinates and promotes graduate instruction, establishes policy and makes long-range plans for the graduate program. The dean and, assistant dean of the Graduate School administer the procedures for those graduate students whose cases come under accepted regulations. Exceptional cases or those from which an appeal is taken are referred to the Graduate Council for recommendation.

M. L. JACKSON, Ph.D. (Chairman)	.....	Dean
E. H. GRAHN, Ph.D. (Secretary)	.....	Assistant Dean
W. F. BARR, Ph.D.	.....	Professor of Entomology
H. E. CAMPBELL, Ph.D.	.....	Head, Department of Mathematics
M. E. FLETCHER, Ph.D.	.....	Professor of Economics
P. K. FREEMAN, Ph.D.	.....	Professor of Chemistry
J. A. GREEN, Ph.D.	.....	Professor of Education
R. E. HOSACK, Ph.D.	.....	Head, Department of Social Sciences
K. E. HUNGERFORD, Ph.D.	.....	Professor of Wildlife Management
D. J. LETOURNEAU, Ph.D.	.....	Professor of Agricultural Biochemistry and Soils
J. W. MARTIN, M.S., P.E.	.....	Professor of Agricultural Engineering
W. D. MILLER, M.S.	.....	Resident Director, NRTS Program, Idaho Falls
G. A. WILLIAMS, Ph.D.	.....	Head, Department of Geology and Geography

## GENERAL INFORMATION

The Graduate School Bulletin provides detailed information about the Graduate School, appointments, financial aids, library, research facilities and procedures. Further assistance is provided by the "Information Bulletin for Theses and Dissertations." Forms to assist students in recording their progress are provided. These items may be obtained from the Graduate School Office.

The Graduate School serves four groups: students working for advanced degrees including the doctorate, those wishing certain courses for personal reasons but no degree, those working for certification as teachers, and alumni fulfilling the requirements for professional engineering degrees.

Degree programs are offered in more than sixty areas for the master's degree and in twenty-one areas for the doctoral degree. Advanced degrees are listed on page 54. Specific degree offerings by department are given in the Graduate School Bulletin.

The instruction and training of graduate students has been a function of the University of Idaho for seventy years; the first master's degree was awarded in 1897. The Graduate School was formally organized on its present basis in 1925. Graduate study presents an opportunity for advanced students to become closely associated with mature scholars and to develop a pattern of thought and attitude which will enhance both their professional and cultural life.

The University of Idaho is the research center for the State of Idaho and consists of eight colleges in addition to the Graduate School. This coverage of all regular disciplines and professional fields provides in one location a wide variety of academic work. Enrollment is large enough to maintain programs in many disciplines, yet not so large that close faculty-student relationships are lacking. Interdepartmental cooperation is also an important factor on this campus.

### APPOINTMENTS AND FINANCIAL AIDS

In support of graduate study and research, the University of Idaho awards each year a number of assistantships and fellowships. In addition, awards are made through the Supplemental Graduate Support Program, Federal programs such as NDEA, NSF, NASA and NIH fellowships, and traineeships, and scholarships provided by industrial companies. Many of these stipends include an allowance for fees and out-of-state tuition or provide a waiver of these costs.

Fellowships and assistantships are open to those holding an undergraduate degree from any university or college of recognized standing and who have been admitted to the Graduate School. An inquiry for a position or award should be addressed to the head of the department in which the applicant plans to enroll for graduate study. Some appointments may carry a work requirement, and qualifications required may vary. Those appointed to fellowships and assistantships supported by the University are advised that these are tenable only in the unit of the major except where prior written exceptions are made. Also, annual leave is not available for academic year appointments, but the student may be allowed the regular school vacation periods upon request to his department head through the major professor. For twelve-month appointments a two-week vacation can normally be arranged upon request.

Holders of fellowships, assistantships and awards must show satisfactory progress and meet all the academic requirements of the Graduate School in order to continue appointments through successive semesters.

### COOPERATIVE PROGRAMS

The University participates in a number of cooperative arrangements in the State and region to extend resources and take advantage of special facilities.

#### Washington State University

The University of Idaho and Washington State University, to utilize unique knowledge areas of each institution, have for some time operated a cooperative course program available only to graduate students. Courses available on either campus are identified in the section on Departments of Instruction and offerings are provided by the current Time Schedule.

#### National Reactor Testing Station

The University of Idaho conducts an off-campus graduate program at the NRTS at Idaho Falls, Idaho in cooperation with the Idaho operations office of the Atomic Energy Commission. The program is operated as a resident center of the University and is presently available to employees of the NRTS as part of the education and training program. The program is administered through the Resident Director of the University. It is possible for students enrolled in this program to earn a master's degree in the physical sciences, mathematics, engineering and business. It is also possible for a student holding a master's degree to complete residence course requirements and examinations on-campus for the Ph.D. degree and to complete the research work for this degree at the NRTS site.

#### ARMU Program

The University is a member of the Associated Rocky Mountain Universities, which is a cooperative venture of institutions in seven states to make use of special facilities located in the area. Financial support is available for students or faculty to spend periods of time, up to one year, at a number of the Laboratories of the Atomic Energy Commission to pursue research projects.

### GRADUATE SCHOOL REGULATIONS

Each student working for an advanced degree is assigned a major professor and a supervisory committee. The professor and the committee evaluate the student's prior qualifications, approve the study plan, and conduct the various examinations pertinent to the degree sought. Non-degree students may request an advisor to provide guidance toward other study objectives. Where study objectives and/or thesis are interdisciplinary co-chairmen may be appointed from the departments involved. The major professor and a research professor may divide responsibilities.

Any change in a study program is recommended by the major professor for approval by the Graduate Office. Such changes should be requested prior to registration for courses involved.

Students and major professors are advised that the right to petition exists to waive or modify any University regulation. However, favorable action can be expected only when circumstances and the presentation clearly justify an exception. Precedents are not set by previous actions and may not form the basis of a petition; rather, it is the situation concerning the individual involved which is given consideration. Most petitions involving graduate students and graduate school regulations are presented in duplicate to the Graduate Council on a blue form provided. For cases involving general University regulations the petition is presented to the Administrative Council in duplicate on a yellow form. In either case the petition is presented by the graduate dean.

### ADMISSION AND ENROLLMENT

Admission to the Graduate School is open to any student holding an undergraduate degree and presenting a scholastic record indicating probable success in graduate work. Admission is to a particular program and is only for work in that program. Application forms and supplementary information are provided by the Office of Admissions. The completed application and transcripts of all previous academic work are forwarded by admissions to the department head for evaluation. No student is admitted without the recommendation of the department offering the major. The Graduate Office gives final approval to an application subject to minimum requirements of the University and, where necessary, upon consideration of supporting information provided by the department. A department may set requirements above the minimum for the University as a whole.

Students wishing to enter the Graduate School should have submitted the application and have had transcripts sent directly from institutions attended to the Admissions Office several months prior to the date they wish to enter. Deadlines for acceptance of admission applications vary from year to year and may be ascertained by inquiry to the Admissions Office. No student is admitted directly into a doctoral program. Correspondence with the unit head is advised for such work so that supplementary information may be provided for consideration and special requirements may be determined.

#### Enrollment Categories

**"A" Enrollment.** This classification, previously termed "full," is for students seeking a graduate degree or sixth year certificate who offer at least the minimum grade point average (GPA) for all undergraduate work. Only students in this status may be admitted directly to candidacy for an advanced degree.

**"B" Enrollment.** This classification, previously termed "provisional," is for applicants to those departments which do not initially admit any beginning student to "A" status; or for applicants who do not meet minimum grade point requirements, or who have substantial course deficiencies, but

where evidence is offered that the applicant can likely maintain a 3.0 GPA in graduate work and earn an advanced degree. A student in "B" enrollment may request a change of status to "A" enrollment after having completed the first 15 or more credits (excluding deficiency courses and courses numbered less than 100) of graduate work applicable toward a degree with a GPA of 3.0 or better. Those holding appointments as teaching assistants or research fellows may request a change to "A" enrollment after having completed ten credits of appropriate course work with a GPA of 3.0 or better. A student not qualifying for "A" enrollment at the end of two semesters may be continued in "B" enrollment for an additional semester upon review and recommendation of the department concerned. Alternately, the department may recommend disenrollment or where study objectives warrant, enrollment in non-degree status.

**Non-Degree Enrollment.** This classification, previously termed "unclassified," is for applicants not wishing to work for an advanced degree. Students enrolled in this classification may not register for research and thesis. A graduate student may be completing teacher certification requirements while, at the same time, completing some work toward an advanced degree. In some cases work taken may be offered for both purposes. Details concerning teacher certification requirements may be obtained from the appropriate department and college, and such students are encouraged to seek appointment of a regular advisor.

An applicant, when admitted to the Graduate School, will be issued a letter of acceptance and specific instructions as to registration procedures. The registration packet should be obtained from the Graduate Office prior to conferring with the major professor or advisor.

A student is admitted for work in a specified major or program and may not change without acceptance by the department administering the new major. Such procedure is formalized by a change of curriculum card signed by the new department head, approved by the Graduate Office, and forwarded to the Registrar's Office.

A student planning to apply for work leading to a Ph.D. or Ed.D. degree should write the department in which he wishes to major in advance of the submission of his application for admission to the Graduate School. Specific requirements for the major, examinations which may be required, and additional pertinent information will be provided by the department. The applicant should note that no student may officially enter upon a doctoral program until the "Notice of Intention to Work for a Doctoral Degree" form has been filed and approved. This is not usually completed until after the student has registered on campus. Applicants for doctoral programs must show evidence of superior scholastic ability.

#### **Graduate Record Examinations**

The Graduate Record Examination (GRE) is not required for admission but is recommended by some departments; the College of Education requires it before admission to candidacy and prefers it before initial registration. Students are invited to provide the results of the examination with their application form, if available, to facilitate evaluation and acceptance. Students applying for various Federal fellowships and traineeships are advised that, presently, the graduate record examination is not required, but such information may facilitate a selection and an award. Students are asked to provide the results of the aptitude test and the advanced test for the area of study proposed. The GRE tests are given by this University through the Counseling Center five times a year.

#### **Returning Students**

Students who have not maintained continuous enrollment, excluding the summer session between the academic year or successive summer sessions,

need to complete a form for the Registrar stating activities in the interim and providing transcripts of any additional institutions attended or graduate work taken. If the period of delay has been extensive, the form will be routed to the department and the Graduate Office for an indication of whether the student is invited to return to complete his work. A student engaged in off-campus academic work is urged to register for a minimum number of credits to indicate continuous progress toward the degree. Students who attend successive summer sessions are considered to be in continuous enrollment but need to file a statement with the Registrar prior to registration each summer and to request a "permit-to-register." Students not in continuous enrollment are advised that they can be assured of acceptance for registration only by filing the "Application for Permit to Register" form with the Registrar well in advance of the semester they wish to register.

### **Partial Enrollment**

A senior in residence who is within twelve credits of completing the requirements for the Baccalaureate degree, and who meets the requirements for admission to the Graduate School as set by the University and the department concerned, may apply for admission to partial enrollment in the Graduate School. Registration of nine credits or more in a given semester in partial graduate enrollment may be counted toward the residence requirement for the master's degree. A course registration plan designating undergraduate and graduate courses, is submitted with the application for admission on a form provided.

Admission in advance of registration permits certain course to be designated for graduate credit. Capable students can thus begin graduate work at an earlier date than would otherwise be possible. Qualified seniors will normally be in their last semester when applying for partial enrollment. In some cases, a maximum of two semesters of partial enrollment may be desirable in order to permit study of courses in sequence; this end can also be accomplished by registration in a graduate course for undergraduate credit which is permitted highly qualified seniors.

### **Seniors in 200's Courses**

A senior with a 3.0 average may enroll in one course a semester at the 200's level with permission of the instructor and the dean of the Graduate School (signature on the undergraduate registration card is required). Credits so earned while a senior are for undergraduate purposes and may not be offered later for an advanced degree. No undergraduate student may enroll in the cooperative courses offered with Washington State University.

## **GENERAL REGULATIONS**

A normal study load for a graduate student is 15 semester credits. However, a graduate student may be considered to be in full-time study when enrolled for 12 credits. For purposes of military service or immigration authorities, the Registrar will certify to pursuit of a full-time study when a student is taking at least 12 credits or is on Regents appointment. Where required for others, the major professor submits a statement to the Graduate Office that the student is engaged in full-time study through research, course work and preparation for examinations; when approved, the Registrar will be advised to certify to full-time study.

### **Grades and Grading System**

Grades of A, B, C, D, F, W, Inc., are awarded for academic work. The grade "IP" is used to indicate satisfactory progress in research work and no letter grade is assigned until the thesis of dissertation has been approved and the final examination completed. The major professor reports



grades for research when filing the final examination report form. The grade "Inc." is used only when extenuating circumstances arise such as for illness. Failure of a student to complete the work required for a course during the semester for which he is registered is insufficient grounds for an incomplete grade.

A graduate student, in order to meet the requirements for an advanced degree, must attain a grade point average of 3.0 for all courses entered on his graduate transcript for credit whether or not these pertain to the specific study program for a degree. Courses with grades of "D" will not be accepted toward degree requirements but will be considered in calculating the grade point average (GPA).

A student will be disenrolled after any semester in which he did not earn at least a 2.4 GPA. For a student registered in only one course the rule is applied for two consecutive semesters. The grades of all the courses for which the student is registered are used when calculating the average.

Courses with "C" grades may be offered for doctoral degree requirements only where listed on the study program for minor or supporting fields; grades of "A" or "B" are required for courses listed in the major field.

Deficiencies are those specific courses which are required to provide background for the courses listed on the degree program as filed. Courses to remove deficiencies may be taken for zero credit with a passing grade, and as such do not apply in computing the grade point average. However, if credit is desired for these courses, for other purposes, the resulting grades will be included in the computation of the GPA for purposes of the 2.4 disenrollment rule and for the awarding of a degree under the 3.0 rule.

### **Registration Requirements**

Student effort required per credit at the graduate level is considered to be greater than for undergraduate work. Accordingly sixteen credits is considered to be a desirable maximum. Registration for more than sixteen credits must be justified by memorandum from the major professor. Summer registrations are limited to roughly half the above for a normal registration of eight credits and a maximum of nine credits.

Students working on-campus and making use of University facilities are required to register. This is also required of students who are completing degree requirements through submission of theses or dissertations, taking examinations, or completing final matters related to the degree sought. Students completing research off-campus but using faculty time in review of research and consultation should also register.

Students holding University appointments may be subject to enrollment limitations. These regulations are administered by the Graduate Office, but represent University policy and may not be waived by the Graduate Council.

Faculty, staff and graduate students on board appointment secure the permission of the appointing dean to register for the study load to be undertaken. A form is provided for this purpose by the academic deans offices. This form also provides the information upon which registration fee and tuition are waived for appointees.

Full-time employees, whether of the University or other organizations, may not register for more than six credits each semester during the academic year.

### **In-Absentia Registration**

Registration for graduate work which is not conducted on-campus, excepting work of such nature that it can be conducted **only** away from the

campus, shall be as in-absentia with one exception. Research for thesis or dissertation which can be expedited by use of an off-campus location need not be in-absentia. In approving such registration, the major professor will observe the usual credit limitations including that of six-credits for full-time employees, whoever may be the employer. This procedure may not be used to establish residence for a doctoral degree and all research for a program must not be off-campus.

In-absentia registration for course work (other than Research and Thesis) is limited to a maximum of three credits **for degree purposes**. Registration is to be permitted only in specific courses proposed to and approved by the Graduate Council for in-absentia registration. In the case of doctoral degrees, the student's committee may permit specific additional courses beyond three credits to be taken as in-absentia. At the time of registration an outline of work to be accomplished and method of resident faculty supervision is to be approved by the instructor and department head and filed with the Graduate School (Form GS 23-66). Registration is for a particular semester and a grade must be recorded at the end of that semester. A grade of "Inc." may be given where circumstances clearly justify it but the incomplete must be removed within three weeks after the beginning of the semester or summer session in which the student next registers with the University. The registration period for in-absentia courses is restricted to the last week of the summer session and the first four weeks and the last week of each semester. Only students who have been admitted to candidacy for a degree may register for in-absentia work.

#### **Off-Campus Study**

Credits earned in the Boise Adult Education Center and in University of Idaho Extension Centers in the State are entered on a separate University record and are transferred to the graduate transcript after admission to the Graduate School. The residence requirements limit the amount of such work which can be applied toward minimum requirements for a degree. All work completed forms part of the background of a student and is considered in completing a study program. Extension credits from other institutions are not accepted toward degree requirements in the University of Idaho Graduate School unless the course has been approved for the study program prior to enrollment in the course.

Courses taken by correspondence may not be used to fulfill the course requirements included in the Study Plan. Graduate students may not earn credit through the undergraduate procedure of "credit by examination" (challenge).

#### **Final Examination**

The candidate may request scheduling of the final examination no earlier than five days after submission of final copies of the thesis or dissertation to the Graduate School Office. This is to permit review by the committee, and by the department head and college dean as they may elect. The final examination is usually oral, but part may be written. The candidate is required to defend his work and show a satisfactory knowledge of his major and minor or supporting fields. If a non-thesis degree is sought and a final assessment is also required, as by a written or oral examination, arrangements by candidate and major professor must be made considerably in advance of the examination.

#### **Repeating Examinations**

The final examinations required for advanced degrees and certificates, if failed, may be repeated once. The interval before the second attempt, will be set by the student's committee, but may not be less than three months or longer than one year.

**Application for a Degree**

The candidate must file an application for the degree and pay the necessary fees by March 1 of the year in which the degree is to be awarded. The application form specifies the study plan to be checked for completion by the Registrar before awarding the degree and the University catalog under which regulations apply. The candidate should be certain that he has met all requirements, or will do so by current registration, before filing the application. A student filing an application but not completing requirements must pay an additional fee to reinstate the application for the commencement at which the degree will be awarded.

**Commencement**

A candidate may be excused from Commencement exercises if the student has left the campus, is residing elsewhere, and his return would impose a hardship. Candidates should write to the President requesting an excuse and explaining the circumstances involved. The request should be filed at least one month, and preferably earlier, prior to the date of Commencement. Reservations for caps, gowns and hoods must be made by a date early in the Semester according to directions sent by the Registrar upon receipt of the application for the degree.

**THE MASTER'S DEGREE**

The graduate degree represents a difference in philosophy from undergraduate work. A student normally works in a special field of knowledge, rather than in broad fields; he is more concerned with an analysis of information rather than observing information as it exists; he is also interested in the development of new knowledge for an assessment of existing knowledge. The awarding of a degree signifies the completion of the objectives of a specific plan of study. This plan is developed for each individual student and is based not only on future study objectives but also on past study programs completed. A graduate student pursues his study on a more independent basis than he did in his undergraduate years. The graduate degree is more frequently characterized by a written presentation involving a review of existing knowledge, an analysis of past work, and perhaps some projection of knowledge. He does this by a plan of study including course work in his speciality and related fields and by thesis work forming an extension of the course work. In writing a thesis a student demonstrates proficiency in the ability to present a written analysis in clear and logical form. Some master's degrees do not involve a thesis and the analysis of knowledge is assessed by a written comprehensive examination or in some cases by a production of work in the field. It is expected that a student working for a master's degree will have associations, through course and perhaps research work, with at least three members of the faculty offering advanced work.

**General Requirements for Master's Degrees**

A minimum of 30 credits is required for a master's degree but some additional work may be required because of particular objectives or background. Thus, a master's degree, if pursued full-time, can be completed in a minimum period of two academic semesters of 15 credits each. Study plans submitted which require in excess of 36 credits should be accompanied by a detailed explanation of the need for the additional credits to attain objectives. The required work is indicated by a program developed by the student and major professor and is approved by the Graduate Office. Courses listed on the program become the requirements for the degree. Sometimes as the work progresses a change of program becomes necessary.

At least 22 of the required semester hours must be completed in residence at the University of Idaho, except that graduates of the University of Idaho, may with prior approval of their major professor and the dean of the

Graduate School, present one-half of the required semester hours from another approved graduate school. In the latter case the student files a program of studies in advance specifying the work to be taken at the other institution. Because at least 22 credits must be earned in residence on-campus, the combined number of credits earned in another graduate school, in University of Idaho extension or adult centers, and by in-absentia registration, may not exceed eight to be applied toward the minimum requirement of 30 credits. It is recognized that all such courses completed beyond eight credits form part of the background of the student and are considered in formulating a study plan. Thus, excess work is not "lost."

All credits submitted to fulfill the requirements for a master's degree must have been earned within six consecutive years prior to the date the degree is granted.

At least two-thirds of the minimum number of credits required for a master's degree are to be graduate in character in courses numbered 200 or above. Not more than one-third may be in courses numbered 100, and any courses in this group must be selected to meet the individual student's objectives and be approved by the major professor and the dean of the Graduate School. Courses numbered below 100 may not be used to fulfill the requirements for any advanced degree or certificate. Research and thesis credits may not be applied toward a non-thesis degree.

The Master of Arts and Master of Science degrees in all fields require a thesis; a maximum of 10 credits of research and thesis may be applied toward the minimum credit requirement but some departments may indicate a lower limit.

A foreign language is not a general requirement for a master's degree and it is considered that any needed proficiency has been developed much earlier in the students academic career. However, some departments may require completion of a language examination or course work as a degree requirement. If so, it is listed as a deficiency on the study program.

Candidates for the non-thesis degrees of Master of Accounting, Master of Agriculture, Master of Forestry, and Master of Natural Sciences must pass a comprehensive examination which may be written or oral or a combination of both. A maximum of four credits in approved 100's courses, basic to the professional field, may be substituted for four credits of 200's courses with the approval of the major professor and the dean of the Graduate School.

For the degree of Master of Natural Science a major and a minor may be selected from the following fields; bacteriology, biology (botany, zoology), mathematics, chemistry, geology, and physics. A minimum of 12 credits constitutes the major field and a minimum of eight credits the minor field. Candidates for the degree, Master of Natural Science, may have taken their bachelor's degree in any recognized field.

Candidates for the degree of Master of Architecture fulfill the general requirements for master's degree except that they submit an original work in Architecture in drawn and written form in lieu of a written thesis. This work shall be defended in an oral examination.

Candidates for the degree of Master of Fine Arts fulfill the general requirements for master's degree except that an extended creative project, or a one-man exhibition of professional quality shall replace the written thesis. A final oral examination is required. In order to enter a program leading to the degree of Master of Fine Arts, the student must submit a portfolio of work to the Department of Art and Architecture. The Department evaluates the portfolio and advises the student of his eligibility to work toward the degree.

Candidates for the degree of Master of Education and Master of Nuclear Science do not submit a thesis but may take a written comprehensive examination instead of a final oral examination.

Candidates for the degree of Master of Music complete one of the following options: (1) a thesis, which may be an original musical composition, (2) a public graduate recital, (3) a written comprehensive examination in music. In each instance a minimum of thirty credits of acceptable graduate work is required for the degree. No credit is granted for the terminal project under the non-thesis options (2 and 3). The selection of an option is subject to the approval of the Department of Music. To enter a program of studies leading to this degree, students must hold a bachelor's degree from an accredited institution which included a minimum of sixty semester hours or equivalent in music courses.

The terminal degree of Master of Arts in Teaching (M.A.T.) is designed to prepare teachers both in scholarly competence and in teaching effectiveness. The department responsible for the candidate's area of major specialization will have a plan for this degree which has been approved by the Graduate Council. Each student's program must provide for well-rounded knowledge and must not consist of scattered, unrelated courses. The general requirements of the Graduate School apply except as modified by the specific requirements of the two options; also, at least six of the minimum of thirty credits required for a master's degree must be in courses designated as primarily for graduates (numbered 200 and above.)

**OPTION I—Master of Arts in Teaching (Name of Subject Field).** Primarily for certified teachers who wish to strengthen their subject-matter preparation. Majors may be taken in a subject field recognized for certification by the Idaho State Department of Education, including both single subjects and composite fields. Enrollment in a program of studies under Option I requires the consent of the chairman of the subject-matter department or by the major advisor of the composite area. Before being advanced to candidacy, the student must qualify for a standard teaching certificate in Idaho or in a state having similar standards. The major professor for students under Option I is from the subject field or composite area; the cognate advisor is from Education. The specific requirements of this option are: (a) at least twenty of the minimum of thirty credits in the subject field; (b) a minimum of six credits, normally at the 200's level, in professional education; and (c) a comprehensive examination, which may be written or oral, or a combination of the two, in the subject field.

**OPTION II—Master of Arts in Teaching.** Primarily for liberal arts graduates holding the B.A. or B.S. degree who wish to take advanced work in their area of subject-matter concentration and complete the professional education requirements for standard certification. The major for students under Option II is either secondary education or elementary education. Enrollment in a program of studies under this option requires the consent of the head of the Department of Education. Before the degree is conferred, the student must qualify for a standard teaching certificate in Idaho or in a state having similar standards. The major professor for students under Option II is from Education; the cognate advisor is from the area of subject-matter concentration. The specific requirements for this option are: (a) a sufficient number of credits in professional education, as determined by the College of Education, to qualify for certification; (b) a minimum of six credits, normally at the 200's level, in the area of subject-matter concentration; (c) a comprehensive examination, which may be written or oral, or a combination of the two, in professional education.

#### **PROCEDURES FOR MASTER'S DEGREES**

**Approval of the Master's Degree Program.** During the first semester in residence the student prepares, in conference with the major professor, a master's degree program outlining all the work to be completed to fulfill the requirements for the degree. The major professor submits this program for approval to the dean of the Graduate School. A student who fails to submit a program risks the taking of courses which may not be acceptable toward

the degree. The student, major professor and committee receive copies of the approved program. Normally, some work will be taken outside the major department. Students and major professors alike are reminded that work entered on the study program becomes a requirement and represents a minimum. The student may wish to elect additional courses for his own interest, but is cautioned that if entered on the program they must be completed for the degree and an excessive amount of such additions may delay the completion of the required work.

**Student's Committee.** Each student's committee is recommended by the major professor and approved by the dean of the Graduate School. Normally the committee consists of the major professor as chairman, a second member from the major field, and a professor representing the supporting field outside the major department. The recommendation of a majority of the committee is necessary for a candidate to receive his master's degree.

**Candidacy for a Degree.** This is the point at which students are selected as qualified to continue work toward an advanced degree. A student is eligible for candidacy after completing 15 credits with a minimum GPA of 3.0 and upon recommendation by the major professor. Approval is by the dean of the Graduate School. It is the policy to recommend to candidacy only those students whose grade averages meet minimum requirements for a master's degree. A student who has not been admitted to candidacy may not file an application for a master's degree.

**Examinations.** An oral examination, conducted by the committee on the Moscow campus, is required of each candidate who applies for a thesis degree, except that candidates for the degree of Master of Music may give a public recital in lieu of an oral examination. Students fulfilling the requirements of those degrees which require a comprehensive examination secure the details regarding this examination from the department in which the examination is given. Passing the oral or comprehensive examination is one of the requirements for the master's degree. Students are not eligible to take these examinations until they are in the process of completing the final requirements for their degrees.

**Thesis.** The student chooses, in conference with his major professor, his thesis subject as early as possible after the first registration in the Graduate School. Failure to start work on the thesis promptly may lead to a postponement of the date the degree can be awarded. Each thesis is reviewed by the Graduate Council and requires the approval of that body before the degree is granted. The original and first copy of the thesis must be deposited in the Graduate School Office no later than May 15 for submission to the Graduate Council for participation in June commencement exercises.

### PROFESSIONAL DEGREES IN ENGINEERING AND MINING

As a form of recognition for recipients of bachelor's degrees from the University of Idaho, professional degrees are offered in several fields. The degrees may be granted to graduates of the College of Engineering or the College of Mines after five years of appropriate professional experience one year of which is in responsible charge, upon submission of an acceptable thesis. Preliminary inquiry should be directed to the department concerned giving a detailed statement of professional activity since graduating, a list of references, and the proposed thesis subject. The department will review and recommend a course of action. Upon invitation to proceed with degree requirements the student prepares the thesis which is usually based on a professional project. This degree carries the same diploma and thesis binding fees and the same deadlines as for master's degrees. Preliminary negotiations and authorization should be completed in the summer or early fall to afford ample time for the preparation and review of the required thesis for award of the degree in June. A listing of professional degrees is given on page 54.

**PROFESSIONAL CERTIFICATES**

Two-year graduate programs are available leading to professional certificates as specialist in school administration, guidance and counseling, or school psychology. These programs are intended to meet the needs of students who desire to follow an organized program of graduate work beyond the master's degree, but who may not wish to pursue a doctoral program. Programs encompass the training specified by the appropriate professional organization. General graduate school procedures are followed.

General requirements for a specialist certificate are:

1. An acceptable program of at least 30 semester credits of advanced work is required for those who hold a master's degree in the above areas. Additional hours may be required for those who have master's degrees in other areas or who have deficiencies in professional courses.

Within the first six weeks after embarking on this program each student will submit to the College of Education and the Graduate School for approval a Study Program outlining his plan for meeting the requirements.

2. All of the required 30 credits must be earned in residence (this is in addition to residence required for an advanced degree) at an institution approved for graduate work beyond the Master's Degree. (No extension courses may be counted beyond the Master's Degree, nor correspondence courses applied toward any advanced degree.) A student who has a Master's Degree from the University of Idaho may transfer a maximum of 10 semester credits subsequently earned in the graduate school of another institution; other students may transfer a maximum of 6 semester hours earned above their Master's Degrees.

3. No credits may be applied toward the Specialist's Certificate that are more than eight years old at the time the certificate is awarded.

4. To meet the requirements for a Specialist's Certificate, the candidate must earn grades of "A" or "B" in all courses submitted for the certificate. A grade below "B" is unsatisfactory and will not be counted toward fulfilling the minimum requirements for the certificate.

5. The candidate must meet specific minimum requirements as indicated below for the particular certificate during the sixth-year (second graduate year).

**Specialist in School Administration**

The professional organization, the American Association of School Administrators, specifies the following for this certificate.

1. Courses and seminars in administration, 6 semester credits.
2. Courses in education, including one course in education philosophy, 6 credits.
3. Laboratory studies, 6 credits chosen from the following: internship, for those with fewer than three years of administrative experience; supervised externship for those with more than three years of administrative experience; field study involving research and written report of a practical administrative problem; participation in school surveys.
4. Courses in the fields of psychology, philosophy, social sciences, or business administration, 6 credits.
5. Elective courses, 6 credits.
6. A comprehensive examination during the last summer or semester in residence.

**Specialist in Guidance and Counseling**

The standard training required of accredited counseling institutions by the Counselor Education Division of the U.S. Office of Education is as follows:

1. Courses and seminars in guidance beyond requirements for the Master's Degree, 6 semester credits including the philosophical backgrounds of guidance and counseling.

2. Laboratory studies, a minimum of 6 credits chosen from the following: internship, (3-9 credits); research in basic counseling theory in a school setting.

3. Courses in administration and personnel relations, 6 credits.

4. Graduate study in related behavioral science, 6 credits.

5. Electives, 3-9 credits.

6. A comprehensive examination.

**Specialist in School Psychology**

The standard training to meet certification requirements in Idaho and other states is itemized below:

1. Courses and seminars in psychology beyond the Master's Degree, 6 semester credits including education philosophy and philosophical backgrounds in counseling and guidance.

2. Laboratory studies, a minimum of 9 credits, including internship training equivalent to 9 weeks of full-time training or not less than 300 clock hours. This internship training shall be completed under the supervision of a staff member at a time and place selected by the College of Education.

3. Graduate study in related behavioral sciences, 6 credits.

4. Approved electives, 9 credits.

5. A comprehensive examination.

**THE DOCTORAL DEGREES**

The University of Idaho awards the degree of Doctor of Philosophy in recognition of high achievement in scholarly and research activity. The degree of Doctor of Education is given for high scholarly attainment and in recognition of the completion of academic preparation for professional practice. Candidates for either degree meet the same requirements for residence, candidacy, and final examinations, but differ in requirements for foreign language, professional experience, and intermediate examinations. Both degrees require the completion of a dissertation although the nature of this work differs for each:

The major professor and department offering a particular doctoral program will indicate the general philosophy of the degree program, the objectives of courses and seminars, the research specialties available, and requirements peculiar to the department. Admission into the doctoral program is granted only to those who are considered capable of completing the degree and permission to work toward the degree is granted only after the student files the "Notice of Intention to Work for a Doctoral Degree." Students are advised to begin research shortly after entering the program and not wait until much of the course work has been completed.



### Procedures Pertaining to Doctoral Degrees

**Major Professor.** As soon as suitable with respect to the availability of faculty personnel in the department and the presentation of research topics, the student and department head or committee agree upon and nominate the major professor. The Graduate Office notifies all concerned of the appointment. Usually the student will have been registered initially by the unit head as the appointment of the major professor should not be made hurriedly and without regard to all aspects of departmental, college and student interests. A student completing a master's degree at this University will need a new major professor appointed if continuing for doctoral work. This major professor need not be the same as for the master's degree.

**Notice of Intention to Work for a Doctoral Degree.** No student may consider that he is accepted for a doctoral degree program until the notice of intention to work for the degree has been initiated by him, approved by the department or college committee, and approved by the Graduate Office. The notice of intention also nominates the supervisory committee in accord with departmental and college interests. The notice of intention may not be filed until at least one year of graduate work has been completed beyond the bachelor's level, or a master's degree has been earned. The notice of intention should be completed at the earliest date possible after attainment of eligibility.

**Supervisory Committee.** The supervisory committee normally consists of the major professor as chairman, a second member from the major field, two members from the minor or supporting area, and a member from outside the major or minor fields. The committee is appointed by the dean of the Graduate School in accord with nomination procedures of the department and college concerned. The committee assumes the responsibility of all aspects of the student's program under the leadership of the committee chairman, who is also the research advisor. For programs which are strongly inter-disciplinary a major professor and a research professor may divide responsibilities. The committee makes periodic reviews of the student's program and permits him to continue only so long as his work is of good quality.

**Qualifying Examinations.** Following departmental procedures the qualifying examinations, written and/or oral, serve to assess the background of the student in both the major and supporting fields and to provide partially the basis for preparation of the student's study program. Students do not pass or fail this examination although lack of adequate background may form a recommendation to the Graduate Office that the student withdraw from the program. A particular department may or may not require a master's degree as a prerequisite for the qualifying evaluation. In some cases a department may wish to hold the qualifying examination before filing the Notice of Intention especially for students who may appear to have inadequate preparation.

**Study Plan.** Shortly after acceptance for doctoral work, the student and major professor prepare a study plan, on forms provided, which are approved by his supervisory committee and the dean of the Graduate School. Changes deemed desirable at a later date may be made by memorandum with similar approvals. The doctoral program is expected to contain breadth as well as depth. As a general guideline, the Graduate Council has set 78 credits beyond the bachelor's degree as a minimum for a doctoral program (based on 30 credits for a master's degree or first year of work plus 12 credits a semester for four semesters.) Research for the dissertation in many fields normally constitutes one-third of the total credit requirement but should not exceed one-half of the total work required. Every candidate is expected to offer some work outside the major department designated as a minor or supporting field. Two-thirds of the work including dissertation is expected to be in courses numbered above 200. The research topic is stated, at least generally, on the study plan. The final awarding of the degree is based upon

completion of all items required by the study plan. The plan should, therefore, be the result of detailed and careful consideration of objectives rather than unrelated listing of courses. Excessive course requirements should be avoided.

**Residence.** At least three academic years of study beyond an acceptable bachelor's degree is the minimum time requirement. Two of these years shall be at the University of Idaho, and at least two semesters above the master's degree or two of the last four semesters must be devoted to the doctoral study program and spent in continuous full-time residence on the Moscow campus. This requirement of continuous residence is normally met by completion of a full graduate program during a single academic year beyond the level of the master's degree. To obtain residence credit the student must complete at least nine credits of work on the graduate level each semester. A full-time employee, most of whose work is research provided for in the study plan, may be considered in full-time residence although registered for less than nine credits upon approval of the proposed plan of work by the Graduate Office.

A student may be granted a leave of absence to carry out a special investigation or to take advantage of unique opportunities for study at another institution.

**Time Limit.** All degree requirements must be completed within five years after admission to candidacy. This time limit can be extended only by recommendation of the committee and completion of new examinations. The second examinations will include recent advances in the student's major and related areas and will require additional preparation.

**Dissertation**—Each dissertation is reviewed by the Graduate Council and requires the approval of that body before the degree is granted. The original and first copy of the dissertation and an abstract not exceeding six hundred words must be deposited in the Graduate School Office no later than May 1 for participation in June commencement exercises. Doctoral candidates pay a \$20 fee for the publication of the abstract in Dissertation Abstracts and for microfilming the dissertation by University Microfilms, Inc.

**Awarding Doctoral Degrees to the Faculty.** Doctoral degrees may not be awarded to a University faculty member above the rank of instructor by a department in the college in which he is teaching, unless the faculty member was admitted to candidacy before promotion to professorial rank.

#### **Particular Requirements for the Ph.D. Degree**

For the Ph.D. degree, a reading knowledge of two foreign languages, appropriate to the student's program of studies, is required. The choice of languages is approved by the supervisory committee and is indicated on the study plan. Proficiency is demonstrated by means of examinations given under the supervision of the Chairman of Foreign Languages.

A student is not eligible to take the Preliminary Examination until completing at least four months or one semester of academic work after approval of the study plan. Upon completion of the foreign language requirements and most of the course work, and with the dissertation project outlined and presented in detail, the student may secure the consent of his supervisory committee and the dean of the Graduate School to take the preliminary examinations. These may be written or oral, or both, and are to assess progress toward degree objectives. The preliminary examinations cover the entire area of the student's graduate study and other topics basic to the degree program. The department head and major professor advise the student of general expectations. If the preliminary examinations are failed they may be repeated only once within the period of not less than three months or more than a year following the first attempt. A student is admitted to candidacy for the Ph.D. degree upon passing the preliminary examinations.

**Particular Requirements for the Ed. D. Degree**

The Doctor of Education degree is awarded only through the College of Education and additional requirements may be obtained from the department of interest.

A period of professional practice is required for the Ed.D. degree and the period involved is stated on the study plan. Foreign language proficiency is not a regular requirement although a particular field of training or research project may require a reading knowledge of one or more foreign languages.

When the student approaches the end of his course work, has completed the professional experience requirement and has outlined the dissertation subject in detail, the supervisory committee and the Graduate Dean approve the holding of the General Examination. This examination is both written and oral and is to assess progress toward degree objectives. A student is not eligible to take the general examination until completing at least four months or one semester of academic work after the approval of the study plan. If the general examination is failed, it may be repeated only once; the second general examination must be taken within a period of not less than three months or more than a year following the first attempt. A student is admitted to candidacy for the Ed. D. degree after passing the General Examination.

# RESERVE OFFICERS' TRAINING CORPS

**Army ROTC**

**Naval ROTC**

**Air Force ROTC**

H. WALTER STEFFENS, B.S., M.S., Ph.D. .... Coordinator

The Reserve Officers' Training Corps at the University of Idaho consists of the Department of Military Science, Department of Naval Science and Department of Aerospace Studies.

The purpose of ROTC is to prepare selected students to serve as commissioned officers in the Army, Navy and Air Force. This important program constitutes the largest single source of trained officers for both the Reserve and Regular Forces. Successful completion of requirements for both a Baccalaureate Degree and the ROTC studies normally leads to a commission in the Armed Forces.

The ROTC program at colleges and universities reaches back more than a century to 1862 when the Morrill Act required all land grant colleges to offer courses in military training. The Morrill Act was modified in 1916 by the National Defense Act which provides the basis for ROTC as we know it today. The 88th Congress, in September, 1964, passed the Reserve Officers' Training Corps Viatlization Act, Public Law 88-647, which was signed by President Johnson on the 13th of October, 1964. It is under the provisions of this law that the ROTC programs are currently operating.

The three ROTC Departments at the University of Idaho offer, on an elective basis, a two-year and a four-year ROTC program.

Under the provisions of the present law, the Army, Navy and Air Force are permitted to award scholarships to students selected each year in a nation-wide screening and testing program. The financial assistance that is provided in conjunction with these ROTC scholarships includes tuition, books and all standard fees listed in the catalog except room and board. In addition, students receive subsistence pay of \$50 per month. Selected students who are awarded ROTC scholarships must enroll in the four-year rather than the two-year program.

Qualified undergraduate and graduate students who do not have ROTC scholarships, but who complete the first two years of Basic ROTC, or elect to enroll in the new two-year program, and are selected to participate in Advanced ROTC training during their last two years of college, will receive subsistence pay of \$40 each month for 20 months.

Uniforms and textbooks for ROTC courses are also provided at no cost to students enrolled in the program.

Students who qualify, and who plan to enter flight training as military pilots after being commissioned, may apply for participation in the Flight Instruction Program offered locally by each ROTC Department. Upon successful completion of this program, the students are given Private Pilot Licenses.

Information concerning the Army, Navy and Air Force ROTC curriculum may be found in Part III of this catalog. Specific details about Army ROTC, Naval ROTC and Air Force ROTC are contained below. Further inquiries are welcomed and should be addressed to the:

Professor of Military Science (Army ROTC)  
Professor of Naval Science (Naval ROTC)  
Professor of Aerospace Studies (AFROTC)

### Army ROTC

The Army has the oldest ROTC program on campus and can trace its origin to 1894 when military training was first offered at the University of Idaho.

The Army Reserve Officers' Training Corps Program is designed to provide a student with the military training necessary to qualify for a commission in the United States Army upon graduation.

After the successful completion of one semester of the program, Army ROTC students may be deferred from selective service as long as they remain in good standing with the University and the Department of Military Science.

Two programs are offered, a four-year program and a two-year program. Both programs are organized in two phases. The four-year program consists of the Basic Course and the Advanced Course. The two-year program consists of the Basic Summer Camp and the Advanced Course.

#### THE BASIC COURSE

The Basic Course normally is taken in the Freshman and Sophomore years. The purpose of these two years of instruction is to introduce the student to basic military subjects. Up to one year of the Basic Course may be waived for participation in high school ROTC.

#### THE BASIC SUMMER CAMP

A student with at least two years of successful college work may apply for a six-week Basic ROTC Camp. Applications are accepted during the first half of the second semester of each school year. The Basic Camp takes the place of the Basic Course. Transportation costs, food, housing and pay of an Army recruit are provided during the summer camp period.

#### THE ADVANCED COURSE

The Advanced Course is devoted to a two-year study of the more complex phases of military and leadership training.

The advanced course is open to students who have demonstrated a positive potential for becoming commissioned officers. Students may qualify by completing the Basic Course or the Basic Summer Camp. Veterans and transfers from military schools may also qualify. A six-week training camp is held between the first and second year of the Advanced Course. The normal pay for Advanced Course students is increased to half the pay of a Second Lieutenant (presently \$151.95) while at summer camp. Transportation costs, food and housing are provided.

Upon successful completion of the Advanced Course and a Bachelor's Degree, a student is eligible for a commission. The age limit for commissioning is 28 years. Graduate students who qualify may enroll in the Advanced Course.

#### SCHOLARSHIPS

Two-Year Scholarships are available to students who are completing the Basic Course.

Four-Year Scholarships are available to high school seniors. Information is available from high school principals.

### Naval ROTC

The University of Idaho is one of fifty-two universities throughout the United States that offers Naval ROTC. The unit was established at the

University in 1946 by authority of Title 10 U. S. C. 6901, generally known as the Holloway Plan.

Naval ROTC students are of two types: "Regular" students and "Contract" students. The naval science course requirements of which are the same for both types of students, is a four-year course based on the U. S. Navy Standard Curriculum. The University offers the degree of Bachelor of Naval Science (See College of Letters and Science) under certain conditions, but NROTC students normally will seek one of the other degrees offered.

The NROTC curriculum consists of twenty-two semester hours of naval science and one semester of general psychology. (This may be reduced to twenty hours with the approved substitution of certain other university courses.) Regular students must complete one year of college physics and one year of college mathematics. Both contract and regular students must qualify as first class swimmers prior to graduation. A course in public speaking and at least one year of a foreign language are recommended when scheduling permits.

Contract NROTC students are selected from the freshmen (and sophomores if in a four and one-half or five year program) by the NROTC staff. They are required to complete the four year NROTC curriculum and to participate in one summer cruise of about six weeks duration. This cruise is normally taken in the summer immediately following the student's third year in the NROTC program. Contract students receive retainer pay of \$40 per month during their last two years in college. Upon completion of Navy requirements and when qualified for a baccalaureate degree, the contract student receives a reserve commission in the Navy or Marine Corps and is obligated to serve on active duty for a minimum of three years.

### **SCHOLARSHIPS**

The Navy provides financial support to a total of 5,500 students who are enrolled in four-year ROTC programs at 52 colleges and universities throughout the nation. Regular NROTC students are selected each winter in a nationwide competitive testing and screening program. For these students the Navy pays all tuition, cost of textbooks, other fees of an instructional nature and subsistence pay of \$50 per month for a maximum of four years. Regular students are required to participate in three summer cruises, each of about seven weeks duration. While on cruises, the students are paid at the rate of \$120 per month. For specific details contact the Professor of Naval Science.

Upon completion of Navy requirements and when qualified for a baccalaureate degree, the Regular student is commissioned as a regular officer in the Navy (or in the Marine Corps if he so desires.)

Navy ROTC students are deferred from selective service as long as they remain in good standing with the University and with the NROTC Unit.

### **Air Force ROTC**

The Air Force Reserve Officers' Training Corps was established at the University of Idaho in 1952 for the purpose of providing specialized education to students who desire to become professional Air Force officers and to prepare them to meet the challenge of the aerospace age. The Air Force ROTC program is administered by the Department of Aerospace Studies.

AFROTC is open to all male students and is offered as a four-year program and as a two-year program.

The four-year program is designed primarily for students who wish to be eligible to compete for AFROTC scholarships. It is also available to students who do not win AFROTC scholarships.

The two-year program is designed especially for undergraduate students and graduate students who desire to take Air Force ROTC during their last two years of college. Students who are interested in the two-year commissioning program should apply to the Professor of Aerospace Studies (AFROTC) no later than January 31st of the year in which they plan to enter the program. Students not presently enrolled at the University but who plan to enroll here for their last two years, are also eligible.

The Aerospace Studies curriculum for the AFROTC program is divided into the General Military Course and the Professional Officer Course. Students who elect to take the four-year program are required to complete both. Students in the two-year program take only the Professional Officer Course.

### **THE GENERAL MILITARY COURSE**

The General Military Course consists of four semesters of general military education and corps training. Students explore the causes of present world conflict as they affect the security of the United States. Students also participate in corps training.

Undergraduate and graduate students who elect to enroll in the two-year AFROTC program are not required to take the General Military Course. Instead, they participate in a six-week period of field training at an Air Force base. This Field Training Course is offered during the summer and must be completed prior to entering the two-year program. Students are paid approximately \$80 a month, a total of \$120 for the six weeks, plus six cents a mile for travel to and from the base. Food, lodging, medical care and uniforms are also furnished at no cost.

### **THE PROFESSIONAL OFFICER COURSE**

The Professional Officer Course of Aerospace Studies consists of four semesters of professional officer education which entails a study of the growth and development of aerospace power, professionalism, leadership and management.

In addition to the on-campus Advanced work, all students in the four-year program must complete a four-week period of off-campus pre-commissioning training during the summer at an Air Force base. This Field Training Unit (FTU) may be taken between the second and third semester of the Professional Officer Course, or after graduation just prior to going on active duty as an officer in the Air Force. This pre-commissioning training is not to be confused with the six-week Field Training Course which must be taken in lieu of the Basic Course by students in the two-year AFROTC program. The pay for this four-week summer training course is \$120. Travel is paid at the rate of six cents per mile to and from the base. Food, lodging, medical care and uniforms are furnished at no cost.

Students, who satisfactorily complete the AFROTC program and meet all requirements for the degree, will be commissioned as Second Lieutenants in the Air Force Reserve. They will serve on active duty as pilots or navigators or to be assigned to non-flying jobs which require degrees in their major fields of study.

### **SCHOLARSHIPS**

The Air Force is authorized to award a total of 4,000 scholarships to students who are enrolled in the four-year AFROTC program at 186 colleges and universities throughout the nation.

The first part of the report deals with the general situation of the country and the position of the various groups. It is a very interesting and well-written account of the situation in the country and the position of the various groups. It is a very interesting and well-written account of the situation in the country and the position of the various groups.

The second part of the report deals with the economic situation of the country. It is a very interesting and well-written account of the economic situation in the country and the position of the various groups. It is a very interesting and well-written account of the economic situation in the country and the position of the various groups.

The third part of the report deals with the social situation of the country. It is a very interesting and well-written account of the social situation in the country and the position of the various groups. It is a very interesting and well-written account of the social situation in the country and the position of the various groups.

The fourth part of the report deals with the political situation of the country. It is a very interesting and well-written account of the political situation in the country and the position of the various groups. It is a very interesting and well-written account of the political situation in the country and the position of the various groups.

The fifth part of the report deals with the cultural situation of the country. It is a very interesting and well-written account of the cultural situation in the country and the position of the various groups. It is a very interesting and well-written account of the cultural situation in the country and the position of the various groups.

The sixth part of the report deals with the international situation of the country. It is a very interesting and well-written account of the international situation in the country and the position of the various groups. It is a very interesting and well-written account of the international situation in the country and the position of the various groups.

The seventh part of the report deals with the future of the country. It is a very interesting and well-written account of the future of the country and the position of the various groups. It is a very interesting and well-written account of the future of the country and the position of the various groups.

The eighth part of the report deals with the conclusion of the report. It is a very interesting and well-written account of the conclusion of the report and the position of the various groups. It is a very interesting and well-written account of the conclusion of the report and the position of the various groups.





**PART III**

**Departments of Instruction**



PART II  
Department of the



## DEPARTMENTS OF INSTRUCTION

### Course Numbering

Courses primarily for undergraduates are numbered between 1 and 99; courses for advanced undergraduates and graduates are numbered between 100 and 199; courses primarily for graduates are numbered 200 and above; and all courses in Research and Thesis for graduate students are numbered 300.

Courses with odd numbers are usually given the first semester; those with even numbers, the second semester; courses numbered 1-2, 101-102, etc., continue through the year.

Courses marked with "D" are those in which credit will not be given for the first semester's work until that of the second semester has been completed.

A number in parenthesis following a course title indicates a change in the course number, the old number being placed after the title such as: Eng. 111, Engineering Reports (151).

### Designations of When Courses Will Be Offered

F—Courses offered first semester only.

S—Courses offered second semester only.

F-S—Courses offered in regular sequence.

F or S—Courses offered either first or second semester.

F & S—Courses offered both semesters.

SS—Courses offered in Summer School.

X—Courses offered by Extension only.

C—Courses offered by Correspondence only.

N—Courses in National Science Foundation program.

R—Courses offered only at National Reactor Testing Station, Idaho Falls.

①—Offered in alternate years; given in 1967-68.

②—Offered in alternate years; given in 1968-69.

## AGRICULTURE

- 1 **Orientation 1 credit F** An orientation and guidance course for freshmen. This course acquaints the student with the educational and research organizations in agriculture and its various subdivisions and their relationship to agricultural occupations. Required of first-semester Freshmen in Agriculture.
- 121 (For. 107) **Biometry 3 credits F** Statistical analysis of biological data. Probability distributions, regression, correlation, enumeration data, linear models, analysis of variance, elementary design and interpretation of results. Two lectures and one two-hour laboratory per week. Prerequisite: Math. 9 or consent of instructor. (EVERSON)
- 201-202 **Professional Problems in Agriculture 1 to 4 credits F & S** Students in the Master of Agriculture curriculum will register for this course under the supervision of the major professor and the advisory committee. Problems for study must be consistent with the students objectives. No more than a total of four credits may be earned in Ag. 201 and 202. (STAFF)
- 206 **Statistical Research Methods (A.S. 206) 3 Credits S** Biometrical principles used to analyze and interpret research problems. Analysis of variance, correlation, multiple regression, covariance, principles of experimental design. Prerequisite: Ag. 121 or consent of instructor. (EVERSON)
- 207 **Experimental Design 3 credits F** Methods of constructing and analyzing designs for experimental investigations; analysis of designs with unequal subclass numbers; concepts of blocking, randomization and replication; confounding in factorial experiments; incomplete block designs; response surface methodology. Prerequisite: Ag. 206 or equivalent. (EVERSON)

## AGRICULTURAL BIOCHEMISTRY AND SOILS

Professor Wiese (Head)

The Department of Agricultural Biochemistry and Soils includes the two subject matter fields: Biochemistry and Soils. For course offerings see under:

### AGRICULTURAL BIOCHEMISTRY

### SOILS

## AGRICULTURAL BIOCHEMISTRY

(Agricultural Biochemistry is one of the subject matter fields within the Department of Agricultural Biochemistry and Soils)

Professors LeTourneau and Wiese; Assistant Professor Muneta.

- 80 General Agricultural Chemistry 4 credits F** Lectures and laboratory work on chemistry as applied to agriculture including topics on soils and the chemical principles that underlie the growth and nutrition of plants and animals. Two lectures, one quiz and one three-hour laboratory period per week. Prerequisite: Chem. 12 or 14. (LEWIS)
- 2 128 (F.S. 128) Food Chemistry and Analysis 3 credits S** The chemistry and methods of analysis of foods and food products. Two lectures and one three-hour laboratory period per week. Prerequisite: Chem. 53 or 56, 75 and 76 or equivalent. (MUNETAS)
- 1 131 The Chemistry and Physiology of the Vitamins 3 credits F** The chemistry and physiology of the vitamins and their relation to human and animal nutrition. Three lectures per week. Prerequisite: A course in Organic Chemistry. (WIESE)
- 151 Advanced Agricultural Biochemistry 1 or 2 credits** Lecture and laboratory studies in advanced agricultural biochemistry. Majors in Agricultural Biochemistry will normally enroll for 2 credits of the selected sub-topic.

(a) Animal Biochemistry F & S

(b) Plant Biochemistry F & S

Each sub-topic may be repeated for a maximum of 4 credits provided that no more than 8 credits can be earned in Ag. Biochem. 151. Prerequisites: Chem. 56, 75 and 102 or equivalent and consent of instructor. (STAFF)

- 153 Pro-Seminar 1 credit F & S** Discussion of the literature and special topics in Agricultural Biochemistry. Prerequisites: Junior standing and consent of instructor. (STAFF)
- 1 161 Plant Biochemistry 3 credits F** A survey of the biochemistry of higher plants. Three lectures per week. Prerequisites: Bot. 3, Chem. 56, 75 and 76 or equivalent. (LeTOURNEAU)
- 1 162 Plant Biochemistry Laboratory 1 credit F** Laboratory training in methods and techniques for analyzing plant materials. One three-hour laboratory per week. Prerequisite or corequisite: Ag. Biochem. 161. (LeTOURNEAU)

### PRIMARILY FOR GRADUATES

- 203 Seminar 1 or 2 credits F & S (STAFF)**
- 205 (Soils 205) Advanced Laboratory Techniques 3 credits F** Theory of methods and techniques used in modern day research. Lecture and laboratory work with methods employing chromatography, spectrophotometry, manometric and other special techniques. One lecture and two three-hour laboratory periods per week. Prerequisites: Chem. 53 or 56 and 102 or equivalent. (STAFF)
- 206 Laboratory Problems in Biochemistry 2 credits S** Isolation and examination of biochemical constituents of natural products. Individual projects will be assigned depending on the interests of the students. Prerequisites: Chem. 53 or 56, 102 and 181. (STAFF)
- 2 231 Enzymes and Intermediary Metabolism 3 credits F** The chemistry of enzymes and intermediary metabolism of carbohydrates, lipids and proteins of animals and plants. Three lectures per week. Prerequisites: Chem. 102 and 181 or equivalent. (WIESE, LeTOURNEAU)
- 2 232 Enzymology Laboratory 1 credit F** Selected experiments in enzymology. One three-hour laboratory per week. Prerequisite or corequisite: Ag. Biochem. 231.
- 2 281 (Chem. 281) Carbohydrate and Lipid Chemistry 3 credits F** See Chemistry 281 for course description.
- 1 282 (Chem. 282) Amino Acids and Protein Chemistry 3 credits S** See Chemistry 282 for course description.
- 300 Research and Thesis Credits to be arranged F & S (STAFF)**

**1** Offered in alternate years; given in 1967-68.

**2** Offered in alternate years; given in 1968-69.

**AGRICULTURAL ECONOMICS**

Professor Folz (Head); Associate Professors Bevan, Lindeborg, Long and Marousek; Assistant Professors Steiner, Summers, and Withers.

**PRIMARILY FOR UNDERGRADUATES**

- 55 **Agricultural Economics 3 credits F** Introductory study of material included in the field of agricultural economics. Consists of a survey course of farmers' problems in farm management, marketing, use of land, cooperatives, agricultural policies and programs, agricultural credit, and agricultural labor and tenancy. Three lectures per week. (FOLZ)

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 108 **Farm Management 3 credits S** Study of decision making for the farm operator who seeks maximum profits. Application of economic principles and farm records to such decisions. Discussion of methods of comparing alternative farming combinations and alternative farm practices. Three lectures per week. Prerequisite: 3 credits of Principles of Economics. (STAFF)
- 119 **Marketing Farm Products 3 credits F** Description of marketing structures, agencies, and services involved in marketing farm products. Demand, supply, cost and price theories considered. Three lectures per week. Prerequisite: 3 credits of Principles of Economics. (MAROUSEK)
- 132 **Economics of World Agriculture 3 credits S** Survey of the agricultural economies and related problems in various areas of the world. Production, distribution and consumption of agricultural commodities viewed to familiarize the student with the workings of the agricultural economy within and among the countries of the world. Each area considered in its individual setting as well as its relationship to the rest of the world. Prerequisite: Econ. 52 or Ag. Econ. 55. (WITHERS)
- 150 **Land Resource Economics 3 credits F** A study of land utilization, land characteristics and classification with emphasis on agricultural, forest and mineral lands. Factors affecting land use including land ownership and tenure, taxation, values, credit and government policies. (WITHERS)
- 153 **Agricultural Prices 3 credits S** Prices and price cycles analyzed. Factors affecting farm prices and how and where prices are determined within the system. Analysis of price flexibility and economic instability at the farm level. Study of demand and supply theory, including elasticity. Study of farm price policy and action programs. Prerequisite: 3 credits, Principles of Economics. (WITHERS)
- 156 **Agricultural Programs and Policies 3 credits S** An analysis of the development of national and state economic policies and programs applied to agriculture. Special emphasis is placed upon current agricultural price, income, and credit policies, with an evaluation of degree of their success or failure in accomplishing their objectives. (FOLZ)
- 161 **Farm Appraisal 3 credits S** A study of the methods of valuing farm land and of the basic factors affecting land value. Considers valuations for loans, for sale, for assessment, for condemnation and for other purposes. Emphasis on procedures used by government and commercial agencies appraising land. Two one-day field trips. (STAFF)
- 177 (Econ. 177) **Economics of Developing Countries 3 credits F** See Economics 177 for course description.
- 181 **Agricultural Market Analysis 3 credits S** Markets and market structures for farm products analyzed. Concepts of workable competition and market power with implications for producers of farm products considered. Prerequisite: Econ. 52 and Ag. Econ. 119 or consent of instructor. (STEINER)
- 191 **Agricultural Business Management 3 credits F** A study of the economic theory of the firm and its application to the management of agricultural processing and service firms. Demonstrates the use of such tools as accounting, statistics, and efficiency studies for managerial problem solving. Prerequisite: 6 credits of Economics or Agricultural Economics. (SUMMERS)
- 193 **Agricultural Production Economics 3 credits F** An exposition of economic theory as it relates to agricultural production at the enterprise, firm, and industry levels. Three lectures per week. (LINDEBORG)
- 194 **Mathematical Analysis Applied to Agricultural Economics 3 credits S** Designed to prepare students for future work in quantitative methods in relating mathematical analysis to economic theory with emphasis on statistical techniques applied to economic activities. Three lectures per week. Prerequisite: Consent of instructor. (STAFF)

**PRIMARILY FOR GRADUATES**

- 207 (Econ. 207) **Research Methodology 3 credits F** Theoretical background of the scientific method applied to economic research including tools of measurement, use of theory, hypothesis, bias, interviewing, sampling, and questionnaires. Three lectures per week. Prerequisite: Consent of instructor. (MAROUSEK)
- 208 **Problems in Production Economics Research 3 credits S** The objectives of and techniques applied in research on production economics problems. The application of probability models and their evaluation employing a number of econometric techniques. Three lectures per week. Prerequisite: Ag. Econ. 193 or consent of instructor. (LINDEBORG)
- 209 **Dynamics of Agricultural Business Management 3 credits F** Economic analysis and operations research methods applied to the special problems of agricultural business. Procurement, processing and marketing integrated within competitive and non-competitive economic models. Major areas of risks and uncertainties for each model developed for various types of farm oriented businesses. Three lectures per week. Prerequisite: Consent of instructor. (SUMMERS)
- 221 (Econ. 221) **Advanced Microeconomic Theory 3 credits F** See Econ. 221 for course description.
- 222 (Econ. 222) **Advanced Aggregate Economics 3 credits S** See Econ. 222 for course description.
- 223 (Econ. 223) **Advanced Monetary Theory 3 credits S** See Econ. 223 for course description.
- 224 (Econ. 224) **Theory of Economic Development 3 credits S** An analysis of macro-dynamic theory as it relates to economic growth. The study of the theories of economic development; analysis of the conditions for economic development; and a study of the process of economic development and its significance to new areas and to underdeveloped regions. Three lectures per week. (FOLZ)
- 225 (Econ. 225) **Introduction to Econometrics 3 credits F** A discussion for the mathematical formulation of theoretical economic models which serve as the basis for empirical investigations of economic behavior. Three lectures per week. Prerequisite: Consent of instructor. (LONG)
- 300 **Research and Thesis Credits to be arranged F & S (STAFF)**

**AGRICULTURAL EDUCATION**

Professors Winner (Head) and Kindschy; Associate Professor Haynes.

**PRIMARILY FOR UNDERGRADUATES**

- 150 **Extension Methods in Agriculture 2 credits S** Methods used in the field by county agents, college faculty, extension specialists, and teachers of vocational agriculture. Should be of value to all who expect to enter any field of public work in agriculture. (WINNER and McPROUD)
- 151 **Principles of Vocational Education 2 credits F** Vocational education: its history, meaning, aims, administration and place in the school system. Required in Agricultural Education Curriculum. (Not open to freshmen.) (KINDSCHY)
- 152 **Beginning Methods 2 credits S** For juniors. Required in Agricultural Education Curriculum. (WINNER)
- 153 **Advanced Methods 3 credits F** For seniors. A continuation of Ag.Ed. 152. Required in Agricultural Education Curriculum. (WINNER)
- 154 **Methods of Teaching Farm Shop 2 credits S** A study of the application of efficient organization and management practice in teaching farm mechanics in vocational education in agriculture. Required in Agricultural Education Curriculum. (KINDSCHY)
- †155-156 **Practice Teaching 1 to 6 credits F & S** Required in Agricultural Education Curriculum. Prerequisite: Ag.Ed. 152 (WINNER and KINDSCHY)  
 Note: Generally students will be allowed to complete four weeks of practice teaching prior to registration as arranged by the Department of Agricultural Education and the high school involved. The students will register for this course for the fall semester as a part of their academic program and will pay only the regular registration fees at the time of registration in the fall. Normally, practice teaching will be completed not later than 10 days after the last regular registration date and students who complete registration within the time provided may register without penalty of the late registration fee.

- 157 Adult Agricultural Education Methods 2 credits F** Methods used by teachers of vocational agriculture in organizing and conducting young farmer and adult farmer classes. Required in Agricultural Education Curriculum. (KINDSCHY)
- 158 Supervision of the F.F.A. 2 credits S** Supervision of the Future Farmer Organization, community work and other problems not covered in Ag.Ed. 153. Required Agricultural Education Curriculum. Prerequisite: Ag.Ed. 153. (KINDSCHY)
- 161-162 Pro-Seminar 1 credit F & S** Study of agricultural education problems; presentation of papers and discussion. (WINNER and KINDSCHY)

**PRIMARILY FOR GRADUATES**

- 251-252 Seminar 1 to 3 credits F & S (WINNER)**
- 257 Problems in Teaching Vocational Agriculture 3 credits SS** For regularly employed teachers of vocational agriculture in Idaho. Includes attendance at summer conference for teachers of vocational agriculture, problems of methods, and new developments in the field of vocational agriculture. The course may be repeated three years with credit. (WINNER)
- X258 Directed Planning Workshop 1 to 6 credits X** A workshop designed primarily for teachers of vocational agriculture. It includes a study of problems in curriculum construction, methods, course content, and modern trends in agriculture. The course may be repeated for a maximum of 6 credits. (STAFF)
- 260 Advanced Methods in Farm Mechanics 1 to 3 credits F & S** Objectives, modern teaching methods, and current information in regard to the farm mechanics program in high school and adult classes. (STAFF)
- 261 Adult Programs in Agriculture 1 to 3 credits F & S** Philosophy of adult educational and community coordination in vocational agriculture. The development and present status of adult education and current subject matter and organization in relation to progressive adult programs in Idaho and the Northwest. (STAFF)
- 281-282 Professional Problems 1 to 3 credits F & S** This is for students working for the Master's degree. It is done under the direction of the professor in whose subject the greater part of the work is offered. (STAFF)
- 283 Program Planning in Vocational Agriculture 1 to 3 credits F-S & SS** Emphasis upon preparation for off-farm agricultural occupations. (STAFF)
- 300 Research and Thesis Credits to be arranged F-S & SS (STAFF)**

**AGRICULTURAL ENGINEERING**

Professor Corey (Head); Professor Martin; Associate Professors Bloomsburg, Dixon and Works; Assistant Professors Fitzsimmons, Moden, Robertson and Williams.

**PRIMARILY FOR UNDERGRADUATE STUDENTS OF AGRICULTURE**

- 4 Engineering Application in Agriculture 3 credits F & S** An elementary study of basic engineering principles and their applications in agriculture. A study of farm machinery and tractors, farm buildings, materials handling and processing, and irrigation and drainage. Instruction is given in the use of the slide rule. Three recitations per week. (MARTIN)
- 35 OxyAcetylene Welding 1 credit F & S** Fundamental training in the use of the oxyacetylene torch. One three-hour laboratory period per week. Required in the Agricultural Education Curriculum. Other students must have instructor's permission to enroll. (HAYNES)
- 37 Arc Welding 1 credit F & S** Fundamental training in the use of arc welding equipment. One three-hour laboratory period per week. Required in the Agricultural Education Curriculum. Other students must have instructor's permission to enroll. (HAYNES)

**PRIMARILY FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS OF AGRICULTURE**

- 103 Farm Shop Practice Laboratory 3 credits F** Primarily for Agricultural Education students. Other students must have instructor's permission to enroll. Practice is given in the care and use of farm shop tools and equipment. One recitation and two three-hour laboratory periods per week. (HAYNES)
- 114 Agricultural Shelter and Storage 2 or 3 credits S** Requirements and planning of farm buildings, including materials of construction, loads on buildings, design of beams and columns, analysis of insulation and ventilation for environmental control and engineering drawing principles. Two recitations or two recitations and one

- three-hour laboratory period per week. Three credits required of students in Agricultural Education. (DIXON)
- 121 Farm Machinery and Equipment 2 Credits F** Fundamentals involved in the selection, construction, use, adjustment, servicing, and care of farm equipment including farm machinery, crop processing, crop drying, and materials handling equipment. A study of materials of construction, heat treatment, power transmission and hydraulic systems. Two recitations per week. (WILLIAMS)
- 131 Gas Engines and Farm Tractors 2 or 3 credits F** Fundamentals involved in the construction and operation of the internal-combustion engine with particular application to small farm type engines and tractors. A study of carburetion, valve timing, ignition, cooling, lubrication and fuels. The servicing and repair of stationary engines and farm tractors. Two recitations or two recitations and one two-hour laboratory period per week. (MARTIN)
- 132 Electric Power Application 3 credits S** The application of electricity for heat, light, and power. Emphasis is on elementary electric circuits, fundamentals of electrical wiring, the selection of motors and controls, and the use of electricity for refrigeration and ventilation. Two recitations and one two-hour laboratory period per week. (WILLIAMS)
- 138 Farm Equipment Repair 3 credits S** Primarily for Agricultural Education students. Other students must have instructor's permission to enroll. Practical training in the service and repair of engines, electric motors and farm machinery. One recitation and two three-hour laboratory periods per week. (HAYNES)
- 141 Food Plant Construction and Equipment 3 credits S** A study of food plant plans, construction, refrigeration, air conditioning and practical maintenance and operation of food plant machinery. A one-day field trip normally will be required. Two recitations and one two-hour laboratory period per week. (DIXON)
- 161 Irrigation and Drainage Practice 2 or 3 credits F** Introduction to hydrology; water conveyance and measurement; irrigation relationships to soil and plants; pumps and pumping; irrigation methods; alkali and land drainage. Two recitations or two recitations and one three-hour laboratory period per week. Prerequisite: Junior standing. (FITZSIMMONS)

#### FOR UNDERGRADUATE PROFESSIONAL ENGINEERING STUDENTS

- 51 Introduction to Agricultural Engineering 1 credit F** Survey of the field of agricultural engineering. Problems in the application of engineering principles to the solution of agricultural problems. A study of the history and development of agricultural engineering. A one-day field trip to inspect agricultural engineering applications will be required. One two-hour laboratory period per week. Prerequisite: Math 9. (MARTIN)
- 52 Introduction to Agricultural Engineering 1 credit S** Special emphasis is given to the elements of design of farm equipment, farm electrification, farm buildings and irrigation systems. A one-day field trip normally will be required. One two-hour laboratory period per week. Prerequisite: Math. 9. Can be taken before Ag.E. 51. (MARTIN)

#### FOR ADVANCED UNDERGRADUATE AND GRADUATE ENGINEERING STUDENTS

##### 105-106 Pro-Seminar 1 credit F & S

- 116 Environmental Systems Design 2 credits S** Design and analysis of structures and environment for livestock and crop storage with emphasis on environmental control. Drawings and specifications for a controlled environment system. One recitation and one three-hour laboratory period per week. Prerequisites: A. E. 129 and E.S. 120 or with E.S. 120. (DIXON)
- 123 Agricultural Machinery and Tractor Design 3 credits S** Theory, design, construction, and adjustment of farm machinery, internal combustion engines and tractors including power transmission design, hydraulic design, and structural design. A study of fuels and lubricants, carburetion, fuel injection, ignition, and tractor testing. Prerequisite: E.S. 103, E.S. 120 or with E.S. 120. (WILLIAMS)
- 129 Elements of Structural Engineering (C.E. 129) 4 credits F** An abridged design course. The design of steel members and connections. The design of timber members and connections. Theory in design of reinforced concrete beams, slabs, columns, walls, footings and introduction to pre-stressed concrete. Four recitations per week. Prerequisite: E.S. 103. (DIXON)
- 140 Electric Power and Processing 3 credits F** The application of electrical energy to agricultural practices. Electric wiring design, lighting design, selections of electric motors and controls, and the applications of electro-magnetic radiation in agriculture. The engineering elements of agricultural materials handling and processing. A

<sup>2</sup> Offered in alternate years; to be offered in 1968-69.



- study of fans, drying, cooling, crop conditioning and conveyors. A one-day field trip normally will be required. Three recitations per week. Prerequisites: E.E. 21, E.S. 102, E.S. 120. (WILLIAMS)
- 148 **Agricultural Engineering Project 1 to 3 credits F & S** The solution of a suitable agricultural engineering project. The project may be in power and machinery, electric power and processing, farm structures or irrigation and drainage. Prerequisite: Senior standing. (STAFF)
- 152 **Agricultural Engineering Applications 3 credits S** The application of science, mathematics and engineering to agricultural engineering problems. Fundamental concepts of mathematics, physics, chemistry and the engineering science courses are reviewed and used in analyzing and solving selected problems covering all phases of agricultural engineering. Two recitations and one three-hour laboratory period per week. Prerequisites: E.S. 102, E.S. 103, and E.S. 120. (FITZSIMMONS)
- 154 **Materials Handling Systems 2 credits S** The design of materials handling systems for the conveyance of agricultural products. Two recitations per week. Prerequisite: Ag.E. 140. (STAFF)
- 160 **Hydrology 2 credits F & S** Study of weather influence on the hydrologic cycle; precipitation, evaporation and transportation, infiltration and runoff phenomena; runoff and flood relationships; theory of groundwater flow. Two recitations per week. (ROBERTSON)
- 163 **Fundamentals of Irrigation and Drainage 2 credits S** Soil-water-plant relationships. Consumptive use, irrigation methods and efficiencies. Water measurement, pumps and pumping. Current water resources developments. Water rights. Two recitations per week. Prerequisite: Math 51. (COREY)
- 167 **Drainage Theory 2 credits S** Fluid mechanics of saturated flow through soils with an introduction to unsaturated flow. Investigation procedures for and construction of sub-surface drains. Reclamation of saline and alkali soils. A one-day field trip normally will be required. Two recitations per week. Prerequisite: E.S. 102. (BLOOMSBURG)
- 168 **Irrigation and Drainage Design 3 credits S** Design of irrigation systems. Design of distribution systems including open ditches and pipelines. Design for sub-surface drainage. A one-day field trip will normally be required. Two recitations and one two-hour laboratory per week. Prerequisite: Ag.E. 163. (FITZSIMMONS)
- 181-182 **Agricultural Engineering Thesis 1 to 3 credits F & S** (STAFF)

**FOR GRADUATE PROFESSIONAL ENGINEERING STUDENTS**

- 201-202 **Seminar 1 to 3 credits F & S**
- 205-206 **Advanced Agricultural Machinery Design 1 to 3 credits F & S** An advanced study into the theory and design of farm machinery and farm tractors. (STAFF)
- 207 **Applications of Electricity in Agriculture 1 to 3 credits F & S** An advanced study into the theory of operation and design of electrical equipment used in agricultural production, processing, and research. (WORKS, WILLIAMS)
- 208 **Engineering in Agricultural Processing 1 to 3 credits F & S** An advanced study of design and economic relationships involved in agricultural processing. (WORKS, WILLIAMS)
- 209 **Advanced Hydrology 3 credits F & S** A study of the hydrologic processes as they relate to water control. Methods of evaluating distribution factors, i.e., precipitation, run off, evaporation, transpiration, and infiltration are emphasized. (ROBERTSON, WARNICK)
- 210 **Open Channel Hydraulics 3 credits F & S** A study of uniform and varied flow in open channels with fixed and movable beds. (FITZSIMMONS)
- 211 **Natural Channel Flow 2 or 3 credits F & S** Hydraulics of non-uniform flow in irregular channels, including unsteady flow, flow routing, and density currents. (FITZSIMMONS)
- 213 **Advanced Farm Structures Design 1 to 3 credits F & S** An advanced study involving the separate and interrelated analysis of structural and environmental design of farm buildings. (DIXON)
- 214 **Farmstead Systems Design 1 to 3 credits F & S** A study of the complete farmstead operation from an engineering standpoint as it applies to materials handling, farmstead and building layout and economic efficiency. (DIXON)
- 220 (WSU C.E. 558) **Fluid Mechanics of Porous Materials 3 credits F & S** Statics and dynamics of multi-fluid systems in porous materials. Considers properties of porous materials, capillary pressure saturation relationships, multi-fluid relative permeabilities, and steady and unsteady flow. A cooperative course offered by the University of Idaho; available to WSU graduate students. (BLOOMSBURG)

**236 Agricultural Engineering Design and Analysis 2 or 3 credits F & S** This course deals with defining the research problems, deciding the engineering principles to use and the application of professional methods to advanced agricultural engineering problems. (COREY)

**237-238 Directed Study 1 to 3 credits F & S**

- (a) Irrigation Structures
- (b) Stochastic Processes
- (c) Similitude and Approximation
- (d) Snow Physics
- (e) Controls for Automation
- (f) Power Appl. in Mechanization
- (g) Instrumentation in Agriculture
- (h) Special Topics

Group or individual study in advanced topics in agricultural engineering and critical reading in current literature. Primarily for advanced graduate students. A maximum of 9 credits may be earned in this course. Prerequisite: Consent of department head. (STAFF)

**289-290 (For. 289-290) (Geol. 289-290) Water Resources Seminar 1 credit F & S** Assigned reports by faculty and graduate students in current water resource problems and projects. Reports will be organized to give maximum interchange of ideas between divisions. (STAFF)

**300 Research and Thesis Credits to be arranged F & S**

## AIR FORCE ROTC

Professor Lt. Colonel Thompson (Head); Assistant Professors Captains Robertson and Grant.

### GENERAL MILITARY COURSE—Aerospace Studies

**10 The Nature of Military Power in the United States 1 credit F** Nature and principles of war. National Policy and power. The U.S. defense establishment. The U.S. Air Force. One day field trip. Meets two hours per week with the first seven and a half weeks in corps training and the remainder of the semester in classroom activities. (STAFF)

**20 U.S. Strategic Offensive and Defensive Forces 1 credit S** Force composition. Use and effect of nuclear weapons. Mission, weapons systems, and command/control of Strategic Air Command. Composition and role of U.S. defensive forces. One day field trip. Meets two hours per week with approximately one half of the semester in the classroom and the last seven and a half weeks devoted to corps training. (STAFF)

**30 U.S. General Purpose and Aerospace Support Forces 1 credit F** Composition and mission of unified commands. The Tactical Air Command role in limited war and counter-insurgency actions. The contributions of the Air Force commands whose primary role is aerospace support. One day field trip. Meets two hours per week with the first seven and a half weeks in corps training and the remainder of the semester in classroom activities. (STAFF)

**40 Trends of World Military Power 1 credit S** The conflict between Democracy and Communism. Alliances and alignments. Contemporary military thought related to the prospects and strategy for peace. One day field trip. Meets two hours per week with approximately one half of the semester in the classroom and the last seven and a half weeks devoted to corps training. (STAFF)

### PROFESSIONAL OFFICER COURSE—Aerospace Studies

**110 U.S. Power Development 3 credits F** A study of the nature of war; airpower development in the United States; Defense Department mission and organization; and U.S. Air Force concepts, doctrine, and employment. One two day field trip. Meets three hours per week in the classroom plus two hours for the first seven and a half weeks in corps training. (STAFF)

**120 U.S. Aerospace Development 3 credits S** An introduction to astronautics and space operations plus future development of aerospace power. Includes the United States space programs, vehicles, systems, and problems in space exploration. One day field trip. Meets three hours per week in the classroom plus two hours for the last seven and a half weeks in corps training. (STAFF)

**130 Professional Air Force Officer Development 3 Credits F** A study of military professionalism including professional responsibilities, theory of leadership, meaning of discipline, role of human relations in management and a comprehensive study of

the military justice system. One two day field trip. Meets three hours per week in the classroom plus two hours for the first seven and a half weeks in corps training. (STAFF)

- 140 Air Force Management 3 credits S** A study of management within the Air Force encompassing personnel policies, channels of communication, principles and functions of management, command-staff organization and problem solving exercises. One day field trip. Meets three hours per week in the classroom plus two hours for the last seven and a half weeks in corps training. (STAFF)
- 165 Air Force Flight Instruction Program 0 credits F & S** Open to cadets who qualify to become Air Force pilots. Ground school includes instruction in principles of flight, weather, navigation, radio communications and Federal Aviation Regulations. Flight training includes 36½ hours of flying time (20 dual, 16½ solo). Cadets receive Private Pilots License upon meeting Federal Aviation Agency requirements. Prerequisites: A.S. 110 and A.S. 120. (STAFF)

## ANIMAL SCIENCE

Professor Bell (Head); Associate Professors Baker, Christian, Hemstrom, Hodgson and Orme; Instructors Gibson and Slyter.

### PRIMARILY FOR UNDERGRADUATES

- 2 The Livestock Industry 3 credits S** History and development; principles underlying the production and distribution of livestock and livestock products; relation to agriculture and other industries; commercial and purebred types of horses, cattle, sheep and swine; characteristics and adaptation of the various breeds. Lectures, problems and reference reading. Two lectures and one two-hour laboratory period per week. (BELL, HODGSON and BAKER)
- 52 Practicum 1 credit S** Laboratory practice in training, fitting, showing and management of livestock. One three-hour laboratory period per week. Prerequisite: A.S. 2 or may be taken concurrently. (STAFF)
- 54 Livestock Judging (104) 2 credits S** The judging of horses, cattle, sheep and swine in groups with reference to breed and market types. Two three-hour judging periods per week. Two one-day field trips and four half-day field trips. Prerequisite: A.S. 2 (HODGSON)
- 56 Meats 1 credit F** A study of the factors affecting the quality and palatability of meat; identification and selection of wholesale and retail cuts of meats. This course is offered for students in Home Economics. One hour per week. One one-day field trip. (ORME)
- 63 (F.S. 63) Meats (A.H. 113) 3 credits F** Techniques and basic information related to slaughtering, cutting, wrapping and the preservation of meat. Appraisal of the live animal and carcass as to quality, grade, yield, and economic value. Two lectures and one three-hour laboratory period per week. One one-day field trip. (ORME)
- 64 Meat Evaluation and Grading 1 credit S** Study of the factors involved in the grading and selection of carcasses and wholesale cuts of meat; and defining meat quality. One three-hour laboratory period per week. Four one-day field trips and two two-day field trips or equivalent time. Prerequisite: A.S. 63. (ORME)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 105 Principles of Nutrition 3 credits F** Designed to give fundamental knowledge in the field of nutrition with discussions of proteins, carbohydrates, fats, minerals and vitamins; of the physiology of digestion, absorption and metabolism of nutrients; and of the relationship of enzymes and hormones in these phenomena. Laboratory feeding experiments are conducted to demonstrate principles. Required for juniors in Animal Science. Three lectures per week and reports on laboratory experiments. Prerequisite: Ag. Biochem. 80 or equivalent. (BAKER)
- 106 Applied Animal Nutrition 3 credits S** Designed to give the application of the fundamental principles of nutrition in modern systems of feeding of domestic animals. Discussions of methods of evaluating feedstuffs, comparisons of feeds, animal requirements, and methods of meeting these requirements. Required for juniors in Animal Science. Two lectures and one two-hour laboratory per week. Prerequisite: A.S. 105 or consent of the instructor. (BAKER)
- 111 Advanced Livestock Judging 1 or 2 credits F** Primarily for seniors. Excursions are made to livestock farms and shows within reach of the University. One or two three-hour judging periods per week. May be repeated for credit with the consent of the instructor for a maximum of 2 credits for the course. Five one-day field trips and one five-day field trip. Prerequisite: A.S. 54. (HODGSON)

☐ Offered in Alternate Years; Given in 1967-68.

- 112 Animal Breeding 3 credits S** Coordination of physiological background; general law of heredity; methods of investigation; interpreting experimental data; application of principles to livestock improvement; problems and reference reading. Three lectures per week. Required of students in Animal Science. Prerequisite: Pl.Sci. 101. (CHRISTIAN)
- 114 Beef Cattle Science 3 credits F** Breeding, feeding, management and marketing of commercial and purebred cattle. Three lectures per week. Prerequisite: A.S. 2. (HODGSON, BELL)
- 115 Sheep Science 3 credits S** Breeding, feeding, management and marketing of commercial and purebred sheep; and wool studies. Two lectures and one two-hour laboratory period per week. Prerequisite: A.S. 2 (BELL, HODGSON)
- 116 Horse Production 2 credits S** A study of the horse with emphasis on physiology, anatomy and function as related to nutrition, breeding and conformation. Also included are some of the practical aspects of management. Two lectures per week, one half-day field trip. Prerequisite: Junior standing. (HEMSTROM)
- 117 Swine Science 3 credits F** Breeding, feeding, management and marketing of commercial and purebred swine. Two lectures and one two-hour laboratory period per week. Prerequisite: A.S. 2. (CHRISTIAN)
- 120 Senior Inspection Trip 1 credit S** A seven day field trip to major livestock producing areas selected by A.S. staff. (STAFF)
- 124 (F.S. 124) Advanced Meat Evaluation and Grading 1 or 2 credits S** A detailed study of the factors involved in the grading and selection of carcasses and wholesale cuts for meat and defining meat quality. May be repeated for credit with consent of the instructor for a maximum of 2 credits. One three-hour laboratory period per week. Four one-day field trips and two two-day field trips, or equivalent time. Prerequisite: A.S. 64. (ORME)
- 134 (F.S. 134) Meat Technology 3 credits S** Fabricating and pricing of wholesale and retail cuts of meat, the technology of fresh and processed meats, sausage making, lard rendering and quality control. Two lectures and one three-hour laboratory period per week. One one-day field trip. (ORME)
- 157-158 Pro-Seminar 1 credit F & S** Investigation in selected lines of Animal Science. Senior year. (STAFF)
- 161-162 Special Problems in Animal Science 1 or 2 credits F & S** Problems in Animal Science. Credit to be arranged. (STAFF)

#### GRADUATE COURSES IN THE ANIMAL SCIENCES

Professors Bell, Peterson and Ross; Associate Professors Baker, Christian and Orme.

#### PRIMARILY FOR GRADUATES

Offered in the Animal, Dairy and Poultry Science Departments. Graduate students receive the degree of Master of Science in Agriculture with a major in Animal Science, Dairy Science or Poultry Science.

- A.S. 203-204 Seminar 1 or 2 credits F & S** May be repeated for a total of 3 credits in A.S. 203-204. (STAFF)
- A.S. 213 Meat Methodology 3 credits S** Physical, histochemical, enzymatic and microbiological properties of meat and the relationship of these traits and carcass components to the live animal and its environment. One lecture and two three-hour laboratory periods per week. (ORME)
- A.S. 221 Animal Nutrition 3 credits F** An advanced study of the biochemistry, physiology, and micro-biology of nutrient metabolism in animals. Prerequisite: Chem. 180 or equivalent. (Chem. 180 may be taken concurrently with consent of the instructor.) (BAKER)
- A.S. 222 Animal Nutrition 3 credits S** An advanced study of methods of measuring energy requirements of animals and the energy value of feeds. Prerequisite: A.S. 221 or consent of the instructor. (BAKER)
- A.S. 224 The Physiology of Non-Ruminant Nutrition 2 credits S** A study of the physiology of digestion absorption, and metabolism of nutrients in the non-ruminant; includes a study of the development of nutritive requirements and of nutritive interrelationships. Prerequisite: A.S. 221 or consent of instructor. (BAKER)
- D.S. 226 Microbiology and Physiology of Ruminant Nutrition 3 credits S** The physiological and microbial aspects of ruminant digestion and their influence on the metabolism of extra-ruminal tissues. The interpretation of nutritive requirements

- in terms of rumen microbial activities and evaluation of research techniques are treated. Two lectures and one two-hour laboratory period. Prerequisite: A.S. 221 or consent of instructor.
- P.S. 228 Advanced Poultry Nutrition 2 credits S** An advanced study of the application of energy, protein, mineral and vitamin knowledge to poultry nutrition. Prerequisite: A.S. 221 or consent of instructor. (PETERSON)
- D.S. 241 Advanced Animal Genetics 3 credits F** Advanced concepts of the basic genetic principles including the nature, origin, stability, and mechanics of distribution of the genes; with special emphasis on genetics of sex, sterility, disease resistance, and other multiple factor inheritance. Prerequisite: Consent of instructor.
- A.S. 242 Advanced Animal Breeding 3 credits S** Statistical techniques used in animal breeding research; methods of estimating heritability, genetic and phenotypic correlations, construction of selection indexes, how selection changes the genetic composition of a population; mating systems; genetic homeostasis. Prerequisite: Consent of instructor. (CHRISTIAN)
- D.S. 251 Endocrine Physiology of Farm Animals 3 credits F** The structure of the glands of internal secretion and their role in growth, development, metabolism, production and reproduction of farm animals. Prerequisite: Consent of instructor.
- A.S. 252 Experimental Reproductive Physiology of Farm Animals 3 credits S** Laboratory techniques used in physiology of reproduction research. Comparative and differential fertility, the effect of endocrine deficiencies and excesses on fertility and sterility, experimental control of reproduction in farm animals. Prerequisite: Consent of instructor. (CHRISTIAN)
- A.S. 300 Research and Thesis Credits to be arranged F & S (STAFF)**

## ANTHROPOLOGY

(Sociology-Anthropology is one of the subject matter fields within the Department of Social Sciences.)

Professors Harmsworth (Chairman), Bowers; Instructor Guinn.

### PRIMARILY FOR UNDERGRADUATES

These courses require no prerequisites. Students may enroll for a second semester course without having had the first semester course.

- 72 Introduction to Anthropology 3 credits F or S** Relation to other social sciences. Man as a living organism. Biological evolution; human evolution, races, culture, its meaning, development, organization. Not open to freshmen. (GUINN)
- 73 Comparative Social Systems 3 credits F or S** Primitive social systems and the problems of present day primitives with special emphasis on our primitive heritage and on theories of cultural change. Not open to freshmen. (GUINN)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

Ordinarily three credits in the lower division courses in anthropology are required for registration in the following courses. Exceptions may be made in special cases with the consent of the instructor concerned.

- 116 Culture and Personality 3 credits F or S** An assessment of the leading studies in the field of culture and personality. Deals with some of the principal methods used in culture and personality studies, the observation of behavior, and the analysis of life-history materials. (BOWERS)
- 117 Cultural Anthropology 3 credits F or S** Forms and expressions of culture as exemplified by contemporary societies in America, Africa, Asia and Oceania. (BOWERS)
- 118 Peoples of the World 3 credits F or S** Ethnographical studies of the preliterate peoples of Eurasia, Africa, Australia, and the islands of the Pacific. Contemporary problems in these areas resulting from European and American cultural penetration. (BOWERS)
- 119 The American Indian 3 credits F or S** The Indians of North, Central and South America in their primitive state. (BOWERS)
- 120 People of Africa 3 credits F or S** The native populations of Africa, their cultures, and contemporary problems arising from European penetration and the emergence of native states. (BOWERS)

- 123 **Old World Archeology 3 credits F or S** Rise of Old World civilization, relating to the paleolithic, mesolithic, neolithic, bronze and iron ages, and the methods of classification employed. (BOWERS)
- 124 **New World Archeology 3 credits F or S** The cultural development of American aborigines as indicated by archeological materials. (BOWERS)
- 125 **Anthropological Field Methods 1 to 6 credits F & S** Supervised field training in archeology and/or ethnology, to acquaint students with research methods in these fields. Course available only under authorized research projects. Students enrolled must carry on designated research projects under the instructor and make acceptable reports on their work. Individual expenses—transportation and living expenses—must be borne by the student.
- 158 **Race Problems 3 credits S** The nature of racial and ethnic grouping, racial theories and their expressions; current world problems of race relations with special emphasis on those pertaining to the United States. A cooperative course offered by the University of Idaho; available to WSU graduate students. (BOWERS)

#### PRIMARILY FOR GRADUATES

- 207-208 **Seminar 2 to 4 credits F & S**
- Culture and the Individual (BOWERS)
  - Folk Society (BOWERS)
  - Anthropological Theory and Methods (BOWERS)
- 209-210 **Directed Reading 1 to 3 credits F & S**  
 a. Cultural Problems, b. Archaeology, c. Specialized Fields.  
 Directed study and research in the literature of the field. Maximum of 9 credits for this and/or Soc. 209-210. Prerequisite: Consent of the instructor. (STAFF)
- 225 **Anthropological Field Methods 1 to 8 credits F & S** Individual field work in approved areas by qualified students. Students will plan projects, keep detailed records of work, and submit acceptable reports. Personal expenses in field work will be borne by the students. The course may be elected more than once up to a total of eight credits. (BOWERS)
- 246 (WSU 546) **Interpretation of Paleoenvironment 3 credits F** Pleistocene Paleoclimatic changes as inferred from sediments, land forms, and fossil soil of archeological importance. Two one-hour lectures and one three-hour laboratory each week. Prerequisite: Permission of instructor. Cooperative course offered at Washington State University, available to U. of I. graduate students. (FRYXELL)
- 247 (WSU 547) **Physical Straigraphy of Archeological Sites 3 credits S** Recognition, description, sampling, and analysis of sediments typically found with human cultural materials. Two one-hour lectures and one three-hour laboratory each week. Prerequisite: Permission of instructor. Cooperative course offered at Washington State University, available to U. of I. graduate students. (FRYXELL)
- 248 (Geol. 285) (WSU 548) **Paleoecology 3 credits F or S** Interpretations of past environments, stressing the interrelation of physical and biological factors. Problems dealing with changes in the physical environments of the past and their influence on the distribution and evolution of organisms, including man. Three lectures a week. Cooperative course with Washington State University offered at Idaho. Available to W.S.U. graduate students. (SMILEY)

## ARMY ROTC

Colonel Rimlinger (Head), Assistant Professors: Majors Holland and Fong; Captains Spunzo and Tilton. Assistant Instructors: Sergeant Major Carpenter; First Sergeant Lemper; Staff Sergeants Dean, and Lowe.

#### BASIC COURSE

- 1-2 **First Year GMS I 1 credit F-S** Organization of the Army and ROTC; Individual Weapons and Marksmanship; U.S. Army and National Security; Leadership; plus an elective subject selected from four general fields, science comprehension, general psychology, effective communications and political development. The elective subject selected may be one that is required for the particular curriculum being followed. One lecture period and one one-hour leadership laboratory a week. (STAFF)
- 3-4 **Second Year GMS II 1 credit F-S** A study of the Military History of the United States, Map and Aerial Photography Reading, Introduction to Basic Tactics and Leadership. Two lecture periods and one one-hour leadership laboratory a week. (STAFF)

## ADVANCED COURSE

- 101-102 **First Year GMS III 3 credits F-S** Leadership; Military Teaching Principles; Branches of the Army; Small Unit Tactics and Communications; Counterinsurgency; Leadership. Prerequisite: Army 1, 2, 3 and 4 or the equivalent. Four lecture periods and one one-hour leadership laboratory a week. (STAFF)
- 103-104 **Second Year GMS IV 3 credits F-S** Operations; Logistics, Army Administration; Military Law; Role of the United States in World Affairs; Service Orientation; Counterinsurgency; Military Intelligence; Leadership. Prerequisite: Army 101-102. Four lecture periods and one one-hour leadership laboratory a week. (STAFF)
- 109-110 **Army Aviation ROTC Flight Training No credit F-S** Theory of Flight, Meteorology, Aerial Navigation and Radio; Instrument Flight Training; Cross Country Pilotage. Students who successfully pass the Federal Aviation Agency Examinations are given a private pilot's license and the Army Aviation ROTC Aviator Wings. 36½ hours of Flight Instruction and 35 hours of Ground Instruction, schedule to be arranged. Prerequisite: Must be enrolled in Army 103-104.

## ART AND ARCHITECTURE

Professor Jarrett (Head), Prichard (Head).\*

For course offerings, see under:

## ARCHITECTURE

## ART

## ARCHITECTURE

Professors Jarrett, Prichard; Associate Professors Bartell, Sloan; Assistant Professors Blanton, Dotts, Snyder, Bergeson; Instructor York.

## PRIMARILY FOR UNDERGRADUATES

- 11-12 **Elements of Architecture 3 credits F-S** A study of the elements of architecture and of architectural presentation. One lecture and two three-hour laboratory periods a week. (DOTTS)
- 13-14 **Architectural Graphics 1 credit F-S** The theory of projection, shades and shadows, perspective as they relate to the solution and presentation of the architectural problems. Should be taken in conjunction with Arch. 11-12. One three-hour laboratory period a week. (DOTTS)
- 51 **Design Workshop I 2 or 3 credits SS** A lower division workshop in architectural design for students who wish to make up, accelerate or advance in planning and design. (PRICHARD)
- 53-54 **Architectural Design I 3 credits F-S** A series of problems in architectural composition and planning. Individual criticism of assigned problems. (YORK)
- 55-56 **Building Construction I 3 credits F-S** The nature and properties of building materials used in architectural construction. Resistance of building materials to loads and stresses. Three lectures or recitations a week. (BERGESON)
- 115-116 **Architectural Design II 5 credits F-S** A continuation of Arch. 53-54. Individual criticism of assigned problems. Fifteen laboratory hours a week. One three-day field trip during the year combined with 117 and 118. (BARTELL)
- 117-118 **Architectural Design III 5 credits F-S** A continuation of Arch. 115-116. Individual criticism of assigned problems. Fifteen laboratory hours a week. One three-day field trip during the year combined with 115-116. (BLANTON)
- 131-132 **Building Construction II 3 credits F-S** The nature and properties of building materials. Design and use of wood, steel and concrete in architectural structures. (BARTELL)
- 135 **Construction Problems 3 credits F** Working drawings and construction problems. Application of structural theory. (BERGESON)
- 136 **Mechanical Plants of Buildings 3 credits S** The mechanical plant in its relation to the architectural problem. Insulation, acoustics, plumbing, and electrical installations, their fundamental principles and their application in the details of modern work. Three lectures a week. (BERGESON)
- 137-138 **Architectural Lectures 1 credit F-S** Lectures in the theory of programming, seismic calculations, theory of design. (BLANTON)

\*Retire July 1, 1967.

- 139-140 **Architectural History** 3 credits F-S A study of architecture through the ages. Three lectures a week. (PRICHARD)
- 151 **Design Workshop II** 2 to 4 credits SS An upper division workshop in architectural design for students who wish to make up, accelerate or advance in planning and design. (PRICHARD)
- 165-166 **Architectural Thesis** 5 credits F & S A fifth-year course in the study and design of a major architectural project. Programming, computations, presentation drawings, blueprints, specifications and oral defense. Prerequisite: Faculty review. (SLOAN)
- 167-168 **Office Practice** 3 credits F-S A study of professional standards and procedures. Three lectures a week. (BERGESON)
- 173 **Landscape Gardening (Plant Sc. 120)** 3 credits F See Plant Sc. 120 for course description.
- 174 **Advanced Landscape Design (Plant Sc. 122)** 3 credits S See Plant Sc. 122 for course description.
- 175-176 **Introduction to City Planning** 3 credits F-S A study of the history and theory of city planning and the problems associated with urban growth, followed by an analysis of twentieth century planning in the United States and Europe with emphasis on group housing and urban development patterns. (SLOAN)

#### PRIMARILY FOR GRADUATES

- 221-222 **Professional Practice** 3 credits F & S Study of professional problems. For graduates who request aid with individual problems in the field of architecture. Problems must be presented to a jury of the architectural faculty for approval. (PRICHARD, BARTELL, SLOAN)
- 227-228 **Seminar** 3 credits F & S  
 a. City Planning. (SLOAN)  
 b. Area Studies. (STAFF)  
 c. Readings in Architectural History. (PRICHARD, DOTTS)  
 A maximum of 12 credits may be earned in Arch. 227-228.
- 300 **Research and Thesis** 1 to 5 credits F & S (STAFF)

## ART

Associate Professor Roberts (Chairman); Professors Dunn, Kirkwood, Prichard; Associate Professor Westerlund; Instructors Morse, Sazonick.

#### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Drawing I** 2 credits F & S Freehand drawing. Emphasis on expressive use of materials. Two two-hour laboratory periods a week and assigned work. (ROBERTS, MORSE, SAZONICK)
- 3-4 **Design** 2 credits F-S Elements of design explored through various media in two and three dimensional problems. Two two-hour laboratory periods a week and assigned work. (MORSE, SAZONICK)
- 7 **Printing in the Classroom** 1 credit SS Silk screen posters and other graphic art as aids to the classroom teacher. A summer workshop in art. (WESTERLUND)
- 9 **Materials Approach to Teaching Art** 1 credit SS A creative approach to teaching based on the natural manipulation of materials. The materials-centered class. (WESTERLUND)
- 29 **Workshop in Drawing** 1 credit SS Intensive study of theory and practice of visual representation in pencil and brush, mainly monochromatic. One week. May be repeated twice for credit. (WESTERLUND)
- 31-32 **Workshop in Painting I** 1 to 3 credits SS Travel class in painting known as "Workshop on Wheels". Landscape and other painting in any media. Section A (KIRKWOOD), Section B (DUNN)
- 33 **Workshop in Sculpture** 1 credit SS Lectures and experiments in the nature and uses of sculpture. One week. May be repeated twice for credit. (ROBERTS)
- 35 **Workshop in Design** 1 credit SS Lectures and experiments on the basis for design in the arts. Visual aspects of form. One week, may be repeated twice for credit. (ROBERTS)



- 37 **Workshop in Pottery** 1 credit SS The arts of pottery, lecture and experiments in the ceramic arts. One week. May be repeated twice for credit. (ROBERTS)
- 39 **Workshop in Silk Screen** 1 credit SS Techniques and uses of the silk screen stencil. Its uses in the classroom. One week. May be repeated twice for credit. (ROBERTS)
- 41-42 **Art Appreciation** 2 credits F-S A consideration of the elements of beauty in the various arts. Slides, lectures and discussion of architecture, painting, sculpture, and other arts. The various viewpoints: the philosopher, the artist, the layman. (PRICHARD, WESTERLUND)
- 47-48 **Lettering and Layout** 2 credits F-S First semester: calligraphy and basic letter forms as they relate to type. Second semester: layout techniques and typography. One lecture and one three-hour laboratory period a week. (DUNN)
- 61-62 **Painting I** 2 to 4 credits F-S Fundamentals of painting and color. One three-hour laboratory period per week per credit. (KIRKWOOD)
- X61-X62 **Painting I** 2 to 4 credits X (KIRKWOOD, DUNN, ROBERTS, MORSE)
- 65-66 **Pottery I** 2 credits F-S Hand-built pottery; use of wheel; glazing and firing. Two three-hour laboratory periods a week. (ROBERTS)
- 71-72 **Sculpture I** 2 credits F-S Experiments in three dimensional design employing sculptural tools, techniques and materials. Two three-hour laboratory periods a week. (ROBERTS)
- 75-76 **Drawing II** 2 credits F-S Advanced drawing from life and nature. Two three-hour laboratory periods a week. Prerequisite: Art 1-2. (ROBERTS)
- 77-78 **Water Color I** 2 credits F-S The techniques of water color painting. Sketching from still life and nature. One one-hour recitation and one three-hour laboratory period a week. Prerequisite: Art 1-2. (DUNN)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 **Water Color II** 2 credits F-S The techniques of water color painting. Sketching from still life and nature. Prerequisite: Art 1-2. One one-hour recitation and one three-hour laboratory period each week. (DUNN)
- 103-104 **Pottery II** 2 credits F-S Continuation of basic techniques. Individual experiments with form and glazes. Two three-hour laboratory periods a week (ROBERTS)
- 107-108 **Painting II** 2 to 4 credits F-S Painting in oil from the model, nature and abstract form. Prerequisite: Art 1-2 or 61-62. One three-hour laboratory period per week per credit. (KIRKWOOD)
- 121-122 **Commercial Design I** 2 credits F-S Problems in illustration and advertising design. Two three-hour laboratory periods a week. One two-day field trip in one semester. (DUNN)
- 123-124 **Composition** 3 credits F-S A study of pictorial composition through student problems. Prerequisite: Art 1-2 and 75-76 or 107-108. (KIRKWOOD)
- 127-128 **Drawing III** 2 credits F-S Advanced drawing from life in various media. Three hours per week per credit. (ROBERTS)
- 129-130 **History of Painting** 3 credits F-S A technical study of the great occidental painters of history. (KIRKWOOD)
- 131-132 **Workshop in Painting II** 1 to 3 credits SS "Workshop on Wheels". For experienced painters with collegiate, advanced standing. Admission by consent of instructors. Section A (KIRKWOOD), Section B (DUNN)
- 133-134 **Printmaking** 2 credits F-S The art of printmaking; relief, planographic and intaglio. Prerequisite: Art 1-2 Two three-hour laboratory periods a week. (STAFF)
- 141-142 **Painting III** 2 to 4 credits F-S Advanced painting. Portrait, life and creative composition. One three-hour laboratory period per credit. (KIRKWOOD)
- 145-146 **Interior Architectural Design** 3 or 4 credits F-S A study of the designing and furnishing of interiors. Drawings and models. Three hours per week per credit. Prerequisite: Arch. 53-54 or permission of instructor. (YORK)
- 147-148 **Commercial Design II** 3 credits F-S Advanced problems in illustration and advertising design. Lectures on production and studio practice. One lecture and two three-hour laboratory periods a week. One two-day field trip one semester. (DUNN)

- 161-162 **Pro-Seminar Credits to be arranged F-S** Critical readings and reports in the field of art or architecture. (STAFF)  
 a. Readings in Art  
 b. Readings in Architecture  
 c. Theories of Art Instruction

163-164 **Thesis 2 to 4 credits F-S** For students in their senior year. (STAFF)

- 171-172 **Sculpture II 2 to 4 credits F-S** Individual investigation of sculptural concepts and advanced techniques. One three-hour laboratory period per week per credit. (ROBERTS)

#### PRIMARILY FOR GRADUATES

201-202 **Studio Problems 3 to 5 credits F-S** Advanced work in an elected discipline.

203-204 **Professional Problems 3 to 5 credits F-S** Professional problems in an elected discipline.

215-216 **Seminar 3 credits F & S** Problems in research in aesthetics are carried on in the course and their results presented from time to time for discussion. (STAFF)

300 **Research and Thesis 1 to 5 credits F & S** (STAFF)

## BACTERIOLOGY

Professor Cherrington (Head); Associate Professors Anderson, Beck and Calkins; Dr. Christianson\*, Dr. Ludden† and Dr. McCarter‡.

#### PRIMARILY FOR UNDERGRADUATES

51 **General Bacteriology 4 credits F & S** A general survey of the field of Bacteriology, designed for students in the general science courses and as a foundation for advanced work in the subject. Two lectures and two two-hour laboratory periods per week. Prerequisite: Chem. 3 or 11. (CHERRINGTON, ANDERSON, BECK, CALKINS)

54 **Public Health and Hygiene 3 credits S** Applied hygiene and sanitation from the standpoint of bacteriological and related sciences. The prevention of communicable diseases; environment in relation to health and disease. (CHERRINGTON)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

102 (F.S. 102) **Food and Applied Microbiology 4 credits S** A study of microbiological processes of importance to the food and fermentation industries. Problems of spoilage, spoilage control and sanitation. Food poisoning and food-borne infections. Two lectures and two three-hour laboratory periods per week. One field trip. Prerequisite: Bact. 51. (ANDERSON)

104 **Pathogenic Bacteria 4 credits S** A study of the more important disease-producing organisms. Emphasis is placed on cultural, biochemical and morphological characteristics which serve as a means of their identification. Two lectures and two three-hour laboratory periods per week. Prerequisite: Bact. 51. (CALKINS)

106 (F.S. 106) **Dairy Bacteriology 3 credits F** A study of bacteria found in milk, butter, cheese, ice cream, and other dairy products; isolation and study of specific groups; effect of common farm dairy practices on the number of bacteria in milk, etc. One lecture and two three-hour laboratory periods per week. Prerequisite: Bact. 51. (CHERRINGTON)

109 **Immunology and Serology 4 credits F** An intensive study of the theory of immunity, with animal experiments in the production of immune sera, use of vaccines, preparation and testing of vaccines, sera, toxins and anti-toxins. Two lectures and two three-hour laboratory periods per week. Prerequisite: Bact. 51 and 104. (CALKINS)

111-112 **Bacteriological Literature (Pro-Seminar) 1 or 2 credits F & S** (STAFF)

114 **Clinical Laboratory Methods 4 credits S** A course dealing with methods of analysis used in clinical laboratories. Laboratory procedures in hematology, urine serological diagnosis of disease. Two lectures and two three-hour laboratory periods per week. Prerequisites: Bact. 51, 104, and 109. (BECK)

\*—St. Luke's Hospital, Spokane, Washington

†—Deaconess Hospital, Spokane, Washington

‡—St. Luke's Hospital, Boise, Idaho

**115-116 Special Problems 1 to 3 credits F & S (STAFF)**

**121 Clinical Diagnosis 1 to 32 credits Internship A** twelve months' training course in laboratory methods used in hospital and public health laboratories. Laboratory work to be pursued in approved and designated hospital or public health laboratories containing suitable equipment, instruction to be given by individuals whose preparation would fit them for positions on the university faculty. Prerequisite: Bact. 114.

**125 (Soils 125) Soil Microbiology 3 credits F** A study of the activities of the microscopic forms of plant and animal life within the soil and the relationship existing between microbial activities, soil fertility, and crop production. The subject matter is covered by text, lecture, and review of current literature. One lecture and two three-hour laboratory periods per week. Prerequisite: Bact. 51. (ANDERSON)

**PRIMARILY FOR GRADUATES****201-202 Seminar 1 credit F & S (STAFF)**

**203 Physiology of Bacteria 2 to 4 credits F** A study of cellular physiology as it applies to bacteria. Cell structure and composition, metabolism, growth and variation are included. Two lectures per week or two lectures per week with laboratory work. Prerequisites: Bact. 51 or consent of instructor. (BECK)

**205 Microbial Fermentations 2 to 4 credits F** A study of selected industrial and non-industrial fermentations. Emphasis to be upon biochemical mechanisms and methods of fermentation analysis. Two lectures per week or two lectures per week with laboratory work. Prerequisites: Bact. 51 and Chem. 172 or consent of instructor. (BECK)

**207 Bacterial Taxonomy 2 credits F** A general consideration of the taxonomic groups of bacteria and the philosophies which have been applied to their classification. Prerequisite: Consent of instructor. (ANDERSON)

**209 Virology 2 to 4 credits F** A study of viruses with emphasis on pathogenesis and host-virus relationship. Prerequisites: Bact. 104 or consent of the instructor.

**212 Microbial Genetics 2 to 4 credits S** A study of the genetics of microorganisms. Principles of reproduction, variation and heredity. An elementary course in genetics is recommended.

**215-216 Graduate Problems in Bacteriology 1 to 3 credits F & S** Investigations on special problems involving either experimental or library research in (a) food; (b) medical; (c) metabolism; and (d) soil bacteriology. Open to graduate students in Bacteriology or allied fields. Prerequisite: Bact. 203 or 205 or consent of instructor. (STAFF)

**300 Research and Thesis Credits to be arranged F & S (STAFF)****BIOLOGICAL SCIENCES**

Professor Baker (Head)

The Department of Biological Sciences includes two subject-matter fields: Botany and Zoology. A student may major in either field. Bridging the two fields are a number of courses in Biology.

For course offerings, see under:

**BIOLOGY**  
**BOTANY**  
**ZOOLOGY**

Special collections of plants and animals are available in the Department of Biological Sciences for the use of all students in the University. The University of Idaho Herbarium lists more than 65,000 named specimens of flowering plants, ferns, and fungi. The bird collection of 2,700 study skins has about 260 species which are found in Idaho. The mammal collection consists of approximately 3,750 specimens.

**BIOLOGY**

Assistant Professor Waldron

**1 General Biology 4 credits F & S** A comprehensive study of biological principles including phylogeny, as illustrated by selected kinds of plants and animals. The influence of these principles on man is stressed. Three lectures and one two-hour laboratory period a week. (WALDRON)

**2 General Biology 4 credits S** The ecology and taxonomy of plants and animals. An introduction to the common plants and animals of Idaho, their collection, identi-

- fication, ecology, preservation, and maintenance in the laboratory. Two lectures, one quiz period, and one three-hour laboratory period a week. Two one-day field trips. Prerequisite: Biology 1. (WALDRON)
- 11 Introduction to the Life Sciences 4 credits F & S** A study of the biological principles important in understanding animals, plants, and microorganisms. Cytology, ecology, evolution, genetics, growth, molecular biology, and physiology are considered. Two lectures, one quiz period and two two-hour laboratories each week. Prerequisite: One year of high school biology and one year of high school chemistry with grades of C or better or Biology 1. Chemistry 3 or 11 may be taken concurrently in place of high school chemistry. (STAFF)\*\*
- 12 General Zoology 4 credits F or S** A study of vertebrate and invertebrate animals. Anatomy, embryology, histology, and physiology are considered. A survey of the animal kingdom is included. Two lectures, one quiz period and 2 two-hour laboratories each week. Prerequisite: Biology 11. (STAFF)\*\*
- 13 General Botany 4 credits F or S** A study of the anatomy, morphology, and physiology of seed plants and a survey of lower plants, including their morphology and life history. Two lectures, one quiz period, and 2 two-hour laboratories each week. Prerequisite: Biology 11. (STAFF)\*\*  
Students who take Biology 1 may register for 2 credits only in Zoology 1.
- 102 Biological Literature 1 credit S** A survey of botanical and zoological literature. (STAFF)
- 114 General Genetics 3 or 4 credits S** The study of genetic mechanisms in animals, plants and micro-organisms with particular emphasis on those forms important to biological research. Three lectures and one three-hour laboratory period a week. Prerequisite: Biol. 11. (FORBES)
- 116 Biological Laboratory Procedures 2 credits S** Studies of practical biology laboratory organization, preparations, and demonstrations. Main emphasis will be placed on readily available, inexpensive materials. (STAFF)
- 128 Cytology 3 credits S** A study of the structure and function of the nucleus and the cytoplasm in animal and plant cells. Two lectures and one three-hour laboratory period a week. Prerequisite: One course in genetics. (McMULLEN)
- 160 Biological Field and Museum Techniques 3 credits S** A study of field and museum techniques as applied to plant and animal research collections. Coverage includes organization and administration of collecting expeditions, types of specimens and field data obtainable, methods of analysis of such information, storage of specimens, and dissemination of research results. Two lectures and one three-hour laboratory period per week. One two-day field trip. Prerequisite: Permission of the instructor. (LARRISON)
- 170 Taxometrics 3 credits F** A quantitative approach to the problems of classification of microorganisms, plants, and animals. Included are analysis of numerical and computer taxonomies, phenetic and phylogenetic systems, codification of biological entities, and the applications of information theory to taxonomy. A numerical taxonomic problem will be worked out on a computer. Prerequisite: Ag. 121, or consent of instructor. (TYLUTKI)

#### PRIMARILY FOR GRADUATES

- 218 Biology for Teachers 2 credits SS** Discussions of the subject matter which should be included in a biology course. The collection, care, and preservation of biological material. (STAFF)
- 237 Physiological and Molecular Genetics (Zool. 237) 2 or 3 credits F** A study of physiological and molecular genetics. Prerequisite: Biology 114.
- 260 History of the Biological Sciences (262) 2 credits S** A chronological survey of the advances in biology as descriptive and experimental science. Contributors, from Aristotle to modern biologists, are considered and the treatment of data from Greek to modern times is described. (STAFF)
- N261 Seminar 1 credit SS** Recent advances and applications of the biological sciences. Discussions. (STAFF).
- N270 Professional Problems 1 to 6 credits SS** Advanced work is individually assigned and will require reading and/or research. The student may register for a problem in any of the fields of study in the Biological Sciences Department. Either field

\*\*For these courses the following corresponds in terms of courses formerly offered as follows:

Botany 1 or 3, or Zoology 1 are the equivalents of Biology 11. Zoology 2 is the equivalent of Biology 12. Botany 2 is the equivalent of Biology 13. No more than 7 credits can be earned for a combination of Zoology 1 and Biology 12 or a combination of Botany 1 and Biology 13. No more than 6 credits can be earned for a combination of Botany 3 and Biology 13.

☐ Offered in alternate years; given in 1968-69.

or laboratory work may be completed for credit. Prerequisite: The appropriate basic course in the chosen field and permission of the instructor. May be repeated for credit up to a maximum of credits of which at most 3 credits may be completed in absentia. (STAFF)

## BOTANY

Professor Baker (Chairman); Associate Professors Roberts, Tylutki; Assistant Professors Aller, McMullen; Instructor McCracken.

(Botany is one of the subject matter fields within the Department of Biological Sciences)

### PRIMARILY FOR UNDERGRADUATES

- 53 **Systematic Botany 4 credits S** An introduction to the classification and identification of the flowering plants with emphasis on the local flora. Two lectures and two three-hour laboratory periods a week. (BAKER)
- 78 **Economic Botany 2 credits F** The influence of plants and plant products on history and civilization, including the important plants affecting international commerce today. Prerequisite: Biol. 13. (TYLUTKI)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 **Plant Physiology 3 credits F** The basic problems of water exchange, foods, growth and nutrition, and metabolism. Two lectures and one recitation-demonstration period a week. Prerequisites: Biol. 11, one year of General Chemistry. (ROBERTS)
- 102 **Plant Physiology 4 credits S** A study of the fundamental aspects of physiology applicable to all plants. Two lectures and two three-hour laboratory periods a week. Prerequisites: Biol. 11, one year of General Chemistry. (ROBERTS)
- 103 **Plant Anatomy 4 credits F** Study of tissues of seed plants from the standpoint of origin, development, and function. Two lectures and two three-hour laboratory periods a week. Prerequisites: Biol. 11 and 13. (MCCRACKEN)
- 104 **Botanical Microtechnique 3 credits F** Methods of treating plant material for microscopic examination of histo-chemical tests. One lecture and two three-hour laboratory periods a week. Prerequisite: Biol. 11 or equivalent. (MCMULLEN)
- 105 **Plant Ecology 3 or 4 credits F** The nature, structure, composition, analytical and synthetic characteristics, dynamics, and classification of plant communities with some emphasis on the factors of the environment and their impact on plants and plant communities. Three lectures a week for three credits and an additional three-hour laboratory for four credits. Two one-day field trips required of those registered for four credits. Prerequisites: Bot. 1 or 3 and 53. (ALLER)
- 107 **Agrostology 3 credits F** An intensive study of the classification, distribution, and structure of grasses. One lecture and two three-hour laboratory periods a week. (BAKER)
- ① 111 (Plant Sci. 111) (WSU P.P. 501) **The Biology of Fungi 4 credits S** A study of the life activities of fungi, including an examination of their structure, life histories, and classification. Two lectures and two three-hour laboratory periods a week. Prerequisite: One year of biology or consent of instructor. A cooperative course with WSU offered at Idaho.
- 111 **Mycology (Plant Sc. 111) 4 credits F** A general survey of the fungi including a study of their structure, life histories, classification, and economic importance. Two lectures and two three-hour laboratory periods a week. Prerequisite: Bot. 1-2, or Bot. 3. (TYLUTKI)
- 119 **Phycology 4 credits F** The morphology and ecology of fresh water and marine algae and the principles underlying their classification. Collecting, identifying, and the making of permanent microscopic preparations. Prerequisite: Bot. 2 or Bot. 3. (MCMULLEN)
- ② 121-122 **Plant Morphology 4 credits F-S** A thorough study of the major groups of plants forms the basis of lectures upon the morphology, life histories and classifications of these groups. Two lectures and two three-hour laboratory periods a week. Prerequisite: Bot. 1-2 or equivalent. (MCMULLEN)
- 123-124 **Independent Study 1 to 3 credits F & S**

- |                  |                 |
|------------------|-----------------|
| (a) Anatomy      | (g) Morphology  |
| (b) Cytology     | (h) Mycology    |
| (c) Cytotaxonomy | (i) Paleobotany |
| (d) Ecology      | (j) Physiology  |
| (e) Genetics     | (k) Taxonomy    |
| (f) Geography    |                 |

Work is individually assigned and will require reading and/or research. The student may register for only one of the above sections per semester. Not over 6 credits may be earned. Prerequisites: the appropriate basic course in the chosen field, a minimum grade point average of 3.0 in the major, and permission of the instructor. (STAFF)

- N131 Field Botany 3 credits SS** A course with field observations, collection, preservation and identification of local plants, and the consideration of where they grow. Lectures and laboratory.
- 135 Synecology (WSU 462) 3 credits F** Structure, methods of analysis and dynamic behavior of plant communities. Prerequisite: Botany 53. Autecology recommended. A cooperative course with WSU offered at WSU. (DAUBENMIRE)
- 136 Field Ecology (WSU 463) 2 credits S** Structure, environmental relations, and dynamism of local desert, grassland, and forest communities. Field trips required. Prerequisite: Botany 135. A cooperative course with WSU at WSU. (DAUBENMIRE)

#### PRIMARILY FOR GRADUATES

- 2 203 Autecology of Plants 3 credits S** Detailed study of the environment, the environmental complex, plant reactions, and ecological adaptations. Prerequisite: Bot. 105. (ALLER)
- 1 205-206 Advanced Plant Ecology 1 or 2 credits** Intensive study of special phases of ecology. Prerequisite: Bot. 105 and the consent of the instructor. (ALLER)
- 207-208 Advanced Taxonomy 2 or 3 credits F-S** Taxonomy and morphology of special groups of plants. Students interested in aquatic botany should register for this course. Prerequisite: Bot. 53. (BAKER)
- 1 209 Plant Geography (106) 3 credits S** Advanced study of environmental factors of distribution and dispersal; the distribution of associations and particular taxa on a world-wide basis; and the mechanics of distribution with special emphasis on discontinuity patterns. Three lectures a week. Prerequisite: Bot. 105 or permission of the instructor. (ALLER)
- 2 210 Genetics of Fungi 3 credits S** A study of the genetics systems and sexuality of the fungi. Three lectures a week. Prerequisite: Botany 111, Botany 114, or consent of the instructor.
- 2 212 Advanced Mycology 4 credits S** An intensive study of selected fungal groups with emphasis on taxonomy, morphology, and genetics. Two lectures and two three-hour laboratory periods a week. Prerequisite: Bot. 111 or consent of instructor. (TYLUTKI)
- 1 214 Physiology of the Fungi 3 credits S** A study of growth, nutrition, metabolism and chemical syntheses of the fungi. One lecture and two three-hour laboratory periods a week. Prerequisites: Bot. 111 and Chem. 72 or equivalent. (TYLUTKI)
- 217 (WSU P.P. 522) Basidiomycetes 3 credits** Taxonomy, physiology, and reproduction of the rusts, smuts, and higher basidiomycetes. Prerequisite: Bot. 13, Bot. 53, or Plant Science 104. A cooperative course with WSU offered at WSU.
- 218 (WSU P.P. 523) Ascomycetes and Fungi Imperfecti 2 credits** Taxonomy, phylogeny, physiology, reproduction of ascomycetes, and fungi imperfecti. Prerequisite: Biol. 13, Bot. 53, or Plant Science 104. A cooperative course with WSU offered at WSU.
- 219 (WSU P.P. 524) Myxomycetes and Phycomycetes 2 credits** Taxonomy, phylogeny, physiology, reproduction of myxomycetes, phycomycetes. Prerequisite: Bot. 13, Bot. 53, or Plant Science 104. A cooperative course with WSU offered at WSU.
- 221-222 Botanical Seminar 1 credit F-S** Review of current literature; presentation of original work. (STAFF)
- 1 227 Mineral Nutrition (204) 3 credits S** The physiology of mineral elements in higher plants including essentiality, metabolic function, deficiency symptoms and theories of ion uptake and translocation. Two lectures and one two-hour discussion period a week. Prerequisites: Bot. 101 or 102 and Chem. 75-76 or Ag.Chem. 80. (ROBERTS)
- 1** Offered in alternate years; given in 1967-68.
- 2** Offered in alternate years; given in 1968-69.

- ② 228 **Plant Growth Substances (204) 3 credits S** The physiology of various auxin-regulated growth phenomena including current theories of auxin action in higher plants. Two lectures and one two-hour discussion period a week. Prerequisites: Bot. 101 or 102 and Chem. 75-76 or Ag.Chem. 80. (ROBERTS)

**233-234 Independent Study 1 to 3 credits F & S**

- |                  |                    |
|------------------|--------------------|
| (a) Anatomy      | (g) Mycology       |
| (b) Cytology     | (h) Paleobotany    |
| (c) Cytotaxonomy | (i) Physiology     |
| (d) Ecology      | (j) Phytogeography |
| (e) Genetics     | (k) Taxonomy       |
| (f) Morphology   |                    |

Advanced work is individually assigned and will require reading and/or research. The student may register for only one of the above sections per semester. Not over 6 credits may be earned. Prerequisites: the appropriate basic courses in the chosen field, a minimum grade point average of 3.0 in the undergraduate major, and permission of the instructor. (STAFF)

- ② 241 **Advanced Plant Morphology 3 credits S** Form and development of plants are surveyed with emphasis on the cryptogams. Functional implications of form are included. Laboratory work on all plant groups. Two lectures and one three-hour laboratory period a week (STAFF)
- ① 253 **Plant Structure 3 credits S** A study of the internal structure of all plants emphasizing the tissue organization of vascular plants with interpretations of modifications for special function. Two lectures and one three-hour laboratory period a week. (STAFF)
- ② N260 **Advanced Systematic Botany 2 credits SS** The basis of natural systems of taxonomy, the relation of taxonomy to phylogeny, and problems peculiar to certain groups are considered. Five lectures a week.

276 **Biosystematics of Flowering Plants 2 credits F** The role of cytology, genetics, serology, phytochemistry, phytogeography, and character correlation and discrimination in the field of taxonomy. The relative merits of experimental taxonomy and the classical morphological approach are examined. Consent of instructor.

**300 Research and Thesis Credits to be arranged F & S (STAFF)**

## BUSINESS ADMINISTRATION

Dean Kendrick; Professors Chrysler, Fletcher, Kessel; Associate Professors Clark, Dobler, Seelye and Wagner; Assistant Professors Cooper, Golis, Lynch, Moore, Peterson, Reynolds, Rice; Instructors Green, Utzman and White.

- 1 **Business Lectures 1 credit F** Introduction to study of business administration and economics. Required of all freshmen and transfer students entering with fewer than 26 credits. (KENDRICK)
- R11 **Government Contract Law and Administration 3 credits** An introduction to those principles of law which affect a Government agency's action. Primary emphasis will be placed on those affecting the Atomic Energy Commission. Some solutions to certain legal problems will be attempted. Prerequisite: Consent of instructor.
- R27 **Introduction to Business 3 credits** A survey course covering the various phases of business activity.
- 31-32 **Principles of Accounting 3 credits F & S** Introduction to accounting for individual proprietorships, partnerships and corporations. Two lectures and one two-hour laboratory period per week. Prerequisite to all other accounting courses.
- 81 **Financial and Administrative Accounting 3 credits F & S** Designed for students not majoring in accounting. Emphasis is on the structure of accounting theory, using information in financial statements, accounting for management control and in making decisions. Credit will not be granted for both Business 81 and 91, or Business 81 and Business 185. Prerequisite: Business 32.
- 83 **Statistics 4 credits F & S** Elementary principles of statistics as applied in the scientific study and interpretation of economic phenomena. Prerequisite: Math. 1 or 9. Three hours of lecture, one two-hour lab.
- 91-92 **Intermediate Accounting 3 credits F & S** Principles underlying content and construction of financial statements; corporation accounting; interpretation of

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

financial statements using comparative, analytical and other techniques, including funds statements. Prerequisite: Bus. 32.

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 103 Marketing 3 credits F & S** A description and analysis of the marketing processes, with an evaluation of marketing institutions and middlemen according to the functions they perform. Prerequisite: Econ. 52.
- 109 Principles of Advertising 3 credits F** The function of advertising, its social and economic aspects, principles of effective sales motivation, layout, copy, type, and media. Elementary study of the mechanical processes of printing and photo-engraving. Prerequisite: Junior standing.
- 119 Real Estate 3 credits F** Essentials of real estate practice; listing, selling, leasing, financing, and brokerage; fundamentals of valuation and of listing property management.
- X120 Real Estate Fundamentals 0 credit X** A practical basic study of the entire broad area of real estate activity; including the legal, social, economic, and financial operational phases of real estate in Idaho.
- X121 Real Estate Law 0 credit X** A practical applied study of Idaho real estate law which will help avoid legal difficulties arising from real estate transactions.
- 124 Financial Management 3 credits F & S** Analysis of the policies and practices required for effectively planning and controlling the sources and uses of a company's funds. The emphasis is on application of financial principles to specific business situations. Prerequisites: Bus. 32 and Econ. 52.
- 132 Sales Management 3 credits S** Practices and problems involved in selecting, training, compensating, stimulating, supervising and directing the selling efforts of an outside sales force. Analysis of organization and methods for controlling such practices and problems.
- 133 Introduction to Management Theory 3 credits F & S** A study of concepts of power, authority, and influence; communications, delegation and decentralization, decision and planning theory; formal organization structures, group decision making, philosophy and values in business organizations, and considerations of organization as a social issue.
- 134 Industrial Management 3 credits S** The individual business and its conditioning factors of location, buildings and equipment, layout, materials, production control, and personnel policies. One one-day field trip. Prerequisite: Bus. 83.
- 136 Investments 3 credits S** The general problem of investments and the merits of the various types of securities. One one-day field trip. Prerequisite: Bus. 124.
- R139 Nuclear Reactor Management Concepts 3 credits** An overview of the physics, chemistry and engineering concepts related to nuclear reactors. A course designed to equip the non-technically trained administrator with a working knowledge of reactor theory and its applications. Prerequisite: Consent of instructor.
- 140 Statistics for Business Decisions 3 credits S** An intermediate course in the use of statistics in business decision making under conditions of uncertainty, utilizing modern developments in utility and probability theory. Prerequisite: Bus. 83.
- 144 Organization Theory 3 credits S** A second course in management with emphasis on theories and empirical research in human behavior and their managerial applications. Treatment of concepts such as authority, power, informal organization, leadership, communications, decision making, and control process. Prerequisite: Bus. 133.
- 145 Real Property Appraisal 3 credits F** Introduction to the theories and the principles used in estimating the value of natural resources and any attached improvements. Prerequisites: Econ. 52 or consent of instructor.
- 146 Financial Institutions and Credit 3 credits S** Analysis of financial institutions and the credit instruments they issue or handle. Particular emphasis is on financial intermediaries, investment banking, and governmental financial institutions and their impact on the business system. Prerequisites: Bus. 32 and Econ. 52.
- 151 Personnel Management 3 credits F** Study of the organization, policies, and procedures of managing men. Consideration of the relations of the individual employees to the firm with respect to recruitment, selection, hiring, induction, training, transfer, and promotion. Prerequisite: Econ. 51.
- 160 Quantitative Methods in Business and Economics 3 credits S** Introduction to the quantitative methods employed in solving business and economic problems. Prerequisites: Bus. 83 and Econ. 52 or consent of instructor.



- 162 Office Management 2 credits F & S** This course covers the application of generally accepted management principles to administrative services.
- 164 Electric Computers in Business and Economics 3 credits F** Current uses of computers in business and economics; the logic of computers; the impact of computers on business decision making; elements of programming. Prerequisite: Bus. 83.
- 165 Business Law 3 credits F & S** The legal framework of business enterprise. Study of the workings and origins of legal institutions and the functions of the law as a system of social thought and social action. The background importance, and role of law in our society, with particular emphasis on private property and contract as basic concepts of a free enterprise system.
- 166 Business Law 3 credits S** Legal aspects of common business transactions; trade regulations, negotiable instruments, sales, chattel mortgages, conditional sales, suretyship, and insurance. Prerequisite: Bus. 165 or consent of instructor.
- 167 Business Law 3 credits S** Legal aspects of common business transactions: agency, partnerships, corporations and real property. Prerequisite: Bus. 165 or 166.
- 168 Government Regulation of Business 3 credits S** Institutional development of the economic relations between government and business. Economic analysis of the various types of government control employed. Prerequisite: Econ. 52.
- 170 Marketing Problems 3 credits S** The development of the capacity of management through the analysis of marketing problems where the significant facts are presented in a business setting. The selection of channels of distribution, distribution policies, sales promotion, price determination, and price policies. Prerequisite: Bus. 169.
- 171 Marketing Research and Analysis 3 credits S** Purposes, methods, and techniques of market research and analysis, both quantitative and qualitative, including analysis of potential markets, product analysis, and adoption. Prerequisites: Bus. 83 and Bus. 103.
- 172 International Commercial Policy 3 credits S** Principles of international trade; tariff, foreign exchange, market development, dumping, foreign policies, trade agreements, merchandising. Prerequisite: Econ. 51.
- 173 Retail Merchandising Fundamentals 3 credits F** Planning the following: location, initial capital and physical requirements; store organization and the control of personnel; merchandise requirements; pricing; buying and receiving merchandise; sales promotion and customer services; and retail expense management. Prerequisite: Bus. 103.
- 174 Retail Merchandising Problems 3 credits S** The application of principles and techniques on retail merchandising to the following problems: site selection, development and arrangement of physical resources; personnel organization and control; purchase planning; pricing, buying and receiving merchandise; advertising; and credit. Field trip will be taken. Prerequisite: Bus. 173.
- 176 Intermediate Marketing Management 3 credits F** The purpose of this course is to study concepts relevant to the planning function in marketing. Specifically, it reviews demand analysis theory, the structure of distribution and location theory, organizational buying behavior, and short and long run decision making by the marketing manager.
- 177 Insurance 3 credits F** Survey of major branches of insurance, principles and practices.
- 178 Life Insurance 3 credits S** Types of life insurance companies; types of contracts; personal and business uses of life insurance; fundamentals of premium computation; economic aspects of life insurance. Prerequisite: Bus. 177 or permission of instructor.
- 182 Management Policy 3 credits S** Intensive experience in the integration of theoretical and practical knowledge acquired in previous courses in the respective functional fields. Instruction is by analysis of cases of graded complexity and depth and by lectures on specific phases of top-management decision making. Policy decision making under conditions of uncertainty is emphasized. Prerequisite: Bus. 133 or consent of the instructor.
- 183 Federal and State Taxes 3 credits F** Fundamentals and applications of the laws of federal and state income taxes. Determination of tax liability and preparation of returns for individuals, fiduciaries, partnerships and corporations. Prerequisite: Bus. 32.
- 184 Federal and State Taxes 3 credits S** Fundamentals and applications of the laws of estate, inheritance and gift taxes; social security and unemployment taxes; excise taxes; and use taxes. Special problems of federal and state income taxes. Prerequisite: Bus. 183.
- 185 Costs—Concepts and Methods 3 credits F** The methods of specific order, process, and standard costing, overhead allocation, and joint product costing and the concepts underlying these methods. Prerequisite: Bus. 32.

- 187 **Advanced Accounting 3 credits F** A study of partnership accounting (organization, operation and dissolution); fiduciary, estate and trust, and governmental and institutional accounting.
- 188 **Advanced Accounting 3 credits S** Installment sales, agency and branch, consolidation, mergers and holding company accounting; considerations of foreign currencies and price-level changes in accounting.
- 190 **CPA Problems 3 credits S** A study of selected problems from the various areas of accounting requiring a review and analysis of these problems and the preparation of solutions. The course stresses the relevancy and reliability of given accounting data, its organization and presentation and the significance and general acceptability of alternatives.
- 191 **Auditing Theory 3 credits F** The nature and importance of the audit report and the bases upon which this report can be rendered including the Rules of Professional Conduct, auditing standards, and auditing procedures. Prerequisites: Bus. 91-92.
- 193 **Business Conditions Analysis 3 credits S** The application of recent theoretical, statistical and institutional developments to business forecasting. Prerequisites: Bus. 83 and Econ. 122.
- 195 **Honors I 3 credits F & S** A directed program of study offered by the business faculty to provide selected students an opportunity for more advanced and individual work than normal. Enrollment only by permission of the Dean.
- 196 **Costs—Analysis and Controls 3 credits S** Cost analysis and control methods as a basis for planning, cost control, and decisions. Prerequisite: Bus. 185.
- 198 **Advanced Statistics 3 credits S** A study of correlation analysis; time correlation and business forecasting, analysis of variance, and statistical analysis of business cycles. Prerequisite: Bus. 83.
- 199 **Systems Analysis 3 credits S** The analysis of the various types of systems within a business firm. Involves the creation and testing of systems utilizing the technique of computer simulation. Prerequisite: Bus. 164.

#### PRIMARILY FOR GRADUATES

205-206 **Accounting Seminar 2 to 4 credits** A critical examination and evaluation of various accounting theories, concepts, and standards for decision making. (STAFF)

211 **Seminar 3 credits F & S**

- |   |                             |
|---|-----------------------------|
| (a) Real Estate                           | (e) Industrial Management   |
| (b) Investments                           | (f) Industrial Relations    |
| (c) Insurance                             | (g) Current Business Probs. |
| (d) Government Regulations of<br>Business |                             |

These courses will be offered at irregular intervals. Minimum enrollment will be five students. (STAFF)

212 **Advanced Marketing 3 credits S** Elements involved in marketing management decision making in the areas of production development, pricing, demand creation, physical distribution, and channel selection. Prerequisite: Consent of the instructor. (STAFF)

217 **Administrative Organization 3 credits F** A reading, research, and discussion course in organization theory covering concepts of power, authority and influence, objectives and goals, decision making and planning, communications, delegation and decentralization, and considerations of values, social issues, and future trends in organization. Research and theories in other fields such as behavioral sciences and economics will be related to business organization theory. Prerequisite: Consent of instructor. (STAFF)

227 **Financial Policy 3 credits F** The objective is to develop ability to analyze and appraise current financial problems requiring management decision. Extensive reading and discussion in designated areas; social and economic implications of the financial process. Prerequisite: Consent of instructor. (STAFF)

240 **Dynamics of Business Decisions 3 credits S** An advanced course in statistical decision theory, surveying recent developments in the dynamics of business decision making as compared with classical theories of statistical inference. Prerequisite: Bus. 83 or consent of instructor. (STAFF)

284 **Tax Planning and Research 3 credits F** Development of basic concepts through research in actual tax cases and problems by using federal tax reporters, tax and federal court reports, digests and rulings, and other sources. The solution and proper presentation of cases. A study of new rulings and developments in the tax field.

- 285 Costs—Relevance, Measurement, and Applications 3 credits F** The development of cost control through standard costs including the applicability, setting, and revision of standards; variance analysis, flexible budget; cost-volume-profit and differential cost studies; and managerial cost reports.
- 291 Audits and Reports 3 credits S** The responsibilities of the Certified Public Accountant in planning audits, investigating and relying upon internal control, and issuing reports. The course includes the preparation of management letter, the short-form and long-form reports with consideration of the appropriateness and adequacy of disclosure.
- 293 Accounting Theory 3 credits F** This course covers the historical background of accounting; major areas of controversy in accounting principles and theories; pronouncements of the American Institute of Certified Public Accountants and American Accounting Association; and the impact of the Securities Exchange Commission in accounting theory.
- 296 Automation Systems 1 credit F** The study of several types of computers in use for accumulation and control of accounting data; consideration of programming and multiple use of data; audit of machine systems.
- 300 Research and Thesis Credits to be arranged F & S**

## BUSINESS EDUCATION

(Business Education is one of the subject fields within the College of Education.)  
(See also Office Administration)

Professor Kessel, Head, Department of Office Administration and Business Education;  
Assistant Professor Ertel, Distributive Education.

### PRIMARILY FOR UNDERGRADUATES

- 191 Methods in Business Education 2 or 3 credits S** Current methods and materials for teaching the office occupations. This course will be offered during the first 4½ weeks and the last 4½ weeks of the semester. Note: Office Occupations Option students will take this course for 3 credits; General Business Option students will take the course for 2 credits. Prerequisite: Consent of instructor. (KESSEL)
- 192 Methods in Business Education II 3 credits S** Current methods and materials for teaching the basic business subjects. This course will be offered during the first 4½ weeks and the last 4½ weeks of the semester. Prerequisite: Consent of instructor. (KESSEL)
- 193 Methods and Materials in Distributive Education 3 credits F** Current methods and materials for teaching distributive education. (ERTEL)
- 196 Directed Work Experience in Distributive Education 2 credits F & S** Job analysis, job descriptions, weekly work-experience reports and analysis coordinated with problems related to the students employment in an approved distributive occupation. Prerequisite: Consent of instructor. (ERTEL)
- 197 Coordination Techniques 3 credits S** Problems of the coordinator in the cooperative part-time program. Guidance and selection; placing students in work stations; assisting job adjustment; developing the training station. (ERTEL)
- 198 Organization and Administration of Cooperative Programs 3 credits S** Principles, practices and legislation followed in developing cooperative part-time and adult programs under the federal vocational acts. Basic course for coordinators and vocational administrators. (ERTEL)

### PRIMARILY FOR GRADUATES

- 207 Workshop in Business Education 1 to 2 credits SS** A one to three-week course.  
a. Office Occupations  
b. Economic Education  
c. Distributive Education
- 211-212 Seminar 2 to 4 credits F & S** A study of topics from recent research, and group discussion on selected research problems. (KESSEL)
- 215-216 Professional Problems 1 to 3 credits F & S** This course is for students wishing to study independently in areas not normally covered by formal course work. The student arranges the course with the instructor, and the course must be approved by the instructor prior to registration. A maximum of 6 credits may be taken in this course. (KESSEL, ERTEL)
- 220 Improvement of Instruction in Office Occupations Subjects 3 credits F, S, & SS** Problems in the development of occupational competency in the office occupations; methods and materials for instruction; standards of achievement; a review of liter-

- ature and research. Prerequisite: Graduate standing or consent of instructor. (KESSEL)
- 221 **Improvement of Instruction in Basic Business Subjects 3 credits F, S, & SS** An analysis of teaching procedures and materials for instruction; technique for measuring and evaluating achievement; a review of literature and research. Prerequisite: Graduate standing or consent of instructor. (KESSEL)
- 222 **Current Issues in Business Education 3 credits F & S** An analysis of philosophies, objectives, trends, and organization patterns of business education in the secondary schools. A review of literature and research. Prerequisites: Graduate standing or consent of instructor. (KESSEL)
- 223 **Administration and Supervision of Adult Distributive Education 3 credits F & S** Procedures and techniques for the establishment and development of adult programs in distributive education. Prerequisites: graduate standing or consent of instructor. (ERTEL)
- 224 **Current Issues in Distributive Education 3 credits F & S** An analysis of philosophies, objectives, trends and organization patterns of distributive education. Prerequisites: graduate standing or consent of instructor. (ERTEL)
- 300 **Research and Thesis Credits to be arranged F & S**

## CHEMICAL ENGINEERING

Professors Furgason (Head), Hoffman, Jackson, Warner; Associate Professors Bopp, Romero, Scheldorf; Assistant Professors Dunn, Edwards; Instructor Gerrish; Assistant Research Technologist McConnachie.

### PRIMARILY FOR UNDERGRADUATES

- 21 **Introduction to Chemical Engineering 2 credits F** A study of the chemical engineering method, the field of chemical engineering, and typical chemical engineering industries. A one day field trip to visit some of the process industries in the region normally will be required. Two class periods per week. Prerequisite: sophomore standing. (FURGASON)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 110 **Pro-Seminar 1 or 2 credits F & S** A study of the professional aspects of the field; student papers on recent developments and topics of interest are prepared, presented and discussed. Prerequisite: Senior standing. (HOFFMAN)
- 123 **Material and Energy Balances 2 credits F** Material and energy balances with applications. Two class periods per week. Prerequisite: Physics 52 and with E.S. 120. (DUNN, EDWARDS)
- 124 **Thermodynamics and Kinetics 3 credits S** The thermodynamics of non-ideal systems, and physical and chemical equilibrium. Chemical conversions including reactions, kinetics, and reactor design. Three class periods per week. Prerequisite: Ch.E. 123, E.S. 120, or consent of instructor. (DUNN, EDWARDS)
- 130 **Stage-Wise Operations 2 credits S** The stage-wise (equilibrium) operations of distillation, extraction, absorption, and ion exchange. A field trip from one to three days in length may be required. Two class periods per week. Prerequisites: E.S. 102, E.S. 120, Ch.E. 124 or with Ch.E. 124. (BOPP, EDWARDS)
- 131 **Transport Processes 3 credits F** A treatment of transport phenomena in one dimension and at steady state, involving mass, heat and momentum transfer, with applications. Three class periods per week. Prerequisite: Math 101 or with Math 101 and E.S. 102. (ROMERO, BOPP)
- 132 **Rate Processes 2 credits S** The design of processing equipment from rate considerations including chemical reactors and such unit operations as drying, crystallization, filtration, sedimentation and fluidization. Two class periods per week. Prerequisite: with Ch.E. 131. (SCHELDORF)
- 141 **Chemical Engineering Laboratory I 2 credits F** Laboratory investigation of chemical process equipment performance; laboratory determination of transport properties. Two laboratory periods per week. Prerequisites: Ch.E. 131, or with Ch.E. 131. (McCONNACHIE)
- 142 **Chemical Engineering Laboratory II 2 credits S** Laboratory investigation of performance and operation of unit operation and unit process equipment. Two laboratory periods per week. Prerequisites: Ch.E. 141, Ch.E. 132 or with Ch.E. 132. (McCONNACHIE)

- 143 Instrumentation Laboratory 1 credit F or S** Laboratory work involving instrumental analytical techniques and instrumentation equipment. One laboratory period per week. Prerequisite: Consent of instructor. (McCONNACHIE)
- 144 Automatic Process Control 3 credits S** The principles of automatic process control and application of industrial instruments to processing systems. Two class periods and one laboratory period per week. Prerequisite: E.E. 40. (FURGASON)
- 151 Industrial Water Treatment 2 or 3 credits F or S** The principles of water treating processes, including water chemistry, degasification, clarification, filtration, cold and hot processes of softening, zeolite softening, dealkalinizing, demineralization, and treatment of industrial wastes. A study of the industrial applications of these processes and the equipment employed. Elective. Two recitations or two recitations and one laboratory period per week. Prerequisites: E.S. 102. (STAFF)
- 153 Chemical Process Analysis 3 credits F** Study of the estimation of equipment and total investment costs, annual costs and profits, and indices of attractiveness. Analysis of selected processes to determine design and economic considerations involved with particular flow schemes. A field trip to one week in length may be required. Three class periods per week. Prerequisite: Econ. 51, senior standing. (WARNER, HOFFMAN)
- 154 Chemical Process Synthesis 3 credits S** Study of general principles of optimization and the application of optimization-economic balances. The design of the entire processes including optimization, alternate equipment and processing schemes. A field trip up to one week in length may be required. Three class periods per week. Prerequisite: Ch.E. 153. (WARNER, EDWARDS)
- 171 Process Engineering 2 or 3 credits F or S** Elective for non-chemical engineering majors. Application of chemical engineering principles to industrial processing. Emphasis on unit operations of interest to such industries as wood utilization, dairying, fermentation, etc. Two or three recitations per week. Prerequisite: junior standing. Chemical engineering majors may not take for credit. (STAFF)
- 176 Elements of Food Processing 3 credits F or S** Engineering factors in food processing; materials handling; operations in the conversion of raw materials. Emphasis placed on industries of importance to Idaho. Three class periods per week. Prerequisites: junior standing and consent of instructor. (STAFF)
- 181 Electrochemical Engineering 2 credits F or S** The theory and practice of electrochemical processes, particularly for those industries of interest in the state and area. Two class periods per week. Prerequisite: Chem. 106. (BOPP)
- 182 Process Equipment Design 2 credits F or S** The design of process equipment for the extremes of pressure and temperature; consideration of materials of construction is included. Prerequisite: Consent of instructor. Two class periods per week. (JACKSON, STAFF)
- 183 Fluid-particle System 2 or 3 credits F or S** Fluid-particle technology as applied to fluids-solids processing. Two or three class periods per week. Prerequisite: E.S. 102. (STAFF)
- 184 Electrochemical Hydrodynamics and Energy Conversion 2 or 3 credits F or S** The hydrodynamical aspects of electrochemistry, such as ionic migration in electric fields and the motion of particles in electrolytic solutions, including a discussion of the methods of energy conversion involving fuel cells, MHD generators and solar cells. Two or three class periods per week. Prerequisite: Consent of instructor. (BOPP)
- 191 Introduction to Chemical Engineering Principles 3 credits F or S** An introduction to chemical engineering principles for chemists, mechanical engineers, and other non-chemical engineers. This course covers material and energy balances and unit operations with an emphasis on operations in use at the NRTS. Prerequisite: Consent of instructor. (STAFF)
- 193-194 Chemical Engineering Projects 1 to 3 credits F & S** Assigned problems of a research or exploratory nature. Open to advanced undergraduate students only with departmental approval. (STAFF)

#### PRIMARILY FOR GRADUATES

- 205-206 Seminar 1 credit F or S** Conferences and reports on research and current developments. Required of graduate students majoring in chemical engineering. (GRADUATE STAFF)
- 207-208 Directed Study 1 to 3 credits F or S**
- |                                  |                                 |
|----------------------------------|---------------------------------|
| (a) Electrochemical applications | (i) Separation processes        |
| (b) Catalysis                    | (j) Energy conversion           |
| (c) Optimization                 | (k) Instrumental techniques     |
| (d) Turbulence                   | (l) Irreversible thermodynamics |
| (e) Macroscopic kinetics         | (m) Colloidal systems           |
| (f) Interfacial phenomena        | (n) Bioengineering applications |
| (g) Numerical solutions          | (o) Special topics              |
| (h) Aerothermodynamics           |                                 |

- Group or individual study in advanced topics in chemical engineering. Emphasis is on critical reading of current literature. Primarily for advanced graduate students. Prerequisite: Consent of instructor. (GRADUATE STAFF)
- 215 Transport Phenomena 3 or 4 credits F or S** A unified treatment of the fundamentals of momentum, heat and mass transfer in three dimensions including the unsteady state. The pertinent vector equations are derived and methods of solution developed. The three credit course covers basic fluid mechanics and heat transfer; an additional credit may be elected for the logical extension of these principles to mass transfer. Prerequisites: E.S. 102, E.S. 120 and permission of the instructor. (BOPP, EDWARDS)
- 225 Advanced Heat Transmission 2 or 3 credits F or S** Application of the fundamentals of heat conduction, radiation and convection; emphasis on the relationships to dynamics and mass transfer; economics and design application. Two or three class periods per week. Prerequisite: consent of instructor. (FURGASON)
- 227 Chemical Engineering Thermodynamics 2 or 3 credits F or S** An advanced study of equilibrium in physical and chemical systems. Emphasis is placed on the theoretical and generalized prediction of thermodynamic properties of pure materials and solutions including deviations from ideality. Three class periods per week. Prerequisite: Consent of the instructor. (HOFFMAN)
- 229 Chemical Engineering Kinetics 2 or 3 credits F or S** An analysis of problems involved in industrial chemical reactions; theories of reaction rates and catalysis; emphasis on catalytic reactor design. Three class periods per week. Prerequisite: Consent of the instructor. (HOFFMAN, DUNN)
- 234-235 Chemical Engineering Processes 2 credits F or S** An intensive study of selected processes such as industrial electrochemistry and high pressure technology, or selected industries as petroleum refinery engineering and pulp and paper technology. Two class periods per week. Prerequisite: consent of the instructor. (GRADUATE STAFF)
- 237 Advanced Fluid Mechanics 2 or 3 credits F or S** Analysis of fluid systems encountered in industry; non-Newtonian behavior of particle and plastic systems; two-phase situations including fluidization; film flow. Two or three class periods per week. Prerequisite: Consent of the instructor. (BOPP)
- 241 Chemical Engineering Analysis 2 or 3 credits F or S** A mathematical analysis of chemical engineering operations and processes. Prerequisite: Consent of the instructor. (HOFFMAN, FURGASON, EDWARDS)
- 244 Advanced Process Control 2 or 3 credits F or S** An advanced study of the theory of process dynamics and systems engineering. Two class periods and one laboratory period per week. Prerequisite: Ch.E. 144 or consent of the instructor. (FURGASON)
- 245-246 Diffusional Operations I-II 2 credits F or S** An advanced treatment of diffusion and mass transfer in the operation of absorption, extraction, distillation, and drying including design calculations. Two class periods per week. Prerequisite: Consent of the instructor. (HOFFMAN, JACKSON)
- 271-272 Advanced Plant Design (236) 2 credits F or S** The design of process plants for optimum cost and economic return; the scale-up of pilot plants. A comprehensive problem in chemical engineering design will usually be assigned. Two class periods per week. Prerequisite: Consent of the instructor. (HOFFMAN, WARNER)
- 300 Research and Thesis Credits to be arranged F & S (GRADUATE STAFF)**

## CHEMISTRY

Professors Freeman, Gustafson, Jolley, Raunio (Acting Head), Renfrew (Head); Associate Professors Cooley, Shreeve; Assistant Professors Garrard, Grieb, Hanson, Hower, Porter, Weiskopf; Instructor Barrus.

### PRIMARILY FOR UNDERGRADUATES

- 1 Concepts of Chemistry (Phy. Sci. 6) 4 credits F or S** A descriptive course which will examine the fundamental concepts of chemistry and will relate key developments to modern living. Three lectures (with demonstrations) and one recitation per week.

- † **3 Introduction to Chemistry** 4 or 5 credits F & S A systematic treatment of chemical principles and their application. High school chemistry is not required as a prerequisite. Students having had high school chemistry may earn only 4 credits. Three lectures, two recitations and one 3-hour laboratory period per week. (RENFREW, GARRARD, BARRUS, STAFF)
- † **11 Principles of Chemistry** 4 credits F & S A systematic treatment of chemical principles and their application. Those students who find their background inadequate will be advised to take Chemistry 3 instead. Three lectures, one recitation, and one 3-hour laboratory period per week. Prerequisite: high school chemistry. (JOLLEY, GARRARD, STAFF)
- † **12 Inorganic Chemistry and Qualitative Analysis** 5 credits F or S Elementary theoretical chemistry and its application to analytical practice. The laboratory work consists of the qualitative separation of cations and anions by semimicro methods. Three lectures and two 3-hour laboratory periods per week. Prerequisite, Chem. 3 or 11. (GRIEB, GUSTAFSON, STAFF)
- † **14 General Chemistry** 4 credits F & S A continuation of Chem. 3 or 11, designed for those students who do not plan to take further professional chemistry courses. Some work in inorganic, organic and biochemistry, electrochemistry, nuclear chemistry, and in qualitative inorganic analysis will be included. Three lectures, one recitation, and one three-hour laboratory period per week. Prerequisite: Chem. 3 or 11. (JOLLEY, GARRARD, STAFF)
- ‡ **53 Quantitative Analysis** 5 credits F Theory and practice of gravimetric and volumetric analysis with an introduction to modern analytical chemistry. Three lectures and two 3-hour laboratory periods per week. Prerequisite: Chem. 12. (GUSTAFSON)
- ‡ **56 Elements of Analytical Chemistry** 4 credits S A condensed course in the theory and practice of gravimetric and volumetric analysis. Two lectures and two 3-hour laboratory periods per week. Prerequisite: Chem. 12 or 14. (GUSTAFSON, GRIEB)
- \* **75 Carbon Compounds** 3 credits F or S Introductory organic chemistry with emphasis on aspects important to students in the life sciences. Three lectures per week. Prerequisite: Chem. 3 or 11. (RAUNIO, COOLEY, HANSEN)
- \* **76 Carbon Compounds Laboratory** 1 credit F or S Laboratory work to accompany Chem. 75. One 3-hour period per week. Corequisite: Chem. 75. (STAFF)
- \* **77 Organic Chemistry I** 3 credits F & S A comprehensive study of the principles and theories of organic chemistry and the properties, preparations and reactions of organic compounds. Three lectures per week. Prerequisite: Chem. 12 or 14. (STAFF)
- \* **78 Organic Chemistry I Laboratory** 1 credit F & S Laboratory work designed to accompany Chem. 77. One 3-hour laboratory period per week. Corequisite: Chem. 77. (STAFF)
- 102 Principles of Physical Chemistry** 3 credits F or S A short course in physical chemistry emphasizing topics most important for students in biological and agricultural sciences. Three lectures per week. Prerequisites: Math. 9, Physics 3, and Chem. 53 or 56. (GARRARD)
- 103 Principles of Physical Chemistry Laboratory** 1 credit F or S Laboratory work designed to accompany Chem. 102. One three-hour laboratory period per week. Corequisite: Chem. 102. (STAFF)
- 105-106 Physical Chemistry** 3 credits F-S An introduction to physical chemistry from the standpoint of kinetic theory, thermodynamics, and the constitution of matter. Three recitations per week. Prerequisites: Chem. 12 or 14, Math. 52, and Phys. 52. (PORTER)
- 107-108 Physical Chemistry Laboratory** 1 credit F-S Laboratory work designed to accompany Chem. 105-106. One 3-hour laboratory period per week. Corequisite: Chem. 105-106. (STAFF)
- 109 Pro-Seminar** 1 credit F A study of current publications in the fields of chemistry and chemical engineering with reports on typical scientific papers. Prerequisites: Chem. 172 and senior standing. (RENFREW)
- R113 Radiochemistry for Engineers** 2 credits F or S A course in radiochemistry specifically designed for engineers. It will cover properties of nuclear particles, nuclear reactions, techniques of producing reactions, interaction of radiation with matter and radiochemical techniques. Prerequisite: Consent of instructor.

\*—For Chemical Engineering Curriculum see the College of Engineering section of Part II. For courses in Agricultural Chemistry and Soil Chemistry, see Agricultural Biochemistry, Chemistry courses are designated Chem.

†—5 credits are maximum allowed for Chemistry 3 and 11, 8 credits are maximum allowed for Chemistry 12 and 14.

‡—Duplicate credit will not be allowed for Chemistry 53 and Chemistry 56.

—Duplicate credit will not be allowed in first-year courses in organic chemistry.

The chairman should be consulted for answers to specific problems.

- 116 Methods of Radiochemistry** 3 credits F Basic theory and practice of radiochemistry. One lecture and two 3-hour laboratory periods per week. Prerequisites: Physics 4 or 52 and Chem. 106, or consent of the instructor. Enrollment is limited by the facilities. (FREEMAN, HOWER)
- 135 Principles of Chemical Instrumentation** 3 credits F or S One lecture and two three-hour laboratories. Prerequisites: Chem. 53 or 56, Physics 55, or consent of the instructor. (PORTER)
- 141 Chemical Literature** 1 credit F or S A survey of the important chemical reference works and periodicals with experience in the use of these sources. Prerequisite: Consent of the instructor. (COOLEY, GARRARD)
- 154 Instrumental Analysis** 4 credits S For students in chemistry and allied fields. The work includes techniques in operating new and specialized instruments for qualitative and quantitative analysis and analytical methods of an advanced nature. Two lectures and two 3-hour laboratory periods each week. Prerequisites: Chem. 53 or 56 and 105, and prerequisite or corequisite: Chem. 106; or consent of the instructor. (GUSTAFSON)
- N159 Analytical Principles** 3 credits SS A study of the basic principles involved in analytical procedures and a detailed discussion of typical methods of analysis. (GRIEB)
- 163 Inorganic Chemistry** 3 credits F or S An advanced study of principles of inorganic chemistry, including complex ions and coordination compounds, theory of acids and bases, non-aqueous solvents, and a continuation of the study of familiar elements and their relationship to the periodic table. Three lectures per week. Prerequisite: Chem. 105 and prerequisite or corequisite: Chem. 106, or consent of the instructor. (SHREEVE)
- N163 Inorganic Chemistry** 3 credits SS A study of the elements and their compounds with emphasis on the relationship between atomic structure and chemical properties. An introduction to the modern theories of inorganic chemistry. (GRIEB)
- 164 Inorganic Chemistry Laboratory** 1 credit F or S Laboratory work designed to accompany Chem. 163. One 3-hour laboratory period per week. Corequisite: Chem. 163. (STAFF)
- \* **172 Organic Chemistry II** 3 credits F & S A continuation of Chem. 77. Three lectures per week. Prerequisite: Chem. 77. (STAFF)
- 173 Theoretical Organic Chemistry** 3 credits F or S A study of physical properties, chemical bonds, stereochemistry, acid-base theory, and reaction mechanisms in organic chemistry. Three lectures per week. Prerequisites: Chem. 105 and 172, and prerequisite or corequisite: Chem. 106; or consent of instructor. (FREEMAN)
- \* **174 Organic Chemistry II Laboratory** 1 credit F & S Laboratory work designed to accompany Chem. 172. One 3-hour laboratory period per week. Corequisite: Chem. 172. (STAFF)
- 175 Qualitative Organic Analysis** 3 credits F A study of homologous reactions and the separation and identification of various types of organic compounds. One class and two 3-hour laboratory periods per week. Prerequisite: Chem. 172 or consent of instructor. (COOLEY, RAUNIO)
- 176 Organic Chemistry II Laboratory** 2 credits F or S Primarily for chemistry majors. Laboratory work designed to accompany Chem. 172, including qualitative analysis and modern instrumental techniques. Two three-hour laboratories. Corequisite: Chem. 172. (STAFF)
- N177 Organic Chemistry** 3 credits SS An introductory course in organic chemistry with emphasis on those topics which will aid in answering the questions of high school students. (COOLEY)
- § **180 Elements of Biochemistry** 3 credits F or S A survey of modern biochemistry. Three lectures per week. Prerequisites: Chem. 75-76 or 172-174. (WEISKOPF)
- § **181-182 Biochemistry** 3 credits F-S An intensive course in modern biochemistry. Three lectures per week. Prerequisite: Chem. 172 or consent of instructor. (WEISKOPF)
- 183-184 Biochemistry Laboratory** 1 credit F-S Selected experiments in biochemistry. Chem. 183 may be selected to accompany either Chem. 180 or Chem. 181. One 3-hour period per week. Corequisite: Chem. 180, 181, or 182. (STAFF)
- 191 Research** 1 to 6 credits F & S A total of 6 credits may be earned in this course. Prerequisite: Permission of department chairman. (STAFF)

\*—Duplicate credit will not be allowed in first-year courses in organic chemistry. The chairman should be consulted for answers to specific problems.

§—A maximum of 6 credits will be allowed for any combination of Chem. 180 and Chem. 181-182.



- 193 **Molecular Structure and Quantum Chemistry** 3 credits F Elementary applications of quantum theory to chemical binding, molecular spectroscopy and molecular structure. Prerequisites: Chem. 106 and Physics 125 or consent of instructor. (PORTER)

**PRIMARILY FOR GRADUATES**

- 201 **Chemical Thermodynamics** 3 credits F Calculations of the classical thermodynamic properties and functions applied primarily to processes, equilibria, and reactions involving gases. Prerequisite: Chem. 106. (GRIEB)
- 202 **Statistical Thermodynamics and Chemical Kinetics** 3 credits S Theory and application of statistical mechanical methods to chemical systems. Collision theory and absolute reaction rate theory. Kinetics of systems in the gaseous phase and in solution. Prerequisite: Chem. 201 or consent of instructor. (PORTER)
- N204 **Chemistry for High School Teachers** 3 credits SS A course designed to increase the high school teacher's knowledge of theoretical and descriptive chemistry. An awareness of the new curricula will be developed. (RAUNIO)
- 205-206 **Seminar** 1 credit F-S Required of graduate students majoring in chemistry. Prerequisite. Course approved by the department. (SHREEVE, FREEMAN)
- 207 **Topics in Physical Chemistry** 1 to 9 credits F or S Colloid chemistry; polarography; nuclear magnetic and electron paramagnetic resonance, kinetics of irreversible processes; and other topics which are not covered extensively in regularly scheduled courses in physical chemistry. Prerequisite: Consent of instructor. (STAFF)
- N211 **Principles of Theoretical Chemistry** 3 credits SS A presentation of the various topics of physical chemistry such as gas laws, equilibrium, electrochemistry and kinetics. (GRIEB)
- 213 **Nuclear Chemistry** 2 or 3 credits F An introduction to the study of artificial and natural radio-activity, tracer methods and techniques, and atomic energy. Prerequisite: Chem. 106 or Physics 125. (PORTER, HOWER)
- R215 **Chemical Kinetics** 3 credits Studies of chemical reactions from the standpoint of rate and mechanism. The theory of absolute reaction rate applied to gaseous and solution reactions and the surfaces processes. Prerequisite: Consent of instructor.
- R216 **Methods in Radiochemistry** 3 credits Radiochemical techniques and applications of tracers to chemistry, fundamentals of radioactive decay, statistical relationships, interaction of radiation with matter, production of radioactive samples, chemistry of the radioactive elements. Prerequisite: Advanced Radiochemistry or Nuclear Physics or consent of instructor.
- 217 **Physical Chemistry of High Polymers** 3 credits F The relationship of structure and properties of polymeric materials, the application of thermodynamic principles to polymers and their solutions, and the kinetics of polymerization reactions. Prerequisite: Chem. 106. (RENFREW)
- N227 **History of Chemistry** 3 credits SS A chronological study of the development of the theories and laws of chemistry. (GRIEB)
- 253 **Modern Analytical Methods** 3 credits F or S Absorption and emission spectroscopy, polarography, potentiometry, nuclear magnetic resonance, chromatography. Prerequisites: Chem. 106 and Chem. 154, or consent of instructor. (SHREEVE)
- 255-R256 **Advanced Analytical Chemistry** 3 credits F-S A rigorous treatment of the fundamental principles of classical analytical chemistry including homogeneous and heterogeneous equilibria, complex ions, analytical separations, non-aqueous equilibria. Prerequisite: Chem. 106 or consent of instructor. (GRIEB)
- 261-R262 **Advanced Inorganic Chemistry** 3 credits F-S A theoretical approach to the underlying principles of inorganic chemistry with an integration of theory and descriptive chemistry. Prerequisites: Chem. 163 and Chem. 106 or consent of instructor. (SHREEVE)
- 263 **Advanced Inorganic Chemistry Laboratory** 2 credits F or S Inorganic preparations utilizing aqueous, non-aqueous and high vacuum techniques. A student may enroll twice for credit. Prerequisite or corequisite: Chem. 261. (GRIEB, SHREEVE)
- 265 **Topics in Inorganic Chemistry** 1 to 9 credits F or S Coordination compounds; halogens; less familiar elements; clathrate, interstitial, and non-stoichiometric compounds; chemical bonding; inorganic reaction mechanics. Prerequisite: Consent of instructor. (STAFF)
- R267 **Principles of Geochemistry** 3 credits The cosmic and terrestrial abundance of the chemical elements and the physical-chemical processes leading to their segregation into the lithosphere, hydrosphere, biosphere and atmosphere. Prerequisite: Physical Chemistry or consent of the instructor.

- 271 Topics in Organic Chemistry 1 to 9 credits F or S** Topics include heterocyclic compounds, dyes and intermediates, industrial organic chemistry and others not covered extensively in regularly scheduled courses in organic chemistry. Prerequisite: Consent of the instructor. (STAFF)
- 273 Organic Type Reactions 3 credits F or S** The mechanisms and synthetic uses of a wide variety of organic reactions. (RAUNIO, HANSEN)
- 274 Organic Preparations 2 to 4 credits F or S** Discussion and laboratory work which illustrate the methods used in research in organic chemistry. Standard preparations and separations using advanced techniques will be made and the purity of products will be established by physical means. Prerequisite: Chem. 172. (HANSON)
- 275 Mechanisms of Organic Reactions 3 credits F** A study of nucleophilic substitution, reactions of carboxylic acids and esters, carbanions, electrophilic and nucleophilic aromatic substitutions, elimination reactions, addition reactions. Prerequisites: Chem 106 and Chem. 173. (COOLEY, FREEMAN)
- 276 Physical Organic Chemistry 3 credits S** Molecular structure and valency; physical methods of organic chemistry. Prerequisites: Chem. 106 and Chem. 173 or concurrent registration in Chem. 173. (FREEMAN, PORTER)
- 281 Carbohydrate and Lipid Chemistry 3 credits F or S** A study of the chemistry of the carbohydrates and lipids. Prerequisite: Chem. 182. (WEISKOPF)
- 282 (Ag.Chem. 282) Amino Acid and Protein Chemistry 3 credits F or S** A study of the chemistry of amino acids, proteins and nucleoproteins. Prerequisite: Chem. 182. (RAUNIO)
- 283 Advanced Topics in Biochemistry 1 to 9 credits F or S** Recent research in particular fields; enzymes, hormones, complex lipids, vitamins, nucleic acids, antibiotics, viruses, biochemical genetics. Prerequisite: Consent of instructor.
- N285 Biochemistry 3 credits SS** An introduction to the chemistry of living things and to the substances of which they are made. Application to nutrition and to understanding the chemistry of basic life processes will be emphasized. Prerequisite: A course in Organic Chemistry. (COOLEY)
- 300 Research and Thesis Credits to be arranged. F & S (STAFF)**

## CIVIL ENGINEERING

Professors Schuster (Head), Hall, Russell, Warnick, Janssen; Associate Professors Conitz, Hathaway, Junk, Lottman, Peebles, Sun; Assistant Professors Anderson, Brockway, Moore, Thompson.

### PRIMARILY FOR UNDERGRADUATES

- 51 Fundamentals of Surveying 2 credits F & S** Theory of measurements as applied to horizontal, vertical, angular, and indirect measurements. Use of surveying instruments; topographic surveying and introduction to land surveying. One lecture and one three-hour laboratory per week. Primarily for engineering students. Prerequisites: Math 9, Engr. 1. (STAFF)
- 53 Elementary Surveying 2 credits S** Theory of measurements and manipulation of surveying instruments. The application of surveying methods to construction, topographic, and land surveys. Primarily for non-engineering students. One lecture and one three-hour laboratory per week. Prerequisites: Math. 9 and Engr. 1, Engr. 3, Arch. 11, or Geol. 51. (STAFF)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 104 Mechanics of Materials II 2 credits F & S** Applications of the fundamentals of mechanics of materials as an introduction to design. Two two-hour problem laboratory periods per week. Prerequisite: E.S. 103. (ANDERSON)
- 108 Materials of Construction 3 credits F** Physical and mechanical properties of construction materials such as portland-cement and asphaltic-concretes, glass, structural plastics and steel. Development of logic in their design and the basis for their behavior. Two lectures and one three-hour laboratory per week. Prerequisite: E.S. 103 or with E.S. 103. (LOTTMAN)
- 110 Soil Mechanics 3 credits S** A study of the physical properties of soil and the principles which govern the behavior of soil structures under load. The application of these principles to engineering problems. Two lectures and one three-hour laboratory per week. Prerequisites: E.S. 102 and E.S. 103. (LOTTMAN)
- 114 Advanced Surveying 3 credits F** Basic principles of route surveying, engineering astronomy, land surveying, construction surveying, triangulation, map projections and state plane coordinates; and introduction to photogrammetry and photo interpretation. Two lectures and one three-hour laboratory per week. Prerequisite: C.E. 51 or C.E. 53. (CONITZ)

- 117 **Land Surveying 2 credits F** History and development of public land surveying; laws relating to land surveying; preparation and filing of property descriptions and plats; subdivision planning and surveying methods required for property surveys. Two lectures per week. Elective. Prerequisite: C.E. 51 or C.E. 53. (CONITZ)
- 118 **Photogrammetry and Photo-Interpretation 2 credits F** Basic principles of photogrammetry including geometry of single and stereoscopic pairs of aerial photographs. Introduction to instruments and stereoplotters. Photo-interpretation as applied to problems in forestry and geology. Primarily for non-engineering students. Two two-hour combined lecture and laboratory periods per week. Prerequisite: C.E. 51 or C.E. 53 or consent of instructor. (MOORE)
- 119 (WSU C.E. 427) **Photogrammetry and Photo-Interpretation 3 credits S** Geometry of single and stereoscopic pairs of aerial photographs and introduction to stereoscopic pairs of aerial photographs and introduction to stereoplotters. Principles of photo-interpretation and applications of photogrammetry and photo-interpretation to problems of engineering importance. A one-day field trip normally will be required. Two lectures and one three-hour laboratory per week. Elective. A cooperative course offered by the University of Idaho; available to WSU graduate students. Prerequisite: C.E. 51 or C.E. 53. (MOORE)
- 120 **Theory of Structures 4 credits F & S** The calculation of stresses in statically determinate frame structures by algebraic and graphic methods; the study of effects of moving loads; introduction to statically indeterminate structures, slope and deflection of beams, trusses and rigid frames. Three lectures and one three-hour problem laboratory per week. Prerequisite: C.E. 104 or with C.E. 104. (ANDERSON)
- 121 **Structural Design-Reinforced Concrete 3 credits F** An introduction to reinforced concrete design with emphasis on the ultimate strength method in accordance with latest ACI building code. Two lectures and one three-hour design laboratory per week. Prerequisites: C.E. 104 and C.E. 120. (HALL)
- 122 **Structural Design—Steel and Timber 3 credits S** An introduction to steel and timber design of members and joints including use of latest AISC and NLMA specifications; one-fourth of semester on timber structures. Two lectures and one three-hour design laboratory per week. Elective. Prerequisites: C.E. 104 and C.E. 120. (HALL)
- 125 **Structural Analysis 2 credits F** Continuation of C. E. 120 on deflection methods and statically-indeterminate structural analysis; secondary stress analysis; plastic theory applied to steel. One lecture and one three-hour design laboratory per week. Elective. Prerequisite: C.E. 121. (HALL)
- 126 **Design of Concrete Structures 2 credits S** Application of concrete design fundamentals to buildings and bridges. Introduction to prestressed concrete, thin shell design, and composite design. One lecture and one three-hour design laboratory period per week. Elective. Prerequisite: C.E. 121. (HALL)
- 128 **Foundation Design 2 credits F or S** Specific application of the fundamentals of consolidation of soil strata, pile group analysis and bearing capacity of footings in the design of structural foundations. Two lectures per week. Elective. Prerequisite: C.E. 110. (LOTTMAN)
- 129 (Ag.E. 129) **Elements of Structural Engineering 4 credits F** See Agricultural Engineering 129 for course description.
- 131 **Sanitary Engineering 4 credits F** Introduction to the application of basic sciences to the diversion, treatment, and distribution of a municipal water supply, and the collection, treatment and disposal of domestic sewage and industrial wastes. A one-day field trip normally will be required. Three lectures and one three-hour laboratory per week. Prerequisite: Senior standing. (JUNK)
- 132 **Waste Treatment 2 or 3 credits F or S** A continuation of C.E. 131 in the area of waste treatment. Two lectures or two lectures and one three-hour laboratory per week. Elective. Prerequisite: C.E. 131. (JUNK)
- 134 **Water Treatment 2 or 3 credits F or S** A continuation of C.E. 131 in the area of water treatment. Two lectures or two lectures and one three-hour laboratory per week. Elective. (JUNK)
- 141 **Hydraulics 3 credits S** Application of principles of fluid mechanics to problems in hydraulic engineering. Two lectures and one three-hour laboratory per week. (MOORE, STAFF)
- 142 **Hydraulic Design 2 credits F or S** A study of hydraulic problems involved in planning and design of gravity systems and pressure systems. One lecture and one three-hour laboratory per week. A one-day trip to a nearby hydraulic development may be required. Elective. Prerequisite: Ag.E. 160. (PEEBLES)
- 144 **Fluid Mechanics II 2 or 3 credits F or S** A study of fluid mechanics theory including ideal and real fluid flow, dimensional analysis and similitude, potential theory and boundary layer. Two or three lectures per week. Elective. Prerequisite: E.S. 102. (WARNICK)

- 152 **Pro-Seminar 1 or 2 credits F** Parliamentary procedure, study of technical periodicals, and techniques of research, preparation, and presentation of a technical paper. Prerequisite: Senior standing. (PEEBLES)
- 153 **Engineering Economy 2 credits F** The economic analysis and comparison of engineering alternatives by annual-cost, present-worth, capitalized-cost and rate-of return methods. Prerequisite: Junior standing. (STAFF)
- 154 **Contracts and Specifications 2 credits S** A survey of the law of contracts, agency, sales, property, mechanics' liens, workmen's compensation, patents, and their application to specification writing. Preparation of set of contract documents. Two lecture periods per week. Prerequisite: Senior standing. (STAFF)
- 162 **Engineering Administration 2 credits S** Principles of engineering planning, organization, management, and administration; personnel relations. Elective. Prerequisite: Senior standing. (STAFF)
- 163 **Construction Methods 2 credits F** A study of construction planning and methods and the relation thereto of such elements as time, equipment, cost, and organization. Elective. Prerequisite: Senior standing. (STAFF)
- 170 **Transportation Engineering I 2 credits S** An introduction to traffic engineering including the study of driver, pedestrian and traffic characteristics, traffic regulations and controls, traffic study techniques, capacity determination, accident analysis, parking, and transportation planning. Two lectures per week. One one-day field trip normally will be required. Prerequisite: Junior standing. (HATHAWAY)
- 171 **Transportation Engineering II 3 credits F** A study of the engineering problems of planning, design, construction, operation and maintenance of several modes of transportation including highways, airports, railroads and waterways. Three lectures per week. Prerequisite: C.E. 170. (HATHAWAY)
- 173 **Highway Planning 2 credits F or S** A study of traffic generation characteristics, origin-destination surveys and analysis, traffic growth, traffic assignment, various forms of economic analysis, highway financing, and construction programming. Two lectures per week. Elective. Prerequisite: C.E. 171 or with C.E. 171. (HATHAWAY)
- 174 **Highway Design 2 credits F or S** Basically a study of the design of non-structural visible elements of a highway including cross-section, horizontal and vertical curvatures, intersections, interchanges, and access control. Two lectures per week. Elective. Prerequisite: C.E. 171 or with C.E. 171. (HATHAWAY)
- 180 **Engineering Statistics 3 credits F or S** Fundamental concepts and applications of probability and statistics. Discrete and continuous distributions and their applications to confidence interval estimates, design of experiments, and linear regression in engineering problems. Introduction to analysis of variance. Three lectures per week. Elective. Prerequisite: Math 52. (SUN)
- 182 **Computer Analysis in Engineering Systems 3 credits F or S** Approximate and numerical methods for the solution of continuous and discrete systems with practical applications. Numerical and matrix techniques for computation by digital computer. Use of University Computer Center. Three lectures per week. Elective. Prerequisite: Senior standing. (ANDERSON)

#### PRIMARILY FOR GRADUATES

- 206 (WSU C.E. 526) **Cement and Bituminous Concretes 3 credits F or S** Binder and structure theories of composite materials with extensive application to portland-cement concretes, bituminous concretes, and their constituents. Two lectures and one three-hour laboratory per week. A cooperative course offered by the University of Idaho; available to WSU graduate students. Prerequisites: C.E. 108 and C.E. 110, or consent of instructor. (LOTTMAN)
- 207 **Strength Properties of Non-Elastic Materials 3 credits F or S** Change of strength characteristics of non-elastic materials subjected to variables of loading time, temperature and method of strain. Common, quantitative techniques applied to the solving of strength testing problems in order to evaluate the field strengths of soil, asphaltic mixtures and other similarly behaving materials. Three lectures per week. Prerequisites: C.E. 108 and C.E. 110, or consent of instructor. (LOTTMAN)
- 210 **Applied Soil Mechanics I 3 credits F or S** Soil sampling for engineering purposes. Shear and normal stresses produced by soil, water and surcharge loads. Shear strength; passive, active and at-rest soil pressures. Related engineering applications for trenches, tunnels, slopes and retaining walls. Three lectures per week. Prerequisites: C.E. 110 and Math 101, or consent of instructor. (LOTTMAN)
- 212 **Applied Soil Mechanics II 3 credits F or S** Soil interaction and deflection with shallow beams, bearing capacity, compaction, settlement, performance of individual piles and seepage forces. Related engineering applications. Three lectures per week. Prerequisites: C.E. 110 and Math 101, or consent of instructor. (LOTTMAN)

- 219 (WSU C.E. 529) **Photogrammetric Engineering 3 credits F or S** Projective relations in photogrammetry. Evaluation of environmental conditions and characteristics of engineering importance. A one-day field trip will normally be required. Two lectures and one three-hour laboratory period per week. A cooperative course offered by the University of Idaho; available to WSU graduate students. Prerequisite: C.E. 119. (MOORE)
- 221 **Design of Structures I 2 credits F or S** Theory and design of arches, plate girders, and composite construction. Two lectures per week. Prerequisites: C.E. 121 and C.E. 122. (HALL)
- 222 **Design of Structures II 2 credits F or S** Design of space frames, curved girders, and cables; model analysis. Two lectures per week. Prerequisites: C.E. 121 and C.E. 122. (ANDERSON)
- 223 **Structural Dynamics 3 credits F or S** Analysis and design of reinforced concrete and steel structures for seismic, blast, and mechanical disturbances. Three lectures per week. Prerequisites: C.E. 121 and C.E.122. (ANDERSON)
- 224 **Prestressed Concrete 2 credits F or S** Basic principles of prestressing; analysis, design, and construction methods. Two lectures per week. Prerequisite: C.E. 121. (HALL)
- 231 **Sanitary Engineering 2 or 3 credits F or S** Diversion, treatment and distribution of municipal water supply. Physical, chemical and biological principles relating to the field of sanitary engineering. Design of water treatment plants. Two or three lectures per week. Prerequisite: C.E. 134. (JUNK)
- 232 **Sanitary Engineering 2 or 3 credits F or S** Collection, treatment and disposal of domestic sewage and industrial waste. Physical, chemical and biological treatment methods of industrial waste. Design of waste treatment plants. Two or three lectures per week. Prerequisite: C.E. 132. (JUNK)
- 234 (WSU C.E. 541) **Water and Waste-Water Treatment 3 credits F or S** A cooperative course offered by Washington State University; available to UI graduate students. Unit operations of water and waste-water treatment; applications to water quality requirements; design of treatment plants. Three lectures per week. Prerequisites: C.E. 132 and C.E. 134.
- 235 (WSU C.E. 542) **Water and Waste-Water Treatment 4 credits F or S** A cooperative course offered by Washington State University; available to UI graduate students. Continuation of C.E. 234. Three lectures and one three-hour laboratory period per week. Prerequisite: Consent of instructor.
- 236 (WSU C.E. 584) **Environmental Health Engineering Science 4 credits F or S** A cooperative course offered by Washington State University; available to UI graduate students. The role of microorganisms including bacteria, algae, fungi, and protozoa in water and waste treatment processes. Three lectures and one three-hour laboratory per week. Prerequisite: Consent of instructor.
- 242 **Hydraulic Design 3 credits F or S** A study of the design of aqueducts, spillways, and outlet works. Includes the detailed design of one major structure. Two lectures and one three-hour laboratory per week. Prerequisite: C.E. 142. (PEEBLES)
- 243 **Water Resources Planning 3 credits F or S** A study of the utilization of water resources in a river system, including provisions for domestic water supply, power, flood control, navigation, irrigation, and recreational use. Preliminary design and feasibility problems are considered. Guest lecturers will be featured. Prerequisite: Consent of instructor. (WARNICK)
- 251 **Directed Studies 1 to 4 credits F and S** (a) Construction Materials, (b) Soil Mechanics or Foundations, (c) Structures, (d) Transportation, (e) Water Resources. A maximum of 8 credits permitted. Prerequisite: Consent of department head. (STAFF)
- 271 **Transportation Engineering 2 or 3 credits F or S** A study of the demand and economic applications of various modes of transportation, economic impact on land areas of transportation development, national transportation policy, and metropolitan and regional transportation studies. Prerequisite: C.E. 171 or consent of instructor. (HATHAWAY)
- 272 **Traffic Engineering 2 or 3 credits F or S** A study of the design and control of urban street systems, the design of traffic signals, signing, striping and illumination, mathematical statistics of traffic, freeway operations, warrants, accident analysis, traffic research and traffic administration. Prerequisite: C.E. 171 or consent of instructor. (HATHAWAY)
- 275 **Pavement Design 2 credits F or S** A study of design practice for rigid and flexible highway and airport pavement structures, design and construction of the several structural pavement layers, and a study of highway and airport pavement test procedures. Prerequisite: C.E. 171 or consent of instructor. (PEEBLES)

280 **Engineering Statistics 1 to 3 credits F or S** Theory of probability, statistics, and stochastic processes applied to selected areas of engineering. One to three lectures per week. Prerequisite: C.E. 180 or consent of instructor. (SUN)

300 **Research and Thesis Credits to be arranged F & S (STAFF)**

## COMMUNICATIONS

Associate Professor Law (Acting Head)

The Department of Communications includes four subject matter fields: Communication, Journalism, Radio-Television, and Photography. Also the services of the Audio-Visual Center, the Radio-Television Center, and the Photography Center are administered by this department. A student may major in Journalism or Radio-Television.

For course offerings, see under:

**COMMUNICATION (below)**

**JOURNALISM**

**PHOTOGRAPHY**

**RADIO-TELEVISION**

20 **Mass Communications in a Free Society 2 credits F & S** An examination of the role of the media of mass communication and their performance and significance in a free society. (CROSS)

199 **Bases of Communication 2 credits F & S** A study of the linguistic, psychological and sociological factors in interpersonal communication, related to the mass media of radio, television, and journalism. (STAFF)

## DAIRY SCIENCE

Professor Ross (Head); Associate Professor Barnhart; Assistant Professor Montoure; Instructors Nelson and Woodruff.

These courses are so arranged that the student may enroll in Agricultural Management or Agricultural Science, with a major in either dairy production or dairy manufacturing.

### PRIMARILY FOR UNDERGRADUATES

1 **Elements of Dairying 3 credits F** A general survey of the industry; dairy cattle breeding, feeding, management, milk secretion, composition of milk, its food value, the manufacture of various dairy products and their importance to the industry. Three lecture periods per week. (ROSS, MONTOURE)

59 (F.S. 59) **Dairy Products Analysis 3 credits F** A study of the composition of milk and analyses common to the dairy industry. Required of majors in Dairy Science. One lecture and two two-hour laboratory periods per week. (MONTOURE)

66 **Judging Dairy Cattle 2 credits S** A study of type of the various breeds of dairy cattle, with comparative judging. Two two-hour laboratory periods per week. Four one-day field trips. (WOODRUFF)

68 (F.S. 68) **Judging Dairy Products 2 credits F** A study of quality and market standards in dairy products including practice in scoring butter, cheese, ice cream, milk and cream. Two two-hour laboratory periods per week. (NELSON)

76 **Practicum 1 credit S** Laboratory practice in training, fitting, showing, feeding and management of dairy cattle. One one-day field trip. One two-hour laboratory period per week. (STAFF)

94 (F.S. 94) **The Market Milk Industry 3 credits S** An analysis of the procedures and methods utilized in producing, transporting, processing and distributing milk to be consumed as fresh fluid milk. Two lectures and one two-hour laboratory period per week. One one-day field trip. Prerequisites: D.S. 59 or consent of instructor. (BARNHART)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

107 **Advanced Judging Dairy Cattle 1 credit F** One six-day field trip to southwestern Idaho, and two one-day field trips. May be repeated for credit with approval of instructor. (WOODRUFF)

- ① 108 Dairy Cattle Breeding and Selection 3 credits S Application of genetics to dairy cattle selection. Formulating and evaluating breeding policies and selection indices for dairy herds. (STAFF)
- 111 (F.S. 111) Advanced Judging Dairy Products 1 credit F & S Continuation of D.S. 68. Two half-day field trips. May be repeated for credit with approval of instructor. (NELSON)
- ② 112 Physiology of Lactation 3 credits S The structure, growth, development and function of the mammary gland. The interrelation of hormonal, physiological and environmental factors in lactation. Three lecture periods per week. (STAFF)
- ① 113 (F.S. 113) Food Plant Sanitation and Inspection 3 credits F The principles of procedures of sanitation and inspection as applied to food handling and processing areas. Emphasis on dairy farm and dairy products plant inspection and scoring. Review of federal, state and city ordinances affecting milk, dairy products, frozen foods, etc. Two lectures and one three-hour laboratory period per week. (BARNHART)
- ② 115 (F.S. 115) Dairy Plant Management 2 credits S A study of the organization, operation, and management of milk processing plants, including local, state, and federal regulations pertaining to the production and sale of dairy products. Two lectures per week. One one-day field trip. (BARNHART)
- ② 120 Dairy Cattle Feeding and Management 4 credits S The application of the principles of nutrition to dairy cattle feeding and management under various conditions. Three lectures and one two-hour laboratory per week. Prerequisite: A.S. 105 or consent of instructor. (ROSS)
- 122 Physiology of Reproduction of Farm Animals 3 credits S A study of the physiology of reproduction of farm animals including artificial insemination. Two lectures and one two-hour laboratory period per week. Two one-day field trips. (STAFF)
- 129-130 Pro-Seminar 1 credit F & S Study of dairy problems and review of literature. Required of majors in Dairy Science. (STAFF)
- 135-136 Special Problems 1 or 2 credits F & S (STAFF)
- ① 140 (F.S. 140) Dairy Products I 4 credits F The theory and practice of receiving, and processing milk for milk beverages, cultured milk and cream, cottage cheese, ice cream mix and ice cream. Two lectures and one four-hour laboratory period per week. One one-day field trip. (BARNHART)
- ① 141 (F.S. 141) Dairy Products Processing II 4 credits S Theory and practice of processing dairy products such as butter, cheese, dried milk products, condensed milk and other milk products. Two lectures and one four-hour laboratory period per week. (MONTURE)
- ① 176 (F.S. 176) Advanced Dairy Product Analysis 1 credit S A study of advanced laboratory techniques used in the technical control of dairy products manufacturing and in research studies: One three-hour laboratory period per week. Prerequisite: D.S. 59 or consent of instructor. (MONTURE)

#### PRIMARILY FOR GRADUATES IN DAIRY MANUFACTURING

- 201-202 Advanced Dairy Technology 2 credits F & S Application of microbiological, physical and physio-chemical principles to the processing of dairy products. Designed to study problems of bacterial destruction and growth; viscosity, foam formation, freezing, crystallization, and protein and butterfat stability. Prerequisites: 15 hours Chemistry. 7 hours Bacteriology, and consent of instructor. (MONTURE)
- 229-230 Seminar 1 to 3 credits F & S (STAFF)
- 300 Research and Thesis Credits to be arranged F & S (STAFF)

#### PRIMARILY FOR GRADUATES IN DAIRY PRODUCTION

Graduate Courses in Dairy Science are listed under GRADUATE COURSES IN THE ANIMAL SCIENCES page 176.

Graduate students receive the degree of Master of Science in Agriculture with a major in Dairy Science.

①—Offered in alternate years; given in 1967-68

②—Offered in alternate years; given in 1968-69

## DRAMATICS

(Dramatics is one of the subject matter fields within the Department of Humanities.)  
Professor Collette (Chairman)\*; Associate Professor Chavez; Assistant Professor Sears.

### PRIMARILY FOR UNDERGRADUATES

- 1 Introduction to the Theatre 2 credits F & S** A condensed survey of all phases of the theatre—theatre history, production and technical work. The course is designed to show the student what is involved in more concentrated work in dramatics and for those whose interest in theatre is cultural. (STAFF)
- 5-6 Basics of Performance 2 credits F & S** An introduction to stage diction, stage movement, pantomime, and improvisation, with work on relaxation, observation, imagination, and sense memory. (CHAVEZ, SEARS)
- 25 Summer Theatre I 2 to 4 credits SS** A lower-division course in theatre production, including public presentation of several plays. Consult with the Chairman of Dramatics before registering. Students who elect Drama 25 and expect to take Drama 125 in subsequent summers should note that a maximum of 10 credits is allowed in the two courses. (STAFF)
- 63-64 Stagecraft 3 credits F-S** First semester: study of the technical elements construction, production, and lighting. Second semester: methods and techniques of stage design. Drama 63 is a prerequisite to Drama 64. (CHAVEZ)
- 65 Children's Theatre 3 credits F** Theory and practice in the selection, preparation, and presentation of theatre for children. Included also will be story telling and recreational and special occasions programs. (STAFF)
- 66 Creative Dramatics 2 credits S** The theory and practice in the selection, preparation, and presentation of creative dramatics. Practical application will be made through working with children on the elementary school level.
- 71 Play Analysis for Production 3 credits F** An introduction to the nature and structure of selected plays for dramatic production including all aspects of casting, audience, and technical forms.
- 72 Intermediate Acting 3 credits S** Interpretation of roles, methods in characterization, and techniques for developing a character.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 105-106 Stage Movement and Diction 2 credits F-S** First semester stresses rhythm and pantomime as basics for stage movement in interpreting classic and modern drama. The second semester emphasizes the stage diction and dialects most commonly used in the theatre. (COLLETTE\*, SEARS)
- 107-108 Styles of Interpretation 2 credits F-S** The first semester includes individual and group assignments in classic styles from the Greeks through the Restoration. The second semester emphasizes nineteenth and twentieth century styles of acting. (COLLETTE\*, SEARS)
- 125 Summer Theatre II 2 to 8 credits SS** A comprehensive course in theatre production, including public presentation of several plays. For upper-division students, and others by permission. Consult with the Chairman of Dramatics before registering. Students who have taken Drama 25 are reminded that a maximum of 10 credits is allowed in the two courses, Drama 25 and 125. (STAFF)
- 162 Costume for the Stage 2 credits F** A study of costume design and construction for theatrical productions, with emphasis on the development of period costumes and production problems. (CHAVEZ)
- 164 Advanced Scene Design and Technical Problems 2 credits F & S** Advanced problems in scene design and technical theatre developed on an individual and seminar basis. Prerequisites: Drama 63 and 64. (CHAVEZ)
- 167-168 The Theatre 3 credits F-S** A survey of European and American theatres, dramatists, and actors. (CHAVEZ)
- 171-172 Directing 3 credits F-S** Instruction in the basic organization and techniques involved in directing. (COLLETTE\*, SEARS)
- 173 Advanced Directing 3 credits F** A course in directing techniques involved in big cast and musical shows. Special problems in directing are presented. May be accelerated. (COLLETTE\*, SEARS)

\* Retired, June 1967



**PRIMARILY FOR GRADUATES**

- 205 **Summer Theatre III** 2 to 8 credits SS A comprehensive course in theatre production including public presentation of several plays. Emphasis on the responsibilities of the graduate student including assisting the director, serving as crew head, and acting. Consult the Chairman of Dramatics before registering. Prerequisite: 20 credits in Dramatics.

**ECONOMICS**

Dean Kendrick; Professor Fletcher; Associate Professor Peterson and Seelye; Assistant Professors Cooper, Golls, Lynch and Moutsanides.

- 51 **Principles of Economics** 3 credits F & S Organization and operation of the American Economy; supply and demand analysis; money and banking; employment and aggregate output; public finance; economic growth. Prerequisite: Sophomore standing.
- 52 **Principles of Economics** 3 credits F & S Principles governing production, price relationships and income distribution; their application to selected problems. Prerequisite: Econ. 51.

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 103 **Money and Banking** 3 credits F & S The theory of money and banking with some emphasis on banking practices. Prerequisite: Econ. 52.
- 109 **Public Finance** 3 credits F & S An analysis of the framework and contemporary problems of federal, state and local revenues and expenditures. The tools of fiscal theory and the economic impact of fiscal policy are stressed. Prerequisite: Econ. 52.
- 121 **Intermediate Microeconomic Analysis** 3 credits F & S Theory of the individual firm, industry, and market. Emphasizes analysis of price determination and allocation of productive resources under different market structures. Prerequisite: Econ. 52 or consent of instructor.
- 122 **Intermediate Macraeconomic Analysis** 3 credits F & S Theory of the economy as a whole. National income accounting as a tool of analysis. Emphasis on national output and income, employment price levels and growth. Prerequisites: Econ. 52 and Econ. 103 or consent of instructor.
- 135 **American Economic Development** 3 credits F A study of long-term trends in the American economy. The transplantation of economic institutions from Western Europe; the growth process in the United States; the welfare state and the mixed economy. Prerequisite: Econ. 51 or consent of instructor.
- 141 **Labor Economics and Labor Relations** 4 credits F & S An analytical survey of labor history, wage theories, unemployment, union organization and structure, labor legislation, and the content and techniques of the collective bargaining process. Prerequisite: Econ. 52 or consent of instructor.
- 164 **Economics of Public Utilities** 3 credits S Economic characteristics of public utilities and analysis of regulation and control. Prerequisite: Econ. 52 or consent of instructor.
- 174 **International Economics** 3 credits F History and theory of international trade and finance, commercial policies of nations and an analysis of current world economic problems. Prerequisite: Econ. 121.
- 177 **Economics of Developing Countries** 3 credits F Analysis of the problems of developing countries. Emphasis on characteristics of underdevelopment, the role of innovation and investment, the threat of population growth, institutional barriers to growth, international programs for development, and macroeconomic theories explaining the development process. Prerequisite: Econ. 52 or consent of instructor.
- 190 **Comparative Economic Systems** 3 credits S An analytical comparison of the origin, development, and attributes of the major contemporary economic systems. Prerequisites: Econ. 52.
- 195 **Honors I** 3 credits F & S A directed program of study offered by the business faculty to provide selected students an opportunity for more advanced and individual work than normal. Enrollment only by permission of the Dean.

**PRIMARILY FOR GRADUATES**

- 202 History of Economic Thought** 3 credits S A historical analytical survey of economic doctrines with special emphasis upon value and distribution and 19th century dissenters. (STAFF)
- 213 Seminar** 3 credits
- |                                     |                                    |
|-------------------------------------|------------------------------------|
| (a) Price Theory                    | (h) Monetary Theory and Policy     |
| (b) Income and Employment Theory    | (i) Welfare Economics              |
| (c) Public Finance                  | (j) Contemporary Economic Problems |
| (d) Labor Economics                 | (k) Comparative Economic Systems   |
| (e) International Trade and Policy  | (l) Business Cycles                |
| (f) Economics of Consumption        | (m) Extractive Industries          |
| (g) Economic Growth and Development | (n) Statistics                     |
|                                     | (o) Distribution Theory            |
- These courses may be offered at irregular intervals. Minimum enrollment will be five students.
- 221 (Ag. Econ. 221) Advanced Microeconomic Theory** 3 credits F An analysis of the economics of enterprise.
- 222 (Ag. Econ. 222) Advanced Aggregate Economics** 3 credits S Study of current economic theory in the areas of national income, employment, price stability, and economic growth in developed economies.
- 223 (Ag. Econ. 223) Advanced Monetary Theory** 3 credits F An intensive study of monetary theory, with special emphasis on the value of money.
- 224 (Ag. Econ. 224) The Theory of Economic Development** 3 credits S See Ag. Econ. 224 for description.
- 225 (Ag. Econ. 225) Introduction to Econometrics** 4 credits F See Ag. Econ. 225 for description.
- 300 Research and Thesis** Credits to be arranged F & S (STAFF)

**EDUCATION**

Professors H. Snider (Head), Biggam, Duncanson, Farley, Green, Kirkland, Locke, Maib, Shreve, J. Snider, Samuelson, Vent; Associate Professors Bray, Currie, Ertel, Kelly, Woolums; Assistant Professors Marten, Westerlund, Wriggle.

- 1 Education Lectures** 1 credit F & S This course is required of all students in the College of Education during the freshman or sophomore year. Transfer students with junior standing or better and with previous course work in Education may have this requirement waived. (SAMUELSON, H. SNIDER)
- C51 General Elementary Methods** 3 credits C A general elementary methods course provided for those students who expect to qualify for the Provisional Elementary Certificate. (J. SNIDER)
- X73 The International Education Scene** 1 to 9 credits X A study-tour conducted to observe on-the-scene selected educational systems and procedures in foreign countries. One credit will be arranged for each week of study, provided the maximum shall not exceed that earned by normal registration during one summer session. Only high school graduates may receive credit. (MAIB)
- 75 Methods in Elementary School Art** 2 credits F & S A course designed to prepare elementary school teachers to meet art requirements in the self-contained elementary classroom. Study of materials and techniques. Correlation of the teaching of art with other elementary school subjects and activities. Class limited to twenty-five students. (WESTERLUND)
- 87 Foundations of Education** 4 credits F & S An introduction to the history of education, the place of the school in the social milieu, the basic principles under which our schools are operated and a consideration of contemporary educational philosophy. (KELLY, WOOLUMS)

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- C102 The Child and Society** 3 credits C A study of the child in the social milieu, including the family, the social group, the community and the school. Attention is given, especially to the effects of social pressures and conditioning upon the child and upon the educative process.

- 103 Kindergarten Education 2 or 3 credits F & S** A survey of the history, theory suitable equipment and best practices for the education of the 5-year old. Special emphasis is placed upon helping the child become oriented to school routine. (STAFF)
- 104 Workshop in Indian Education 2 credits SS** A course designed to provide background leading to better understanding and teaching of Indian children. The course will cover tribal and Indian heritage, improving education for Indians and non-Indians, scholastic relations of Indian children and techniques and programs for teaching Indian children.
- 105 Workshop in Aerospace Education 2 credits SS** A workshop to familiarize teachers with aerospace subjects, enable them to teach the subject matter in their classes, and to provide them with an understanding of aerospace developments which are vital to our social, economic and political environment.
- 106 Team Teaching in the Elementary School 3 credits F & S** The course will cover the philosophy of team teaching, organization of the teaching team, trends in building construction for team teaching and development of curriculum materials. Emphasis will be given to the role of the teacher, pupils and all auxiliary personnel. (STAFF)
- X107 History of Education 3 credits X** A survey of the development of educational ideals and practices from the age of primitive man to the present. The purpose is to consider what has been thought and tried in the past and use the information thus gained in evaluating the theories and practices of today.
- 111 The Junior High School 3 credits F & S** A study of the fundamental principles of present day reorganization of high school education with special emphasis upon junior high school organization, administration, and methods of instruction. (H. SNIDER)
- C112 Principles of Elementary Education 3 credits C** A study of elementary school education from three points of view: (a) the elementary school pupil and his characteristics, (b) the elementary school as an institution and its relation to society and to other educational institutions and (c) the elementary school course of study, especially as to its aims and values. Prerequisite: 6 credits in education and Educational Psychology or Human Growth and Development.
- C113 Principles of Secondary Education 3 credits C** A study of high school education from three points of view: (a) the high school pupil and his characteristics; (b) the high school as an institution and its relation to society and to other educational institutions; and (c) the high school course of study, especially as regards the aims and values of the different subjects.
- 114 General Secondary School Methods 2 credits F & S** This course is devoted to a consideration of problems and the methods of teaching common to all subjects at the secondary school level. Prerequisite: 6 credits in Education. (STAFF)
- 115 Secondary School English and Language Arts Method 2 credits F & S** The course is devoted to a consideration of special problems, methods, and materials pertinent to the field of English. Prerequisite: 6 credits in Education. (STAFF)
- 116 Secondary School Social Studies Methods 2 credits F & S** This course is devoted to a consideration of special problems, methods and materials pertinent to the field of Social Studies. Prerequisite: 6 credits in Education. (STAFF)
- 117 Secondary School Science Methods 2 credits F & S** The course is devoted to a consideration of special problems, methods and materials pertinent to the field of Science. Prerequisite: 6 credits in Education. (STAFF)
- 118 Secondary School Mathematics Methods 2 credits F & S** The course is devoted to a consideration of special problems, methods and materials pertinent to to the field of Mathematics. Prerequisite: 6 credits in Education. (STAFF)
- 119 Secondary School Art Methods 2 credits F & S** The course is devoted to a consideration of special problems, methods and materials pertinent to the field of art education. Prerequisite: 6 credits in education. (STAFF)
- 120 Primary Language Arts Methods 3 credits F** Especial attention to reading readiness, methods of introducing the child to reading, extension of reading skills, and the relatedness of the following areas of Language Arts; including spelling, handwriting, oral and written communications. Credit will not be given for both Ed. 120 and Ed. 122. Prerequisite: 6 credits in Education. (MAIB)
- 121 Methods and Materials in Social Studies 2 credits F & S** A study of methods of teaching social studies in elementary school with emphasis on this curriculum and availability and use of instructional materials and devices. Prerequisite: 6 credits of Education. (VENT)
- 122 Intermediate Language Arts Methods 3 credits S** A brief review of primary Language Arts, a study of reading skills required in the intermediate grades, vocabulary development and refinement of study habits. Emphasis is given to the

- relatedness of the following areas: including spelling, handwriting, oral and written communication. Credit will not be given for both Ed. 120 and 122. Prerequisites: 6 credits in Education. (MAIB)
- 123 Methods and Materials in Health Education 3 credits F** A study of the special methods and materials appropriate to health education; the criteria for the selection of content for such courses at the junior and senior high school levels. (MARTIN)
- 124 Elementary School Music (71) 2 credits F & S** Methods and materials of teaching music in elementary schools. Not open to students who have taken Mus. 171. Prerequisite: Mus. 3 or equivalent. (BRAY)
- 125 Art Methods Workshop 3 credits SS** A course designed to give teachers opportunity to work out problems of teaching art through different media and techniques. Development of school art program including problems in selecting, organizing, teaching, guiding, evaluating individual and group art activities. Creative art problems and procedures of art teaching. Either elementary or secondary level. (WESTERLUND)
- 126 Methods and Materials in Mathematics 3 credits F & S** A study of the methods of teaching arithmetic in the elementary school with emphasis upon the arithmetic curriculum, and the availability and use of instructional materials and devices. Prerequisites: 6 credits in Education. (J. SNIDER)
- 127 Methods and Materials in Physical Education (Women) 2 credits F** A study of the methods and teaching of health and physical education in secondary education with emphasis being placed on functional health problems and physical education program planning. (LOCKE)
- 128 Audio-Visual Aids in Education 3 credits F & S** A study of principles and methods of audio-visual education, including projected still and motion pictures, and other sensory materials. The uses and limitations of various types of aid, their evaluation, operation, and care, the administration of the audio-visual program in school. Registration limited to twenty-five students. Prerequisite: 8 credits in Education.
- 129 The Elementary School Curriculum 3 credits F** An overview of the curriculum considering the goals of education, types of curricula and the techniques of their development, the place of skills and abilities, the content areas, appreciative and creative programs in the elementary school. Prerequisite: 6 credits of Education or consent of instructor. (J. SNIDER)
- 130 Student Teaching in Elementary Schools 3 to 9 credits F & S (Each Nine Weeks)** Directed student teaching conducted under supervision in Idaho elementary schools involving complete teaching experience. Students must confer with the Director of Student Teaching during their junior year and submit an application for admission to student teaching by May 1 of the year prior to enrolling for student teaching. Prerequisite: A cumulative grade of at least 2.25 and work in the fields of Education and Psychology, including Psych. 55 or 151; Ed. 87, Ed. 120 or 122, and Ed. 126, or their equivalents. Student teaching is scheduled on a full-time basis for one-half semester for 9 credits. Registration for less time or credits must be arranged in advance with the Director of Student Teaching. (FARLEY)
- 130a Special Student Teaching in Elementary Schools 3 credits F & S** This is a special registration for those secondary education students in Art and Physical Education who wish to qualify for Idaho endorsement to teach these subjects at the elementary level. Prerequisite: 3 semester hours of special methods in the subject area. (FARLEY)
- 131 Student Teaching in Secondary Schools 3 to 9 credits F & S (Each Nine Weeks)** Directed student teaching conducted under supervision in Idaho secondary schools involving complete teaching experience. Students must confer with the Director of Student Teaching during their junior year and submit an application for student teaching by May 1 of the year prior to enrolling for student teaching. Prerequisite: A cumulative grade average of 2.25 and work in the fields of Education and Psychology, including Psych. 56 or 151; Ed. 87 and Ed. 114 or their equivalents. Student teaching is scheduled on a full-time basis for one-half semester for 9 credits. Registration for less time or credits must be arranged in advance with the Director of Student Teaching. (FARLEY)
- 132 Student Teaching in Music 3 to 9 credits F & S** General vocal, and instrumental music teaching experiences in grades 1-12. Two-thirds of the experience is in the secondary schools. Credit is granted on the basis of one credit for each week of full-time student teaching or its equivalent. Students must confer with the Director of Student Teaching and submit an application for student teaching by May 1 of the year prior to enrolling for student teaching. Prerequisite: A cumulative grade point average of at least 2.25; Psych. 55 or 56 or 151; Ed. 87 and 114; Mus. 171-172-173 and 179-180, in addition to an approved selection of one of the options (vocal or instrumental) under the requirements for the degree of Bachelor of Music Education. (FARLEY, BRAY)

- 133 Methods and Materials in Physical Education (Men)** 2 credits F A study of the methods of teaching health and physical education in secondary schools with emphasis being placed on the functional health problems and physical education program planning. (KIRKLAND)
- 134 Children's Literature and Storytelling** 3 credits F & S Children's stories for each grade level of the elementary school, story plays, dramatizations, effective reading and telling of children's stories and their place in the educational pattern of the school. (MAIB)
- 136 Elementary Reading Workshop** 3 to 6 credits SS Problems of teaching reading at the primary and intermediate grade levels, examination and evaluation of available reading materials and the adaptation of those materials to the growth and development needs of children. Five lectures for 3 credits or five lectures and 10 laboratory hours per week for 6 credits. Enrollment limited to 25 students. Credit will not be given for both this course and Ed. X228.
- C137 Secondary Social Studies Methods** 3 credits C A study of the methods of teaching the social studies in the secondary schools with emphasis on the curricula of history, geography, American problems, sociology and economics, and the availability and use of instructional materials and devices.
- C138 and X138 Methods and Materials in Language Arts** 3 credits C & X This course consists of the study of all areas of the Language Arts program including reading, spelling, communication, handwriting and the inter-relatedness of these areas. Consideration is given to such reading problems as readiness, retardation, enrichment and selection of instructional materials. Credits will not be given if the student has taken either Ed. 120 or 122.
- 139 Comparative Education** 3 credits F & S A comparative analysis of Educational systems in relationship to the cultural backgrounds which give rise to them. (WOOLUMS)
- 140 Driver Education** 2 credits S Designed to aid teachers in the instruction of beginning drivers, and the use of dual controlled automobiles. Includes functioning of the vehicle, it's proper operation, traffic control and safety. Presented in cooperation with the American Automobile Association and successful completion of the A.A.A. requirements is required for credit in the course. Class limited to 20 students. Prerequisite: The possession of a valid driver's license.
- 141 Secondary School Foreign Language Methods** 2 credits F & S The course is devoted to a consideration of special problems, methods and materials pertinent to the field of foreign languages. Prerequisite: 6 credits in education. (STAFF)
- 143 Teaching of Geography** 3 credits SS A workshop emphasizing concepts and objectives in teaching geography, trends in geographic instruction, teaching methods, audio-visual materials, planning the geography program, specialized skills required to learn geography, and forces contributing to change in geographic education. (VENT)
- 144 Methods and Materials in Elementary School Science** 2 credits F & S A study of the methods of teaching science in the elementary school with emphasis on this curriculum and the availability and use of instructional materials and devices Prerequisite: 6 credits of Education or consent of instructor. (STAFF)
- 145 Student Teaching Seminar** 0 credits F (Each Nine Weeks) A seminar to provide orientation to student teaching. (FARLEY)
- 147 Advanced Aerospace Education** 2 credits SS A workshop designed to provide teachers with advanced information concerning space and space flight. Suggested topics for discussion are space medicine, computer study, power requirements for space flight, power for life support and instrumentation in flight. Prerequisite: Ed. 105. (STAFF)
- 148 Production and Use of Media in Education** 3 credits F & S A course designed for intensive investigation of production, utilization, and organization of media in student's field of interest. Student will be expected to produce a quantity of instructional devices and organize these into instructional systems. Prerequisite: Experience in teaching. (WRIGGLE)
- 149 Advanced Driver Education and Traffic Safety** 2 credits F & S A course designed to provide advanced preparation in principles and practice of driver and traffic safety education for teachers, supervisors and administrators. Prerequisite: Ed. 140.
- C165 and X165 Curriculum Construction** 3 credits C & X An introductory course in the basic principles of curriculum construction designed to serve the needs of the off-campus student. It emphasizes that a functional curriculum needs constant study and revision; the ways and methods by which the curriculum can and should be revised; the place of the teacher in such a program; and the practical ways of translating curriculum theory into practice.

- 167 Developing Reading Efficiency** 3 credits F & S A course designed to aid teachers in the detection and correction of factors which interfere with the development of efficient reading.
- X172 Educational Tests and Measures** 3 credits X The selection, administration, scoring and interpretation of the tests and measuring devices used in the elementary and secondary schools. Prerequisite: General and/or Education Psychology.
- X173 The International Education Scene** 1 to 9 credits X (See course description under X73.)
- A175 and X175 Education of Exceptional Children** 3 credits A & X Dealing with typical children in regular and special classrooms. Methods, materials, curriculum and procedures for facilitating growth and development of crippled children, those defective in speech, hearing or vision, the maladjusted or mentally handicapped.
- 177 Teaching the Retarded Child** 3 credits F & S A course designed to aid teachers in working with retarded and mentally handicapped children.
- 178 Methods and Materials for Teaching the Mentally Retarded** 3 credits F & S Special techniques and instructional materials for students preparing to teach primarily the slow learner generally, the mentally retarded specifically.
- 187 Methods of Speech Correction** 3 credits SS An examination and analysis of functional and organic speech disorders in school children. Emphasis on the functions and activities of classroom teachers in aiding children with speech handicaps.
- 190 Directed Study** 1 to 3 credits F & S
- |  |                         |
|--|-------------------------|
| a. Principles of curriculum construction | g. Business education   |
| b. Curriculum construction               | h. Music education      |
| c. School administration                 | i. Physical education   |
| d. School finance                        | j. Elementary education |
| e. State curriculum project              | k. Secondary education  |
| f. Supervision                           | l. Guidance             |
|  | m. Special education.   |
- A general registration designed to afford qualified students with the opportunity to study independently under the direction of a staff member. The student arranges for the work with the necessary approval of the instructor who is to direct the study. None of the sub-divisions may be repeated for credit. A maximum of 6 credits is allowed in the course. (STAFF)
- 197 Teaching Gifted Children** 3 credits F & S Problems involved in identification and teaching of gifted children in elementary school. Consideration will be given to this problem as a part of a normal classroom situation as well as where children are segregated according to ability.
- 199 Instructional Television Institute** 6 credits SS This course is designed to take teachers who have had no previous experience in areas of new media and prepare them as specialist in instructional television. Students will become conversant in all phases of instructional television. Primary emphasis will be on preparation, utilization and evaluation of telecourses. (STAFF)

#### PRIMARILY FOR GRADUATES

- 201 Elementary School Principals Workshop** 2 credits SS A two-week workshop for elementary school principals.
- 202 School Administration Workshop** 1 to 3 credits SS Workshop of 1 to 3 weeks designed for practicing school administrators. Curriculum may deal with general administration problems or selected for area as: curriculum administration, finance, supervision, guidance, special education, elementary and second education. Course may be repeated for separate topic areas to maximum of 6 credits.
- 203 Workshop for Secondary School Principals** 1 credit SS A one-week workshop for Secondary School Principals. (STAFF)
- 204 School Administration (180)** 3 credits F A presentation of the fundamental principles and problems of organization and administration of city, county and state systems. Two field trips to inspect new school buildings. (DUNCANSON)
- 205 School Finance** 3 credits S This course deals with major problems of financing schools at the present time. Applications are made to the problems of Idaho. Prerequisite: Ed. 204. (DUNCANSON)
- 206 The Organization and Administration of Elementary Schools** 3 credits F & S Primarily for elementary teachers, principals and supervisors. A study of patterns of organization of grades one through six; administrative problems and techniques such as pupil accounting, faculty assignment, pupil progress reports, etc. Prerequisites: 10 semester credits in Education and consent of the instructor. (J. SNIDER)

- 207 **Supervision of Instruction** 3 credits F & S In small cities a large and important part of the superintendent's work consists of the supervision of instruction. This course is intended to help those preparing for superintendencies to be able to improve their teachers while in service. (SHREVE)
- 208 **Secondary School Administration** 3 credits F & S This course is designed primarily for secondary school principals and superintendents. It will deal with the major problems of organization, administration, and supervision of the secondary school. Special attention will be given to the problems of small high schools. (SAMUELSON)
- 209 **Educational Television** 2 credits SS A workshop designed to provide opportunities for study and experience in educational innovations.
- 210 **Philosophy of Education** 3 credits F The aim of this course is to bring together and unify the facts and principles elaborated in various fields of education to think beyond the technique of school practice, to define some educational objectives, and to discover the meaning and place of education in the social structure of which we are a part. Prerequisite: Admission to doctoral program or consent of instructor.
- 211 **Secondary School Curriculum** 3 credits F A study of basic principles underlying curriculum construction in the secondary schools. Major emphasis is upon the selection, organization and sequential arrangements of materials to meet the needs of youth. Students will be expected to be familiar with recent developments in the fields of educational psychology and educational philosophy. (WRIGGLE)
- 212 **Curriculum Construction** 3 credits S This course is designed to give mature students an opportunity to organize curriculum materials into teachable form and to prepare course of study outlines in the major subject matter areas. Open only upon consultation with the instructor, to those students who have had Ed. 211 or Ed. 283 or their equivalent. (WRIGGLE)
- 213 **History of Educational Thought** 3 credits F & S A study of some of the writings which have had a profound influence upon educational theory and practice. Included in this study is a critical examination of the philosophical concepts and issues most clearly related to problems in education. Writings considered include those by Plato, Aristotle, Quintilian, Augustine, Aquinas, Comenius, Locke, Rousseau, Fichte, Pestalozzi, Froebel, Herbert, and Dewey. (KELLY)
- 214 **Developments in Elementary Education** 3 credits F & S The nature of Education with special emphasis on the elementary level, major educators, past and present; ideas in education; journals; and bibliographies for each of the main areas of the elementary curriculum. (STAFF)
- 215 **The Logic of News Media** 3 credits F & S The study of technological development in education in terms of its present contribution and potential. Investigation of the advanced forms of media as they influence learning, teaching, and curriculum content and organization. The development and use of media in the light of the influence of current and past educational philosophy, practice and theory. Systems in education in relation to present and future technological potential. (STAFF)
- 216 **Advanced Study of the Teaching of Reading in the Elementary School** 3 credits F & S Analysis of trends in teaching of reading as shown in current methods and research. Includes controversial issues of future trends in classroom organization, of methods and materials.
- 218 **Practicum in Special Education** 6 credits F & S Supervised classroom experience in teaching the slow learner.
- 219 **Workshop in Administrative Procedures** 3 credits SS This is a course primarily for the prospective school superintendent. It is a practical course designed to provide the student information about and some practice in handling the numerous routine, but important, administrative procedures—for example scheduling, purchasing, record keeping, supply management, bus routing, and pupil accounting.
- 220 **Advanced Study of Science and Social Studies in the Elementary School** 3 credits F & S A critique of the methods and techniques used in the modern elementary classroom, together with a review of the philosophy and of the psychological foundations of the unit as a means of instruction. Prerequisite: Be qualified for a Standard Elementary Certificate. (VENT)
- 221 **Advanced Study of Language Arts in the Elementary School** 3 credits F & S Investigation of the research in the language arts and implications of these research data related to modern techniques of teaching children. Prerequisite: Be qualified for a Standard Elementary Certificate. (MAIB)
- 222 **Diagnostic and Remedial Instruction** 3 credits S Methods and materials for diagnosing difficulties in learning together with a study of remedial and other measures designed to promote maximal child growth and development. Consideration will be given to problems of accelerations as well as retardation. Prerequisite: Education 130 or teaching experience.

- 223 The Creative Art and Creative Teaching in the Elementary School** 3 credits  
**F & S** A definition of the creative arts, a critique of the basic philosophy necessary to the development of curricula in these areas, development of a working definition of creativity in children; art, music, socio-drama-creative writing, individual and group work. Prerequisite: Be qualified for a Standard Elementary Certificate. (J. SNIDER)
- 224 Child Guidance Clinic** 3 credits **F & S** Analysis and case history of the individual child; diagnosis of his adjustment difficulties; therapeutic techniques for use by parent and teacher. Prerequisite: Ed. 130 or teaching experience and consent of instructor.  
 a. Remedial Reading  
 b. Remedial Speech  
 c. Mentally Retarded  
 d. The Gifted Child
- 226 Organization and Administration of Guidance Services** 3 credits **F & S** A study of the administration and organization of guidance services at local, state, and federal levels. This course is designed for those who will be responsible for the guidance services in public school systems. (KJOS)
- X228 Reading Instruction and Improvement** 3 credits **X** The techniques of teaching reading in the lower and intermediate grades and the problems of remedial reading through the twelfth grade. Analysis of text materials, procedures, testing and curriculum. Credit will not be given for both this course and ED. 136.
- 230 Educational Law** 3 credits **S** A general course in educational law employing statutory and case materials, and based on principles applicable in all states. (STAFF)
- 260 Research and Writing in Education** 3 credits **F** A study of the techniques of research in the field of education including the assembly and analysis of data, and the presentation of the results of educational research in written form. (STAFF)
- 265 Seminar in School Administration** 3 credits **F & S** A study of the problems of organizing, administering, financing, housing, equipping, and staffing public educational systems. Prerequisite: Ed. 204, or equivalent  
 a. School Administration  
 b. School Finance  
 c. School Supervision  
 d. School Law  
 e. Personnel  
 f. Public Relations  
 g. School Buildings  
 h. School Surveys.
- Not to exceed three credits may be counted toward a Master's degree and not to exceed nine credits may be included in a doctoral program. (STAFF)
- 266 Seminar in Secondary Education** 3 credits **F & S** A problems course dealing with the organization, administration, supervision, curriculum, activity program, and student and staff personnel matters relating to secondary schools. Prerequisite: Ten hours of undergraduate work in the field of secondary education. (H. SNIDER)
- 267 Seminar in Elementary Education** 3 credits **F & S** The purpose of this course is to cover the field of elementary education on a graduate level. The field, function, curriculum and organization of the elementary school will be considered. Each student will be expected to present to and defend before the class a problem of his choice, together with the proposed solution of the same. Prerequisite: Be qualified for a Standard Elementary Certificate. (J. SNIDER)
- 272 Educational Measurements and Evaluation** 3 credits **S** The improvement of testing, examination and evaluation in schools; practice in making, giving, scoring, and interpreting educational tests; uses of test results in education counseling. (J. GREEN)
- 281-282 Professional Problems** Credits to be arranged **F & S** Registration is limited to graduate students. The work is done under the direction of the professor in whose subject the greater part of the work is offered. (STAFF)
- 283 Curriculum Workshop** 3 or 4 credits **SS** An informal program of work for teachers and school administrators consisting of lectures and study of the principles of curriculum development; and cooperative and individual activity in the writing of statewide courses of study, local school-system curricular programs, and individual course materials.
- 284 Education Workshop in Idaho Resources** 8 credits **SS** A special course conducted in cooperation with Idaho State Department of Education to develop units of work in conservation of natural resources, air-age education, and atomic energy education for state curriculum guides. One-week field trip is integral part of course. Registration limited.
- 285 Internship in School Administration** 3 to 9 credits **F & S** A supervised internship in practical school administration in a typical school district. The student will be expected to devote full-time to this work during periods of assignment from three to nine weeks and to submit reports on his various activities. For ad-



vanced graduate students near the end of their program of course work. A maximum of 1 credit per week can be earned in this course.

- 291 **Administration of Personnel** 3 credits F & S Problems of selection, placement and evaluation of teachers; salaries and salary schedules; tenure; leaves of absence; teacher organizations; and related matters. (DUNCANSON)
- 292 **Administration of Public Relations** 3 credits F & S Interpreting the schools to the public with emphasis upon the two-way flow of ideas between the school and the community. (FARLEY)
- 293 **School Building Planning and Maintenance** 3 credits F & S Problems involved in planning new school buildings and in maintaining them afterwards. Included are legal provisions involving financing, preliminary surveys of need, relationships with architects, contractors, etc. Two field trips will be scheduled. (SHREVE)
- 294 **Theory in School Administration** 3 credits F & S A course for advanced graduate students. Course of study will include discussion of various theories of administration from Psychological, sociological and cultural points of view. (DUNCANSON)
- 295 **Higher Education** 3 credits F & S A survey of college and university education in the United States; history, objectives, organization, finance, instructional methods, faculty and student problems. (STAFF)
- 300 **Research and Thesis** Credits to be arranged F & S (STAFF)

## ELECTRICAL ENGINEERING

Professor Parish (Acting Head); Professors Hattrup, Johnson (Head Emeritus), Mann, Beattie; Associate Professors Hagen, McKean (on leave 67-68), Hespelt, Gray; Assistant Professors Anthis, Baily (on leave 67-68), Rigas, Shay, Thomas; Instructors Anderson, Wendle.

### PRIMARILY FOR UNDERGRADUATES

- 19 **Elements of Radio I** 2 credits F & S An elementary course dealing with the fundamentals of direct and alternating current as applied to radio and TV broadcasting. For non-engineering students interested in radio and television broadcasting. Elective. (STAFF)
- 20 **Elements of Radio II** 2 credits S A continuation of E.E. 19 dealing with the technical problems of a broadcasting station. Two recitations per week. Elective. Prerequisite: E.E. 19. (STAFF)
- 21 **Electric Circuits** 3 credits F & S Fundamentals of direct and alternating current circuits including an introductory treatment of transients and instrumentation. Prerequisite: Math 50 or with Math 50. (PARISH, STAFF)
- 23 **Electrical Engineering Projects** 1 or 2 credits F or S Construction of simple electric projects such as motors, generators, transformers, and radios. Prerequisite: Sophomore standing in electric engineering. Elective. (STAFF)
- 30 **Network Analysis** 4 credits F & S A circuit analysis course dealing with advanced dc and ac circuit concepts including network theorems, frequency domain analysis, and coupled circuits. Three recitations per week and one three-hour laboratory. Prerequisite: E.E. 21. (HATTRUP, ANDERSON)
- 36 **Polyphase Circuits** 2 or 3 credits F & S A study of the fundamentals of poly-phase circuits with emphasis on three-phase systems and other circuit considerations including an introduction to symmetrical components. Prerequisite: E.E. 30. (HATTRUP, SHAY)
- R40 **Electric Circuits** 3 credits F or S An introductory study of the fundamental properties of electric circuits. Prerequisite: Calculus and consent of instructor.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 103 **Analog Computer Methods** 2 credits F & S An introductory course which includes analog computer operation and techniques. Elective. One lecture and one three-hour laboratory per week. Prerequisites: E.E. 21 and Math. 52. (ANTHIS, STAFF)
- 106 **Electrical Transients** 3 credits F & S A study of transients in linear electrical systems. Classical, Fourier, and Laplace methods of solution are used. Three lectures per week. Prerequisites: E.E. 30 and Math. 52. (GRAY, STAFF)

- 109 **Electrical Instrumentation** 2 credits F & S Study of measurement circuits and devises and a statistical approach to the importance and effects of errors. One lecture and one three-hour laboratory per week. Prerequisite: E.E. 21 and Math 51. (THOMAS, STAFF)
- 113 **Basic Electrical Machinery** 2 credits F & S Basic concepts of magnetic circuits and electromechanical energy converting systems including theory and important characteristics of common direct-current and alternating-current machinery. Two recitations per week. Prerequisite: E.E. 21. (SHAY, HATTRUP)
- 114 **Electronics and Control Systems** 2 credits F & S A basic course in the elements of electronic devices and circuits, and in an introduction to closed-loop control systems. Two recitations per week. Prerequisite: E.E. 21. (PARISH, STAFF)
- 115 **Electrical Laboratory (Machines)** 1 credit F & S For non-electrical engineering students. One three-hour laboratory per week. Prerequisite: E.E. 113 or with E.E. 113. (STAFF)
- 116 **Electrical Laboratory (Electronics and Control)** 1 credit F & S For non-electrical engineering students. One three-hour laboratory per week Prerequisite: E.E. 114 or with E.E. 114. (STAFF)
- 122 **Introductory Electronic Circuits** 4 credits F & S An introduction to linear and piecewise-linear circuit characteristics for vacuum tubes and transistors and an examination of the behavior of these devices in basic rectifier and amplifier configurations. Prerequisite: E.E. 30 and Math 52. (ANTHIS, STAFF)
- 123 **Electronic Circuits and Amplifiers** 3 credits F & S An introduction to active-circuit theory as applied to vacuum tubes and transistors employed in amplifiers and switching circuits. The methods developed in this course are intended to be applicable to a large class of amplifying devices. Prerequisite: E.E. 122. (THOMAS, STAFF)
- 126 **Electronics Laboratory I** 2 credits F & S This course provides laboratory investigation of the techniques and phenomena introduced in E.E. 122. Construction techniques and fundamental measurement processes are emphasized. Regular laboratory reports are required. Prerequisites: E.E. 109, 122. (GRAY, STAFF)
- 127 **Electronics Laboratory II** 1 credit F & S An extension of E.E. 126. Circuit design and construction techniques are emphasized. Fewer but more complex, circuitry experiments are conducted. Prerequisite: E.E. 126. (HAGEN, STAFF)
- 133 **Electrical Machinery I** 3 credits F & S A study of the fundamental theory of rotating electric machines and the operating characteristics of d-c machines. Three lectures per week. Prerequisite: E.E. 30 or with E.E. 30. (HATTRUP, SHAY)
- 135 **Electric Machinery Laboratory I** 1 credit F & S The investigation of electrical machinery with particular emphasis on dc motors and generators. One three-hour laboratory per week. Prerequisite: E.E. 133 or with E.E. 133. (SHAY)
- 141 **Electric Machinery II** 3 credits F & S A continuation of E.E. 133 with primary emphasis on transformers and ac machines. Three lectures per week. Prerequisite: E.E. 133, 36 or with E.E. 36, Math 51. (MANN, SHAY)
- 142 **Advanced Electric Machinery** 2 credits S Selected advanced topics on electrical machinery including dimensional analysis, heating, the machine as part of a balanced or unbalanced polyphase system, and single-phase motors. Two lectures per week. Prerequisites: E.E. 141. (MANN, SHAY)
- 143 **Electric Machinery Laboratory II** 2 credits F & S A detailed study of transformers and ac machines. One three-hour laboratory per week. Prerequisite: E.E. 135, E.E. 141, or with E.E. 141. (MANN, SHAY)
- 144 **Electrical Engineering Laboratory** 1 credit S Intensive tests upon the equipment studied in E.E. 141 and 142. Elective. (STAFF)
- 145-146 **Pro-Seminar** 1 or 2 credits F & S Presentation of oral reports on current developments from the technical literature. A field trip of three to six days duration may be required. A technical report is required on a student project or technical topic (in which case a literature survey in depth must be demonstrated). Required of seniors in electrical engineering (PARISH, MANN)
- 148 **Electrical Design Problems** 3 credits S Simple designs in several areas of Electrical Engineering. Illumination, heat transfer, insulation systems, an introduction to Boolean Algebra in switching circuits, and a transformer design are usually considered. Prerequisite: E.E. 141. (MANN, SHAY)
- 149 **Electric and Magnetic Fields** 3 credits F & S A basic study including methods of mapping fields and the use of Laplace and Poisson equations. The effect of iron, interaction between fields, wave propagation and radiation are also considered. Three recitations per week. Prerequisite: Math. 52. (McKEAN, STAFF)

- 150 Linear Systems Analysis 3 credits F & S** A study of the transformation and state variable methods in linear systems with emphasis on the application of matrices and linear vector spaces to engineering problems. Prerequisite: E.E. 106 or consent of Instructor. (HESPELT, RIGAS)
- 153 Electric Power Systems 2 credits F** Electric utility organizations and their functions; technical bases of rate schedules; general features of hydro and thermal power plants; coordination of components in distribution systems and determination of optimum sizes. Two recitations per week. Elective. Prerequisites: Econ. 51 and E.E. 36 (MANN)
- 154 Power System Analysis 3 credits S** Basic problems in power system analysis relating to short circuit and system stability calculations, lighting phenomena, economic selection of components, and the application of probability to system reliability. Three recitations per week. Elective. Prerequisite: E.E. 141. (MANN)
- 155 Servomechanism Practice 2 credits F** A study of servomechanism components including special purpose amplifiers, suppressed-carrier modulators and demodulators, error detectors, and actuators. Prerequisite: E.E. 175 or consent of Instructor. (HESPELT, RIGAS)
- 158 Transmission Lines and Networks 3 credits S** A study of the electric properties of transmission lines, networks, constant k- and m-derived filters. Three recitations per week. Prerequisite: E.E. 30 and Math 52. (ANTHIS, STAFF)
- 165 Advanced Electronic Circuits 3 credits F** A continuation of E.E. 123. Topics considered will include stagger tuned amplifiers, narrow-band considerations, rise-time in amplifiers, feedback, noise, multivibrators, and rudiments of pulse circuits. Three lectures per week. Prerequisites. E.E. 106 and E.E. 123. (THOMAS, STAFF)
- 166 Electronic Systems 2 credits S** A course describing the assimilation of electronic elements into electronic systems. An examination of system requirements as they pertain to transmission spectra, bandwidth, and speed of transmission. Specific systems such as television, radar, loran, sound, telemetering, computers, etc., will be discussed. Two recitations per week. Prerequisites: E.E. 165 or consent of instructor. (PARISH)
- 171-172 Thesis 2 or 3 credits F or S** An original investigation or dissertation upon some subject in electrical engineering. Open only to senior students. (STAFF)
- R173 Nuclear Instrumentation 3 credits F or S** A study of the properties of nuclear radiation and its interaction with matter as related to detection methods and methods of handling and processing the resulting detected data. Prerequisite: Consent of instructor. (STAFF)
- R174 Reactor Control Systems 3 credits F or S** Review of the elementary physics of reactor control and the derivation of the transfer function of the reactor are used to present a reactor control loop. Reactor control requirements are determined and the kinetic behavior is studied. Prerequisite: Consent of instructor. (STAFF)
- 175 Automatic Control Theory 5 credits F & S** Analysis and compensation of linear feedback control systems using frequency-response, root-locus, and analog computer techniques. Four lectures and one three-hour laboratory per week. Prerequisites: E.E. 106, E.E. 122, E.E. 133. Non-electrical engineers with consent of instructor. (HESPELT, RIGAS)
- 182 Antennas and Microwave Devices 3 credits S** An introduction to antennas, antenna systems, waveguides and waveguide devices, klystrons, magnetrons, and traveling wave tubes. Prerequisites: E.E. 149 and E.E. 158. (BEATTIE)

#### PRIMARILY FOR GRADUATES

- 200 Advanced Applications of Electronic Computers 3 credits F & S** This course consists of advanced analog computer, digital computer, and hybrid simulation techniques. Emphasis is placed on modern computer techniques in engineering design. Two lectures and one three hour laboratory per week. Prerequisites: Engr. 31, E.E. 103, E.E. 106, or consent of the instructor, (RIGAS)
- 201 Advanced Electrical Engineering 2 or 3 credits F or S** Problems in transient, high-frequency, and high-voltage phenomena. (STAFF)
- 202 Advanced Field Theory I 2 or 3 credits F** Selected d-c and a-c field topics to include potential function propagation, boundary values, relativity, and quantum mechanics. Prerequisite: E.E. 149 or consent of instructor. (BEATTIE, McKEAN)
- 203 Advanced Field Theory II 2 or 3 credits S** Selected field theory topics and advanced solution techniques. Prerequisite. E.E. 202. (BEATTIE)
- 204 (WSU EE 581) Theory of Electrical Machinery 2 or 3 credits F or S** Advanced investigation into theory underlying design and operation of electrical machinery. (MANN, STAFF)

- 205 (WSU EE 514) **Power Plant Design** 2 or 3 credits F or S Study of the engineering and economic factors controlling the design and operation of electric utility systems. (MANN, STAFF)
- 206 (WSU EE 589) **Sampled-Data-Control Systems** 3 credits F or S A study of sampled data-control systems using the Z-transform. Prerequisite: 175 or consent of the instructor. (HESPELT, RIGAS)
- 208 (WSU EE 576) **Gaseous Conduction** 3 credits F or S A study of currents and field in plasmas. Prerequisite: Consent of the instructor. (HAGEN)
- 209 **Fundamentals of Passive Electrical Networks** 2 or 3 credits F or S A study of the limitations on passive electrical network behavior including positive real functions, Hurwitz polynomials, and Hilbert transforms along with other corollary properties. Prerequisite: Math. 181 or consent of instructor. (BEATTIE, McKEAN)
- 210 **Network Synthesis** 3 or 4 credits F or S A study of the methods of synthesis of passive electrical networks. Laboratory work is an integral part of this course. Prerequisite: E.E. 209. (BEATTIE)
- 211-212 **Seminar** 1 to 2 credits F & S Topics for investigation and discussion selected from the field of interest. At least one credit required of M.S. (E.E.) students. (PARISH)
- 214 **Microwave Circuits** 2 or 3 credits F or S A study of the propagation of fields in microwave structure such as wave-guides and resonant cavities. Prerequisite: E.E. 149 or E.E. 203. (McKEAN, STAFF)
- 217 **Transmission Systems I** 2 or 3 credits F or S The study of transmission systems at power frequencies. Principally the application of symmetrical components to unbalanced system conditions. (MANN, SHAY)
- 218 **Transmission Systems II** 2 or 3 credits F or S The study of transmission systems at power frequencies. Principally considerations of system stability problems, high voltage insulation, and lighting phenomena. (MANN, STAFF)
- 225 (WSU EE 551) **Non-Linear Systems** 2 or 3 credits F or S A study of non-linear systems including limit cycles and stability criteria for systems involving feedback. Prerequisite: E.E. 175 or consent of instructor. (HESPELT, RIGAS)
- 227 **Antenna Systems** 2 or 3 credits F or S A study of the radiation properties of antennas and a study of the propagation of radio waves. (McKEAN)
- 228 **Logic Design of Computers & Switching Networks** 3 credits F or S Synthesis of digital logic configurations using Boolean algebra techniques. Applications involve design of switching circuits and digital computers. (McKEAN, RIGAS)
- 229 **Information Theory** 3 or 4 credits F or S A study of the basic concepts of communication processes which shall include such topics as channel capacity, elements of encoding, transmission of information in the presence of noise, power spectra and correlation functions. prerequisite: Consent of instructor. (BEATTIE)
- 231 **Advanced Control Systems** 3 credits F or S Linear system design using root-locus, frequency response, and time domain techniques. Elementary modern techniques will be introduced. Prerequisite: E.E. 175 or consent of the instructor. (HESPELT, RIGAS)
- 250 (WSU E.E. 516) **Ultra-High Frequency Engineering** 3 credits Components and Systems at frequencies over 300 megahertz. A cooperative course offered by Washington State University: available to University of Idaho graduate students.
- 251 (WSU E.E. 528) **Wave Propagation I** 3 credits Theory of radio wave propagation in a magnetoionic medium; application to communication problems involving the earth's ionosphere. A cooperative course offered by Washington State University: available to University of Idaho graduate students.
- 252 (WSU E.E. 529) **Wave Propagation II** 3 credits Phenomena occurring within the solar-terrestrial environment: effects on radio wave propagation. A cooperative course offered by Washington State University: available to University of Idaho graduate students.
- 253 (WSU E.E. 533) **Dielectric Theory and Application** 3 credits Field theory, phenomena, anomalous properties, and application of dielectrics. A cooperative course offered by Washington State University: available to University of Idaho graduate students.
- 254 (WSU E.E. 538) **Scattering of Radio Waves** 3 credits Theoretical and practical treatment of scattering in random media, in the troposphere, and in the ionosphere; scatter from geometrical objects. A cooperative course offered by Washington State University: available to University of Idaho graduate students.
- R271 **Solid State Electrical Devices** 2 or 3 credits F or S The solid state properties of semi-conductors, ferrites, and ferro-electrics are investigated. (STAFF)

- 275 Pulse and Digital Circuits I** 3 or 4 credits F or S An introduction to electronic switching, timing, and pulse shaping techniques using capacitor energy storage. Generally three lectures per week but laboratory occasionally substituted for lectures. Prerequisite: Consent of instructor. (GRAY, STAFF)
- 276 Pulse and Digital Circuits II** 3 or 4 credits F or S A continuation of E.E. 275 Introduces circuits utilizing energy storage of inductor-capacitor combinations. Generally three lectures per week but laboratory occasionally substituted for lectures. Prerequisite: E.E. 275. (GRAY, STAFF)
- R277 Transistor Electronics** 2 or 3 credits F or S Theory and application of transistors to modern methods. Prerequisite: Consent of instructor. (STAFF)
- 278 Linear System Analysis** 2 or 3 credits F or S A study of the transformation methods and analysis techniques used in linear system analysis. Prerequisite: Consent of instructor. (STAFF)
- R279 Switching Theory I** 2 or 3 credits F or S Analysis and synthesis of combinational digital networks and switching circuits. Elements of Boolean Algebra, symbolic logic and propositional logic. Minimization procedures and the realization of switching functions. Logic design of combinational networks. Prerequisite: Consent of instructor. (STAFF)
- R280 Switching Theory II** 2 or 3 credits F or S A continuation of E.E. 279. (STAFF)
- 281 Random Processes** 3 or 4 credits F or S Description of random processes and statistical models. Application to correlation functions, sampling theory and linear systems. Prerequisite: Consent of instructor. (STAFF)
- 300 Research and Thesis** Credits to be arranged F or S (STAFF)

## ENGINEERING (GENERAL)

(General Engineering is one of the subject-matter fields within the College of Engineering)

Professor Byers (Chairman); Professor Janssen; Associate Professor Turner; Assistant Professor Tovey; Instructors Carson, Morgan.

- 1 Engineering Graphics** 2 credits F, S, & SS Free hand lettering; use of instruments; free hand sketching; geometrical construction; orthographic projection; sectioning; dimensioning; pictorial representation; charts and graphs. Two two-hour combination recitation and laboratory periods per week. (TOVEY, MORGAN, STAFF)
- 2 Engineering Graphics** 2 credits F, S, & SS Descriptive geometry; the technique of solving problems involving points, lines, planes, and surfaces in space. Application to graphical problems in engineering and other fields. Two, one-hour recitation periods per week. Prerequisite: Engr. 1. (or Geology or Geography majors, Geog. 51) (BYERS, STAFF)
- 3 Engineering Graphics** 2 credits F & S A study of the application of the principles of engineering graphics to a specific subject-matter field. Primarily for College of Forestry students. Two two-hour combined recitation and laboratory periods per week. (STAFF)
- 6 Survey of Engineering** 2 credits F A survey and orientation course. Two one-hour recitations per week. (BYERS, TOVEY, STAFF)
- 11 Engineering Computations** 1 credit F & S Principles and use of the slide rule. Elective. Prerequisite: Math. 9 or with Math. 9. (TURNER, STAFF)
- 31 Digital Computer Programming** 1 or 2 credits F & S Introduction to computer programming principles and logic. Flow charts, one and two dimensional arrays, function and subroutine subprograms, application to problem solving. One (or two) one-hour recitations per week. (STAFF)
- 111 Engineering Fundamentals** 3 credits X & R An integrated course reviewing basic engineering and science material covered in undergraduate engineering curricula. The course presents material and problems in mathematics, including algebra and calculus; chemistry, including elementary physical chemistry and stoichiometry; physics, including heat, sound, light, and nuclear science; mechanics, including statics and dynamics; fluid mechanics, including fluid statics, fluid measurements, and fluid dynamics; thermodynamics, including first and second laws, thermodynamics processes, energy functions, properties of fluids, and heat transfer; electricity and electronics, including Ohms law, d-c and a-c circuits, three-phase power, and electronic devices and circuits; and engineering economy, including present and future worth, depreciation, recovery costs, earning rates, and payout time. This course may not be used to meet undergraduate or graduate engineering degree requirements. Prerequisite: an engineering degree or consent of instructor. (STAFF)

- 114 **Advanced Engineering Graphics** 2 credits F or S Introduction to industrial drafting practices. Curve plotting; creative problems; free-hand sketching; production illustrations; graphical mathematics; nomography; graphical integration and differentiation. Two two-hour combined laboratory and recitation periods per week. Elective. Prerequisites: Engr. 2. (TURNER, MORGAN)
- 151-152 **Senior Engineering Conferences** ½ credit F-S A consideration of engineering as a profession involving its history, growth and development. The role of engineering education; goals, accreditation and the curriculum. Engineering organizations and their development and functions. Codes of ethics and rules of practice. Engineering employment practices, opportunities, and interviewing. Professional registration and E-I-T- examinations. To be taken during the last two semesters of residence. One lecture period per week. (JANSSEN)

## ENGINEERING SCIENCES

(Engineering Sciences is one of the subject matter fields within the College of Engineering. It is an interdepartmental effort supervised by a chairman appointed by the Dean. A coordinator for each course and additional instructors are supplied from the faculty of the College.)

### COURSE COORDINATORS

Professor Hoffman (Chairman); Associate Professor Bloomsburg, Scheldorf; Assistant Professors Abbasi, Thompson.

### PRIMARILY FOR UNDERGRADUATES

- 66 **Mechanics I (Statics)** 2 credits F, S, & SS Composition and resolution of forces and a study of Newton's laws as they pertain to equilibrium; vector analysis and free body diagrams are used; applications include trusses, frames, and friction. Centroids and moments of inertia. Two class periods per week. Prerequisites: Phy. 53 and with Math 51. (ABBASI, STAFF)
- 69 **Mechanics II (Dynamics)** 2 credits F, S, & SS Principles of kinetics; acceleration analysis; systems of particles; work energy, momentum, impulse, and power in systems with linear and angular motion. Two class periods per week. Prerequisite: E.S. 66, and with Math. 52. (THOMPSON, STAFF)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 102 **Fluid Mechanics** 3 credits F, S, & SS Physical properties of fluids; fluid statics; fluid measurements; viscous and turbulent flow, momentum, lift, drag and boundary layer effects; flow of fluids in pipes and open channels. Three class periods per week. Prerequisite: Math. 52, and E.S. 69. (BLOOMSBURG, STAFF)
- 103 **Mechanics of Materials** 3 credits F, S, & SS The elasticity, strength, and modes of failure of engineering materials; theory of stresses and strains for columns, beams and shafts. Three class periods per week including periodic laboratory verification of basic principles. Prerequisites: E.S. 66 and Math. 51. (SUN, STAFF)
- 120 **Thermodynamics and Heat Transfer** 3 credits F, S, & SS First and second laws of thermodynamics; thermodynamic processes; thermodynamic properties of fluids; flow processes; conversion of heat into work; refrigeration; conduction and radiation. Three class periods per week. Prerequisites: E.S. 69 and Math. 52. (SCHELDORF, STAFF)

### PRIMARILY FOR GRADUATES

- 201 **Foundations of Solid Mechanics** 3 credits F or S Analysis of stress and strain, equations of equilibrium, compatibility, and elasticity. Solution of problems by stress functions and energy methods. Introduction to theory of plasticity and viscoelasticity. Application to engineering design. Prerequisites: E.S. 103, Math. 101 or consent of instructor. (THOMPSON)
- 202 **Continuum Mechanics** 3 credits F or S The study of stress and deformation of a continuum using tensor analysis. Relationship between stress, strain and strain rate in fluids and solids. Application to specific engineering problems. Prerequisite: Consent of instructor. (THOMPSON)

## ENGLISH

(English is one of the subject matter fields within the Department of Humanities.) Professors Banks, Boone, Hoag\*, Sherman\*\*; Associate professors Foy, Tenney, Tolleson (Chairman), Tung; Assistant Professors Brenner, Heningham, Meldrum; Instructors Blodgett, Boas, Burlison, Clark, Dilworth, Flancher, Foriyes, Holobach, Howze, Karr, Long, Maher, Verma, Webb; Instructors part-time McKie, L. Otness; Acting Instructors Elwood, Jones; Acting Instructors part-time M. Raunio, Sharp.

## PRIMARYLY FOR UNDERGRADUATES

Note:—Except in English 1-2, students may enroll for a second semester course without having had the first semester course.

**1-2 English Composition 3 credits F & S** A course in the reading and writing of English. English 1 emphasizes rhetoric and expository writing; English 2 emphasizes the research paper and analysis of literary materials. Required of all first year students and for graduation from the University. Prerequisite to all other courses in English except English 11 and 12. English 1 must precede English 2. A transfer student who lacks English 1 or 2 or both may take either or both for credit even though he has already taken a literature course for which English 1 and 2 are prerequisite here.

Students in need of special instruction may be assigned to do additional work in the English Clinic or in Reading Techniques.

**11-12 Introduction to the Humanities 3 credits F-S** A study of selected masterpieces illustrating the development of Western thought and culture. (STAFF)

**53 Expository Composition 3 credits F & S** A course providing students who have taken one year of composition with an opportunity to develop additional skill in general, nonliterary writing by means of further instruction, practice, and criticism.

**67-68 Survey of English Literature 3 credits F-S** First semester: Beowulf to Samuel Johnson; second semester: Robert Burns to contemporary writers.

**77-78 Survey of American Literature 3 credits F-S** English 77: from colonial beginnings to Melville; English 78: from Whitman to the present. English 77 may not be taken concurrently with or after English 171. English 78 may not be taken concurrently with or after English 172.

**91-92 Literary Composition 3 credits F-S** A study of principles and techniques in literary composition by members of the class, with emphasis on narrative prose. Above average ability in writing and some familiarity with literature are presumed. By special permission, the course may be elected two years.

## FOR ADVANCED UNDERGRADUATES AND GRADUATES

Note:—All hundreds courses require junior standing or permission of the instructor.

**\*111 Engineering Reports 3 credits F & S** For students in the College of Engineering and the College of Mines. Open to other students only by permission of the instructor. A study of technical and semitechnical style, problems in the semitechnical article and in the formal engineering report, and study of the business letter with assignments in letter writing.

**\*113 Business Writing 3 credits F & S** Emphasis on business correspondence, correct form and more particularly content and style of business letters. Practice in writing letters of the usual types. A study of the business report. Ability to type is desirable.

**\*115 Technical Writing 3 credits F & S** For students in the College of Agriculture and Forestry, and majors in other technical curricula upon the recommendation of the Head of the Department concerned. A study of technical and semitechnical style, semitechnical articles, reports, and business letters.

**121 Development of the English Novel 3 credits F** Major writers from the beginnings to Scott.

**122 The Nineteenth Century English Novel 3 credits S** Dickens to Hardy.

**126 Modern Poetry 3 credits F or S**

**127 American Fiction in the Twentieth Century 3 credits F or S**

**128 British Fiction in the Twentieth Century 3 credits F or S**

\* Retired March 10, 1967

\*\*Retired December 15, 1966

\*—Only one of the following courses may be taken for credit: English 111, 113, 115.

- 133 Chaucer 3 credits F An introduction to Chaucer's major poetical works except Troilus and Criseyde.
- 134 Middle English Literature 3 credits S A study of Middle English language and literature to 1500, exclusive of the works of Chaucer and of medieval drama.
- 135 Shakespeare: Comedies and Histories 3 credits F
- 136 Shakespeare: Tragedies and Romances 3 credits S
- 137 English Drama to 1642 3 credits F The development of the drama from its liturgical beginnings through the Age of Elizabeth, excluding Shakespeare, and concluding with the close of the theaters by the English Civil War. Special emphasis upon Marlowe, Jonson, and Webster.
- 138 Drama, 1660-1800 3 credits S Heroic play and tragedy; sentimental drama; comedy of manners.
- 139 Modern English and American Drama 3 credits F or S Reading and discussion of plays by the chief twentieth-century English and American dramatists.
- 141 American English 3 credits F & S Description of the phonemes, morphology, syntax, and dialects of American English. May be accelerated.
- 142 Introduction to Linguistics 3 credits F A beginning course in descriptive and historical study of language; linguistic analysis; linguistic structure; language classification; language families of the world; language in social and cultural setting.
- 143 Special Studies in Linguistics 3 credits S (a) Basque. Prerequisite: Eng. 142.
- 144 English for Teachers 3 credits F or S Special problems for students who have taught or plan to teach English. May be accelerated.
- 145 Literature for Young People 3 credits F or S Reading and appraisal of literature appropriate to the needs, interests, and abilities of young people. Open to students working for certification and for library certification.
- 151 Spenser and His Age 3 credits F
- 152 Milton and His Age 3 credits S
- 153 The Age of Dryden and Pope 3 credits F The neoclassical temper and the literature of the middle class: Dryden, Pope, and prose writers.
- 154 The Age of Johnson 3 credits S The rational spirit and growth of sensibility as found in Swift, Johnson, and Blake.
- 160 The Bible as Literature 2 credits F or S Literary forms in the Bible, its development in English, and its influences on English and American literature.
- 165 The Romantic Period 3 credits F From the beginning of the period in the eighteenth century to 1832. Readings of the major writers with emphasis on the changing artistic, social, and philosophical attitudes of the period.
- 166 The Victorian Period 3 credits S A study of the great writers of the Victorian era, their interpretation of the life and ideals of their time, their relation to one another, and their influence on their own and succeeding times.
- 171 American Renaissance 3 credits F A study of the literature which established the United States as one of the nations of enlightenment. Readings chosen from Poe, Hawthorne, Emerson, Thoreau, Melville, and Whitman.
- 172 Growth of American Realism, 1865-1914 3 credits S
- 173 Literature of the West 2 credits F A study of the writings which reflect the literary growth of the Western United States from frontier days to the present.
- 174 American Folklore 3 credits S The forms of folklore, including ballads and folksongs, known in the United States, their collection and study with special attention to their appearance in American literature.
- 187-188 Modern European Literature 3 credits Readings in translation of the chief European writers, with emphasis on the nineteenth and twentieth centuries and including the drama.
- 191-192 Advanced Literary Composition 3 credits Prerequisite: English 91 or 92 or the equivalent in writing experience. May be taken in successive years by special permission.
- 195 History of Literary Criticism 3 credits F or S Leading figures of literary criticism from Aristotle to Eliot and Richards.
- 196 History of the English Language 3 credits F or S Survey of the evolution of the English language from Proto-Germanic to American English.



- 197 **History of Books and Libraries** 3 credits F or S A survey of book production, the book arts, the development of libraries from the classical world to the present, as conditioned by their social and cultural setting. May not be used for the B.A. English major or for the English teaching major or minor.

#### PRIMARILY FOR GRADUATES

Note: Details of course and credit requirements for the M.A. in English are specified in "Graduate Program in English," available in the offices of the Chairman of English and the advisor to graduate students in English. Frequency of offerings in particular pro-seminars and seminars depends largely on students' needs.

- 201 **Problems and Methods of Literary Study** 3 credits F
- 207 **The English Language** 3 credits F or S (a) Old English, (b) Middle English, (s) Early Modern and Late Modern English. Prerequisite: English 141, 142, 196, or consent of instructor.
- 227\* **Pro-Seminars in Literary Periods** 3 credits F or S (a) Poetry, (b) Renaissance (1485-1660), (c) Restoration and 18th Century (1660-1800), (d) Romantic (1789-1830), (e) Victorian (1830-1901), (f) 19th Century American, (g) Modern British, (h) Modern American. A maximum of 12 credits may be earned in this course.
- 228\* **Pro-Seminars in Literary Genre and Mode** 3 credits F or S (a) Poetry, (b) Drama, (c) Satire, (d) Folklore, (e) Criticism, (f) Western American. (A maximum of 12 credits may be earned in this course.)
- 237 **Seminars in Major Writers** 3 credits F or S (a) The Beowulf Poet, (b) Chaucer, (c) Shakespeare, (d) Spenser, (e) Donne, (f) Milton, (g) Dryden, (h) Pope, (i) Swift, (j) Johnson, (k) Wordsworth, (l) Coleridge, (m) Keats, (n) Browning, (o) Arnold, (p) Dickens, (q) Yeats, (r) Melville, (s) Thoreau, (t) James, (u) Twain, (v) Lawrence, (w) T. S. Eliot, (x) Conrad, (y) Faulkner, (z) O'Neill, (aa) Stevens. (A maximum of 12 credits may be earned in this course.)
- 300 **Research and Thesis** Maximum of 6 credits allowed F or S

## ENTOMOLOGY

Professors Manis (Head) and Barr; Associate Professors Bishop, Gittins, Smith and Schenk; Assistant Professor Brusven.

- X53 **Applied Entomology** 3 credits X Identification, life history and control of insect pests in the Pacific Northwest. Three lectures per week. Designed especially to meet the entomological needs of individuals interested in the biology and control of pest insects.
- 55 **General Entomology (101)** 4 credits F Study of structure, development, classification, habits and ecology of insects. Two lectures and two two-hour laboratory periods per week. (GITTINS)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 104 **Economic Entomology** 3 credits S A general study of the importance of insects with special emphasis on the identification, biology and control of those species associated with agriculture. Two lectures and one two-hour laboratory period per week. Prerequisite: Ent. 55. (BISHOP)
- 107-108 **Directed Studies in Entomology** 1 to 3 credits F or S Prerequisite: Permission of instructor. (STAFF)
- 109 (For. 169) **Forest Entomology** 3 credits F Introduction to the principles of forest entomology. Identification, life history, ecology, and control of the major forest insect pests. Two lectures and one two-hour laboratory period per week. (SCHENK)
- 111-112 **Pro Seminar** 1 credit F & S Prerequisite: Senior standing in Entomology. (STAFF)
- 120 **Insect Identification** 4 credits F Field and laboratory identification of insects and a survey of the major families. Insect collecting and preservation techniques. Two lectures and two two-hour laboratory periods per week; frequent outdoor laboratories and two all-day field trips. Prerequisite: Ent. 55. (BRUSVEN)

\* Pro-Seminars are graduate level survey courses in which breadth is the main emphasis and at the same time seminar skills such as reading of papers, oral reports, and oral criticism are developed.

- ② 122 **Insect Ecology** 2 credits F Factors affecting the distribution, abundance and behavior of insects; insect population dynamics. Two lectures per week. Prerequisite: Ent. 55. (BRUSVEN)
- ② 124 **Immature Insects** 3 credits S The structure, behavior and identification of immature stages of insects. One lecture and two two-hour laboratory periods per week. Prerequisite: Ent. 55. (BRUSVEN)
- ① 126 **Insect Anatomy and Physiology** 4 credits S A study of the organ systems of insects and their functions. Three lectures and one three-hour laboratory period per week. Prerequisite: Ent. 55. (GITTINS)
- ② 128 (W.S.U. 428) **Aquatic Entomology** 3 credits S Identification and biology of insects associated with aquatic and subaquatic environments. One lecture and two two-hour laboratory periods per week. Two all-day field trips. Prerequisite: Consent of instructor. A cooperative course offered by the University of Idaho; available to WSU graduate students. (BRUSVEN)
- ② 130 (W.S.U. 443) **Entomological History and Literature** 2 credits S Principle entomological literature and a review of the significant events in entomology. Two lectures per week. A cooperative course offered by Washington State University; available to UI graduate students. (TELFORD)
- ② 131 (W.S.U. 448) **Medical Entomology** 3 credits F Insects and related arthropods in relation to human health; means of control. Two lectures and one three-hour laboratory period per week. Prerequisites: Biol. 12 and Ent. 55. A cooperative course offered by Washington State University; available to UI graduate students. (JAMES)
- 132 **Entomology for Biology Teachers** 3 credits S The use of insects in the illustration of biological principles. Techniques and methodology in rearing, preparing and studying insects. Two lectures and one demonstration-discussion period per week. Prerequisite: Ent. 55. (BARR)
- 198 (W.S.U. 498) **Advanced Entomology** 3 credits S Ontogenetic development of insects with emphasis on embryogenesis and metamorphosis; insect phylogeny and evolution; principles of insect morphology. Three lectures per week. Prerequisite: Advanced standing in entomology. A cooperative course offered by the University of Idaho; available to WSU graduate students. (GITTINS)

#### PRIMARILY FOR GRADUATES

- 211-212 **Seminar** 1 credit F & S (STAFF)
- 213 (W.S.U. 513) **Entomological Research Methods** 3 credits F Principles of entomological research. Procedures and techniques of studying insects in the field and laboratory. Measuring of physical environmental factors. Three lectures per week. A cooperative course offered by the University of Idaho; available to WSU graduate students. (SMITH)
- 215 (For. 269) **Advanced Forest Entomology** 3 credits F Objectives and methods of forest insect surveys and control; biologies of major forest insect species; analyses of selected problems. Two lectures and one two-hour laboratory period per week. Two all-day field trips to the University Forest. Prerequisite: Ent. 109 (For. 169) (SCHENK)
- 217 (W.S.U. 517) **Entomological Literature** 1 credit F The assembly and use of entomological literature. One lecture per week. A cooperative course offered by the University of Idaho; available to WSU graduate students. (BARR)
- 218 **Insect Physiology** 4 credits S Interrelations of structure and metabolic functions of insect organ systems. Selected laboratory problems. Two lectures and two three-hour laboratory periods per week. Prerequisites: Ent. 126 and a course in organic chemistry. (SMITH)
- 220 **Systematic Entomology (121)** 3 credits S History and principles of insect classification. Taxonomic procedure and the rules of zoological nomenclature. Three lectures per week. (BARR)
- 221 **Principles of Insect Control** 3 credits F The principles, theory and methodology of regulating populations of detrimental insects. Three lectures per week. (BISHOP)
- 223 **Insect Bionomics** 2 credits F Studies on biology and behavior of insects. Two lectures per week. (BARR)

① Offered in alternate years; given in 1967-68

② Offered in alternate years; given in 1968-69

- ② 227 (W.S.U. 541) **Insect Plant Relationships** 3 credits F Mechanisms of plant resistance; factors affecting expression of permanence of resistance; analysis of insect-plant associations. Three lectures per week. Prerequisites: Biol. 13 and Ent. 120. A cooperative course offered by Washington State University; available to UI graduate students. (SOO HOO)
- ① 229 (W.S.U. 545) **Insects and Plant Diseases** 3 credits S The role insects and other invertebrates play in the etiology of plant pathogens and toxins. Three lectures per week. Prerequisite: Pl. Sci. 104 and Ent. 120. A cooperative course offered by Washington State University; available to UI graduate students. (STAFF)
- 280 (Pl. Sci. 280) **Pesticide Toxicology** 3 credits S Modes of action of pesticide chemicals and the effects of such compounds on living organisms. Prerequisite: Consent of either instructor. (HELTON, SMITH)
- 300 **Research and Thesis Credits** to be arranged F & S (STAFF)

## FOOD SCIENCE

Professors Barnhart and Petersen; Associate Professors Anderson and Orme; Assistant Professor Muneta

Cooperating Departments: Agricultural Biochemistry and Soils, Agricultural Engineering, Animal Science, Bacteriology, Dairy Science, Plant Sciences, and Poultry Science.

- 1 **Introduction to Food Science** 3 credits F Food science and its relation to agriculture. Opportunities in the various fields of the food industry. Trends in procurement, management, processing, distribution, and utilization of food. (STAFF)
- 59 (D.S. 59) **Dairy Products Analysis** 3 credits F See Dairy Science 59 for course description.
- 63 (A.S. 63) **Meats** 3 credits S See Animal Science 63 for course description.
- 68 (D.S. 68) **Judging Dairy Products** 2 credits F See Dairy Science 68 for course description.
- 94 (D.S. 94) **The Market Milk Industry** 3 credits S See Dairy Science 94 for course description.
- 100 **Physical Principles of Food Processing** 3 credits F Principles of food processing by heat, freezing, dehydration, radiation and other methods. (BARNHART)
- ② 101 (P.S. 101) **Poultry Products Technology** 3 credits F See Poultry Science 101 for course description.
- 102 (Bact. 102) **Biological Principles of Food Processing** 4 credits S See Bacteriology 102 for course description.
- 105 **Chemical Principles of Food Processing** 3 credits F An examination of the chemical principles involved in texture, color, flavor and nutritive quality during food harvesting, processing and distribution. (MUNETTA)
- 106 (Bact. 106) **Dairy Bacteriology** 3 credits F See Bacteriology 106 for course description.
- 111 (D.S. 111) **Advanced Judging Dairy Products** 1 credit F & S See Dairy Science 111 for course description.
- ① 113 (D.S. 113) **Food Plant Sanitation and Inspection** 3 credits F See Dairy Science 113 for course description.
- ② 115 (D.S. 115) **Dairy Plant Management** 2 credits S See Dairy Science 115 for course description.
- ② 120 **Pesticide Residues and Chemical Additives in Food** 3 credits S Sources and nature of pesticide residues and chemical additives in food. (MONTTOURE)
- 124 (A.S. 124) **Advanced Meat Evaluation and Grading** 1 or 2 credits F See Animal Science 124 for course description.
- ② 128 (Ag.B.Ch. 128) **Food Chemistry and Analysis** 3 credits S See Agricultural Biochemistry 128 for course description.
- 134 (A.S. 134) **Meat Technology** 3 credits S See Animal Science 134 for course description.
- ① Offered in alternate years; given in 1967-68  
 ② Offered in alternate years; given in 1968-69

- 140 (D.S. 140) Dairy Products Processing I 4 credits F See Dairy Science 140 for course description.
- 141 (D.S. 141) Dairy Products Processing II 4 credits S See Dairy Sciences 141 for course description.
- 176 (D.S. 176) Advanced Dairy Product Analysis 1 credit S See Dairy Science 176 for course description.

## FOREIGN LANGUAGES

Professors Beattie\*, Reed; Associate Professor Iiams (Acting Chairman); Assistant Professors Gonzalez, Gueroult (Fulbright visiting Assistant Professor from France), Merlan, Sita, Sullivan; Instructors Bellstrom, Peterson, von Dassow, Wall, Woodbury; Acting Instructor Stevenson; Lecturers Smith, Warren.

This field includes French, German, Greek, Italian, Latin, Russian and Spanish. The faculty in Foreign Languages has the responsibility for administering foreign language examinations for candidates for the Ph.D. degree.

A year's study in a foreign language in high school is generally considered the equivalent of a semester's work in college in the same subject. A student who is continuing a language begun in high school should enter the intermediate course (e.g., French 13, German 13, Latin 13, or Spanish 13) if he has had in high school two years' study of the subject; he should begin with the second semester of the elementary course (e.g., French 2, German 2, Latin 2, or Spanish 2) if he has had but one year's study of it in high school. The above is a guideline to help the entering freshman plan his program. The Department of Foreign Languages will administer a placement examination to aid him in finding his proper level. Full credit in semester hours and grade points is earned in courses a student completes successfully, regardless of courses taken in high school.

A student should not attempt to take concurrently the elementary courses in both French and Spanish.

In each language the intermediate course, or equivalent preparation, is a basic prerequisite to all advanced courses. All foreign language majors must complete in residence a minimum of nine credits of upper-division work in their major languages.

For course offerings see under:

French	Latin
German	Russian
Greek	Spanish
Italian	

## FORESTRY, WILDLIFE AND RANGE SCIENCES

Professors Wohletz (Dean), Chapman, Dalke, Deters, Hungerford, MacPhee, Seale, Tisdale; Associate Professors Bjornn, Howe, Loewenstein, Partridge, Sharp, Wang; Assistant Professors Alden, Belt, Giles, Hironaka, Hofstrand, Johnson, Pitkin, Williams.

### OPEN TO NON-FORESTRY STUDENTS ONLY

- 16 Tree Identification 2 credits S Identification, distribution and economic use of the important trees of the western United States with special emphasis on the trees of Idaho. One lecture, one two-hour laboratory per week. (JOHNSON)
- 103 Forest Resources Conservation 2 credits F A study of the resources of forest and range lands including wood, range plants, wildlife, fish, water, and recreation. Principles of management which lead to their conservation. Two lectures per week.
- 105 Farm Forestry 2 credits F Handling the farm woodlot; growing wood products needed on the farm; seasoning, preservation, use and marketing of farm products; windbreak and shelterbelt planting; forestry in the economics of agriculture. Two lectures per week. (Open to juniors and seniors in Agriculture only.)

### PRIMARILY FOR UNDERGRADUATES

- 1 Forestry Orientation 1 credit F An introduction to forestry and related wildland management professions. Orientation to the University and to the College. One lecture per week. (WOHLETTZ)

1 Offered in alternate years; given in 1967-68

2 Offered in alternate years; given in 1968-69

\*Retired, May 26, 1967

- 50 **Introduction to Wildland Management** 2 credits S Methods of inquiry into and logical exposition of topics in forestry and related wildland disciplines. Two meetings per week; lectures, independent study and group discussion. (STAFF)

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 100 **Field Mensuration** 1 credit (Summer Camp) Principles of sampling used in collecting data from forest lands. Emphasis will be placed on forest products, trees and stands. One week of all-day classes. (SEALE, STAFF)
- 101 **Wildland Ecology** 4 credits (Summer Camp) A study of ecological principles, methods and concepts as applied to Forest, Range, Wildlife and Fishery Management. Emphasis on the ecological basis for integrated management of wildland. Four weeks of all-day classes. (JOHNSON, STAFF)
- 102 **Field Surveying and Mapping** 3 credits (Summer Camp) Field study of units of measure, instruments, principles and techniques of wildland surveying. Contour and type-mapping and interpretation of aerial photos in mapping and survey work. Three weeks of all-day classes. (SEALE, STAFF)
- 107 (Ag. 121) **Biometry** 3 credits F See Agriculture 121 for course description.
- 108 (Soils 108) **Forest Soils** 2 credits S Properties of wildland soils; nature and importance of forest humus; soil-site relationships; improvement of unproductive forest soils; soils and reforestation; management of nursery soils. Two lectures per week. Prerequisite: Soils 51 or equivalent. (LOEWENSTEIN)
- 111 (Zool. 111) **Ichthyology** 3 credits F See Zoology 111 for course description.
- 116 (Zool. 126) **Limnology** 3 credits S The interrelationships of the physical, chemical, and biological features of lakes and streams. Two lectures and discussion periods, one three-hour laboratory per week; occasional field-laboratories; and two days of field trips. Prerequisites: General chemistry and general zoology. (MacPHEE)
- 117 **Elements of Fishery Management** 2 credits F A study of the basic principles of fishery management and of the life histories and habitat requirements of our more important game species. Two lectures per week; two days of field trips. (MacPHEE)
- 118 **Fishery Management Techniques** 3 credits S A study of the various methods and techniques employed in fishery management and practice in their use. Two lectures, one three-hour laboratory per week, occasional field-laboratory trips, and two days of field trips. Prerequisites: For. 107 and 117. (BJORNN)
- 120 **Dendrology** 3 credits S Identification, classification, distribution and associations of the important tree species of the United States; reference to important regional shrubs. Two lectures and two two-hour laboratories per week; two one-day field trips. Prerequisites: Systematic botany or For. 101. (JOHNSON)
- 121 **Silvics** 2 credits F A study of the ecological basis for the management of vegetation with particular emphasis on the forest environment. Two lectures per week. Prerequisites: Chem. 11 and general botany. (LOEWENSTEIN)
- 122 **Forest Planting** 2 credits S Methods of seed collection, extraction and storage; germination; nursery practice; field planting. One lecture and one three-hour laboratory per week. One two-day field trip. Prerequisite: For. 121. (PITKIN)
- 124 **Silviculture** 3 credits S A study of the silvicultural cutting systems, cultural operations, and the silvicultural characteristics of the more important commercial species. Two lectures and one three-hour laboratory per week; one or two all-day field trips. Prerequisite: For. 121. (DETERS)
- 125 **Regional Silviculture** 2 credits F A study of the forest regions of the United States and the practical methods for successful handling of the important forest types in each region. Two lectures per week. Prerequisite: For. 124. (DETERS)
- 127 **Elementary Genetics of Forest Tree Improvement** 1 credit S An introduction to the basic genetic principles and practices of forest tree improvement. One lecture per week. Two half-day field trips. Prerequisite: General botany. (WANG)
- 131 **Wood Technology** 3 credits F Elements of plant anatomy pertinent to woody plants; identification of woods by gross and minute characteristics; some physical and chemical properties of commercial woods, relation of wood properties to wood processing and wood in use. Two lectures and two two-hour laboratories per week. Prerequisite: General botany. (HOWE, HOFSTRAND)
- 134 **Logging and Wood Industries** 3 credits S Survey of logging equipment and methods including a case study of a modern operation; principles and methods in the manufacture of major wood products; introduction to modern techniques in the planning of operations. Three lectures per week, five days of field trips. (HOWE, HOFSTRAND)

- 137 **Utilization Technology I 3 credits F** Technology and physical properties of wood, including seasoning, wood-moisture relations, mechanical properties; application of strength data and design principles to the use of wood (including plywood and laminations) in construction. Two lectures and one laboratory per week. Prerequisites: Senior standing and instructor's permission. (HOFSTRAND)
- 138 **Utilization Technology II 3 credits S** Introduction to the chemistry of wood; chemical and technological processes for the conversion of wood into commodities; properties and uses of these products; industrial trends; introduction to adhesives and their use, wood preservation and finishing. Two lectures and one laboratory per week. One five-day field trip. Prerequisite: Organic chemistry. (HOWE, HOFSTRAND)
- 141 **Elements of Wildlife Management 2 credits F** Principles of managing wild animal populations within the framework of multiple use of land. Two lectures per week. Two one-day field trips. (HUNGERFORD)
- 142 **Wildlife Management 3 credits S** A study of life histories, environments, and management principles of wildlife populations. Emphasizes upland game, waterfowl, and fur animals. Two lectures and one laboratory per week. Prerequisites: For. 107 and 141. (HUNGERFORD)
- 143 **Wildlife Management Techniques 2 credits F** Study of the techniques of manipulating game populations and habitats. One lecture and one three-hour laboratory per week. Prerequisite: For. 142. (GILES)
- 144 **Big Game Management 3 credits S** The study of big game species and their populations as related to the major philosophies and objectives of wildland resource management. Emphasis is on the objective balance of the components of game habitat with desirable population levels. Two lectures, one three-hour laboratory or field-laboratory per week, two field trips (one three-day and one five-day). Prerequisites: For. 142 and 151, or instructor's permission. (GILES)
- 151 **Elements of Range Management 2 credits F** Development of the range industry; grazing regions; production and utilization of range forage; range improvement and reseeding; range survey and management plans. The relation of range management to other phases of wildland management is stressed. Two lectures per week. Prerequisite: General botany. (TISDALE)
- 152 **Range Plants 4 credits S** The identification, economic importance, and management of the principle grasses, forbs and shrubs, including noxious and poisonous plants of the range. Two lectures and two two-hour laboratories per week; field-laboratory trips and one field trip (1 to 2 days). Prerequisites: General botany; systematic botany (may be concurrent). (SHARP)
- 153 **Range Methods and Techniques 3 credits F** A study of field methods and research techniques and their application in range management. Sampling theory, collection of data, compilation and statistical analysis, forage inventories, forage utilization and range condition and trend techniques are included in the course. Two lectures, one laboratory per week; field-laboratory trips and one field trip (1 to 2 days). Prerequisites: For. 107 and 151. (SHARP)
- 154 **Range Improvement and Management Planning 3 credits S** Objectives, methods and benefits of range improvement practices and their impact on management. Fundamentals of management planning for the utilization of rangeland resources. Problem definition and analysis, determination of objectives, action planning, and follow-up measures are treated and illustrated by actual cases. Two lectures and one laboratory-discussion period per week; field-laboratory trips and one field trip (one week). Prerequisites: For. 151 and 153. (TISDALE)
- 162 **Watershed Management 3 credits F** Examination of the hydrologic cycle as it is influenced by climate, vegetation and land use. Effort is made to place forest and range management practices in the context of contemporary water-resource management at both local and regional levels. Emphasis is placed on management practices which influence quality, quantity, and regimen of yield from non-agricultural lands. Generally, three lectures per week but laboratory occasionally substituted for lecture. Two days of field trips. Prerequisites: Soils 51, a course in plant ecology, and senior standing. (BELT)
- 164 (Pl.Sc. 164) **Forest Pathology 3 credits S** Lectures on principles of pathology, symptomatology, causes of disease, environment influences on disease, disease as part of the forest environment, control and protection as related to silviculture, management and utilization. Laboratory study of representative noninfectious and infectious tree diseases, stains and wood rots, one report from original literature study. One lecture, two laboratory and discussion periods per week, and one all-day field trip. Prerequisite: General botany. (PARTRIDGE)
- 167 **Fire Control 2 credits F** Objectives and policy of fire control; effects of fire on the ecosystem; principles of fire behavior; use of fire as a wildland management tool. Two lectures per week. One two-day field trip. (JOHNSON)
- 169 (Ent. 109) **Forest Entomology 3 credits F** See Entomology 109 for course description.

- 170 Principles of Forest Management** 2 credits S Introduction to forest regions and industries; silvicultural principles and practices employed in timber production and utilization. Interrelations between wood production and other uses of forest land. Two lectures per week.
- 174 Mensuration** 3 credits S Theory of log, tree and stand measurement; construction and use of volume tables; construction and application of yield tables; growth studies. Two lectures or discussions and one laboratory per week. Pre-requisite: For. 107. (SEALE)
- 175 Forest Finance** 2 credits F The financial aspects of the management of American forests; the appraisal of land, growing stock, stumpage and damages. The application of simple and compound interest, capitalization and discount formulae in forest business. Two lectures per week. (DETERS)
- 176 Forest Regulation** 3 credits S The regulation of American forests for continuous timber production. Three lectures per week. One two-day field trip. Pre-requisites: For. 124 and 174. (DETERS)
- 182 Economics of Forest Enterprise** 2 credits S Economics of the production of forest products and services—agents of production and their combination; planning the use of forest resources by the individual firm. Emphasis is on principles and methods of analysis most useful in making economic decisions and in understanding economic activity. Two lectures per week. Prerequisite: Econ. 52. (WILLIAMS)
- 183 Economics of Conservation** 2 credits F Resources and conservation defined. The place of economics in resource analysis and conservation programs. Analysis of major economic problems of forestry in the context of the general economy. Goals and responsibilities in public planning of resource use. Two lectures per week. Prerequisite: Econ. 52. (SEALE)
- 184 Forest Policy and Administration** 3 credits S Evolution of land and forest problems and policies in the United States. Analysis of current conditions and policies. Historical development of governmental and private agencies concerned with the administration of forest conservation programs. Three lectures per week. Prerequisite: Econ. 52. (ALDEN, WOHLLETZ)
- 187 Forest Recreation** 3 credits F Objectives and problems in the integration of recreation into multiple-use land management. Three lectures per week; three days of field trips. (ALDEN)
- 191-192 Directed Studies** 1 to 3 credits F-S
- |                        |                                |
|------------------------|--------------------------------|
| a. Forest Management   | d. Fishery Management          |
| b. Range Management    | e. Wood Utilization Technology |
| c. Wildlife Management | f. Watershed Management        |
- Directed study for the individual student involving conferences, library, field or laboratory work. Open to seniors with a minimum cumulative grade point average of 2.5 and the instructor's permission. (STAFF)
- 193 Legal Aspects of Land Management** 2 credits F A lecture-discussion course, including visiting lecturers, requiring considerable library work and student reports both written and oral. Emphasizes the legal problems facing administrative officers of land management agencies and the basic laws under which they must operate, and enforcement of these laws. Prerequisite: Senior standing. (HUNGERFORD)
- 194 Models for Resource Decisions** 2 credits S Use of mathematical models of resource systems to explore managerial strategy. Simulation models in conjunction with the IBM 360 computer are used to provide students with experience in problem solution. Emphasis is placed upon problem analysis, systems concepts and optimization of resource allocation. One lecture and one two-hour laboratory per week. Prerequisite: Senior standing in the College of Forestry or consent of instructor. (STAFF)
- 197-198 Land Management Seminar** 1 credit F-S Assigned studies in wildland management. One meeting per week. Prerequisite: Senior standing. (STAFF)

#### PRIMARILY FOR GRADUATES

- 201-202 Graduate Seminar** 1 credit F-S Discussion of major philosophical, management, and research problems of wildlands. Presentation of individual studies on assigned topics is required. (GILES)
- 204 Fundamentals of Research** 2 credits F An introduction to the objectives and techniques of research. Historical development of the scientific method; preparation of working plans; assembly, interpretation, and presentation of data; structure and use of the scientific literature, and preparation of manuscripts. Two lectures per week. Open to seniors by permission of the instructor. (PARTRIDGE)

- ①210 **Advanced Fishery Management** 3 credits S Compensation as a phenomenon basic to exploitation; yield in numbers and weight; models of yield; stock-recruitment functions; economic yield; application of theory of physical and economic yield to empirical examples in commercial and sport exploitation. One five-day field trip. (CHAPMAN)
- 212 **Fishery Ecology** 2 or 3 credits F or S Racial discrimination, migration, and spawning activities of salmonids; environmental stress with reference to physiology, competition, predation, and pollution. Two lectures and one laboratory per week; one five-day field trip. (MacPHEE)
- ②214 **Fish Population Dynamics** 2 credits S Fish population dynamics, including models and empirical examples of density changes, competition and predation; mechanisms controlling population density and biomass with special emphasis on social behavior; production in fish populations; aquatic community processes. (CHAPMAN, BJORNEN)
- 221 (Soils 221) **Advanced Forest Soils** 3 credits F Advanced studies of wildland soils and their relation to vegetation. Emphasis may be varied according to the specific interest of students enrolled. Two lectures and one laboratory per week, one or two all-day field trips. Prerequisite: Permission of instructor. (LOEWENSTEIN)
- 223 **Forest Community Classification** 2 credits F Application of the concepts of ecological classification of western forest communities. Emphasis on qualitative field application. Lecture-discussion periods and field laboratories. Three days of field trips. Prerequisite: Plant ecology or silvics. Enrollment limited to six students. (JOHNSON)
- 225 **Advanced Silviculture** 2 credits F or S Advanced treatments of the silvicultural systems and intermediate cuttings. Two lectures or discussion hours per week; two days of field trips. Prerequisites: For. 124 and 125. (DETERS)
- 226 **Forest Tree Improvement** 3 credits S A study of practical problems and techniques related to genetic improvement of forest trees. Three lectures per week; two days of field trips. Prerequisites: Pl.Sc. 101 and For. 124. (WANG)
- 227 **Forest Genetics** 3 credits F The application of principles of genetics to the improvement of trees and silvicultural practices. Two lectures and one laboratory per week. Prerequisite: Pl.Sc. 101 or equivalent. (WANG)
- 231 **Advanced Wood Technology** 2 or 3 credits F Anatomical features of wood considered in detail, including fibres, and an introduction to methods of preparing woody tissues for study. Advanced study of the physical properties of wood and their implications on technology. Prerequisite: Permission of instructor. (HOWE)
- 236 **Wood Chemistry** 3 or 4 credits S A study of the chemistry of woody tissue, including lignin, cellulose, hemi-celluloses, and other polysaccharides. Laboratory work in the analysis and the chemistry of wood. Prerequisite: Chem. 172; Chemistry majors by arrangement. (HOWE)
- 241 **Advanced Wildlife Management** 2 credits F or S Research methods, ecology and life history studies of native wildlife species with advanced work in analysis of field data and current wildlife management procedures. The student may elect to specialize in upland game or big game but normally only one of these fields will be offered in any one semester. Lecture-discussion periods, laboratories and field laboratories. One to three all-day field trips will be scheduled depending upon student background and field conditions. Prerequisites: For. 107 and 143, a course in research fundamentals. (HUNGERFORD, GILES)
- 242 **Wetland Habitat Management** 2 credits F or S Life history, ecology and management of the species using wetland habitats, and a study of current procedures for managing such lands. The student may elect to specialize in waterfowl or furbearer management but normally only one of these fields will be offered in any one semester. Lecture-discussion periods, laboratories and field laboratories. One to three all-day field trips will be scheduled depending upon student background and field conditions. Prerequisites: courses in wildlife management, wildlife techniques and a knowledge of aquatic plants. (HUNGERFORD, GILES)
- ①243 **Advanced Wildlife Techniques** 3 credits S An advanced course in laboratory and field techniques including population studies and the application of statistical analysis to animal population problems. A conference and discussion type course with individual study problems assigned. Field trips may be required on an individual basis. Prerequisites: For. 107, or equivalent, and For. 143. (GILES, HUNGERFORD)
- ② 247 **Wildlife Ecology** 3 credits F The reciprocal relations of wildlife populations and their environment with special reference to game birds, game animals and furbearers. Conferences, reports, and weekly field laboratory periods. Two field trips (one one-day and one two-day). Prerequisites: Plant ecology, animal ecology and instructor's permission. (HUNGERFORD)

① Offered in alternate years; given in 1967-68.

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- ①251 (WSU Bot. 565) **Range Ecology: Concepts 3 credits F** A cooperative course offered by the University of Idaho; available to WSU graduate students. Ecological concepts and methods as applied to the classification and use of lands for grazing purposes. The influence of livestock and big game and of other biotic factors, including insects and rodents, and fire on plant species and communities. Prerequisites: Course in plant ecology and at least one in range management. (TISDALE)
- ①252 **Range Ecology: Quantitative 2 credits S** The quantitative treatment of ecological data to show species interaction, soil-vegetation relations, and classification and characterization of plant communities. Prerequisite: For. 251 or equivalent. (HIRONAKA)
- ② 253 **Range Forage Productivity and Management 3 credits S** Advanced work in the measurement of forage productivity and the factors that influence production. Course coverage will include the evaluation of animal response under various management systems. Prerequisites: Animal nutrition; two courses in range management, including range methods (SHARP)
- ② 255 **Range Literature 3 credits F** A survey and analysis of the literature in range management and closely related fields. Lectures, discussion and student reports. (TISDALE, SHARP)
- ① 256 **Advanced Range Plants 3 credits S** A study of selected groups of range plants and range plant regions with emphasis on the reaction of major species to environment and grazing or other biotic factors. Lectures, laboratory and field or greenhouse studies. (TISDALE, SHARP)
- 263 (WSU P.L.P. 563)-264 **Advanced Forest Pathology 2 to 4 credits F or S** A cooperative course offered by the University of Idaho; available to WSU graduate students. Advanced work in field methods, laboratory techniques, and use of original literature in preparation for intensive studies of tree diseases and rots, deterioration of wood products, and the organisms which cause them. Seminar in selected problems in forest pathology and their relations to forest practices. Prerequisite: For. 164; recommended that Bot. 111 or 212 be taken concurrently. (PARTRIDGE)
- ①265 **Biometeorology 2 credits F** Physical interactions of the atmosphere and plant-soil-water complex. Emphasis is placed upon physical laws governing energy and mass balances of selected plant communities and their biological implications. Meteorological phenomena such as mountain-valley wind systems, the radiation balance, evapotranspiration and diffusion processes are considered together with related instrumentation. One two-day field trip, occasional laboratories. Prerequisite: one year physics (calculus desirable) or consent of instructor. (BELT)
- ②266 **Activities of Tree-Inhabiting Organisms 2 credits F** Environmental and biochemical actions and interactions of important bacteria, fungi, higher plants, and animals (excluding insects) associated with trees. Prerequisites: For. 263 or 264 and one year of organic chemistry. (PARTRIDGE)
- 269 (Ent. 215) **Advanced Forest Entomology 3 credits F** See Entomology 215 for course description.
- 274 **Advanced Forest Mensuration 2 credits F or S** Advanced study of mathematical and statistical principles and techniques in determination of volume and growth of trees and stands, including applications of sampling theory and correlation analysis. Prerequisites: Courses in mensuration equivalent to For. 174 and in statistical methods preferably beyond the elementary course. (SEALE)
- 275 **Advanced Forest Management 2 credits F or S** Advanced aspects of forest regulation; review of recent developments in applied forest management and study of important contributions in the field of forest management. Two lectures or discussion hours per week. (DETERS)
- 281-282 **Advanced Forest Economics 2 credits** Advanced study of economic principles, legislation and policies, affecting forestry, particularly those bearing on the character and intensity of land use. (SEALE)
- 287 **Advanced Forest Recreation 2 credits F or S** Problems, practices and economics of the use of lands and waters for recreation. Two lectures per week; two days of field trips. Prerequisite: Course in forest recreation. (ALDEN)
- 289-290 (Ag.E. 289-290) (Geol. 289-290) **Water Resources Seminar 1 credit F or S** Assigned reports by faculty and graduate students in current water resource problems and projects. Reports will be organized to give maximum interchange of ideas between divisions.
- 291-292 **Special Problems 1 to 3 credits F-S** Problems are assigned on an individual basis and will require library work or studies in the field or laboratory. Papers reporting the results are usually required. Permission required from the instructor

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

with whom the student desires to work. (STAFF)

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|---------------------|----------------------|
| a. Forestry Science | d. Fishery Science   |
| b. Range Science    | e. Wood Science      |
| c. Wildlife Science | f. Watershed Science |

(Not more than six credits may be earned in any combination of the subtitles.)

**300 Research and Thesis Credits to be arranged F & S (STAFF)**

## FRENCH

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 Elementary French 4 credits F & S** Pronunciation, vocabulary study, reading practice, exercises in spoken French, functional grammar.
- 5-6 French for Graduate Students 0 credits F-S** Designed for the graduate student preparing for the doctoral reading examination in French. Two one-hour meetings per week.
- 13-14 Intermediate French 4 credits F-S** The aim of this course is the development of a sound reading knowledge of French. Systematic grammar review and practice in speaking and writing included. Prerequisite: Fr. 2 or the equivalent.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 Advanced Grammar and Composition 3 credits F-S** Composition, the fundamentals of style, and practice in the spoken language. Recommended for the prospective teacher of French.
- 111-112 French Culture and Institutions 3 credits F-S** An area study course appropriately documenting the traditional aspects of French civilization.
- 121-122 Survey of French Literature 3 credits F-S** A rapid view of the main currents of French literature, from the Middle Ages to the present, illustrated by the reading of representative masterpieces. Works of the Old French period will be read in modern French translations.
- 135-136 The Nineteenth Century 3 credits F-S** A study of representative masterpieces of the nineteenth century in lyric poetry, drama, and the novel.
- 141-142 The Seventeenth Century 3 credits F-S** The course deals with the origins of French Classicism and with the masterpieces of the classical period in drama, poetry, the novel, the philosophical writings. Attention is given to work of the Independents and to the transition to the 18th century.
- 143-144 The Eighteenth Century 3 credits F-S** A study of the French Enlightenment. Selected writings of Montesquieu, Voltaire, Diderot, and Rousseau will be read, as will the more important novels and dramas of the period.
- 145-146 Contemporary Literature 3 credits F-S** French literature of the twentieth century, for students able and willing to read in unedited texts. Prerequisite: Senior standing or consent of instructor.
- 171-172 Phonetics 1 credit** Phonetic description and phonemic analysis of French. Stress, its nature and place; intonation patterns in conversation; and reading of prose and poetry.
- 181-182 Free Composition and Conversation 2 credits F-S** The course seeks to develop in the student the ability to express himself freely in French, both in conversation and in written work.
- 191-192 French for Teachers 2 credits F-S** Consideration in outline of the essentials of the French language and French culture. Pronunciation and diction. Open to majors in French, and to others only by special permission.
- 198-199 Special Problems 1 to 3 credits F-S** (a) Medieval through 16th Century, (b) 17th Century, (c) 18th Century, (d) 19th Century, (e) 20th Century. No more than one section will be offered each semester. Course content will be highly specialized and reflect current research activity of the staff. Number of credits for each offering will be listed in Time Schedule. No more than six credits in this sequence may be earned.

### PRIMARILY FOR GRADUATES

- 201-202 Old French 3 credits F-S** Reading and interpretation of Old French texts selected from Constan's *Chrestomathie de l'Ancien Francais*, with some study of Old French phonology and morphology. Some knowledge of Latin is required.

261-262 Seminar in French Literature: (a) The Novel, (b) The Drama, (c) Poetry, (d) Literary Criticism 3 credits F-S Only one literary type will be considered in any one semester.

300 Research and Thesis Maximum of 6 credits is allowed. F or S

## GEOLOGY AND GEOGRAPHY

Professors G. Williams (Head), Caldwell, (Chairman, Geography), Reid, Smiley; Associate Professors Savage, Hall, Day, Jones, Singh; Assistant Professors Siems, Fowler, R. Williams; Instructor Ross.

For course offerings see under:

Geography  
Geology  
Hydrology

## GEOGRAPHY

### PRIMARILY FOR UNDERGRADUATES

- 3 **Physical Geography** 4 credits F, S & SS A study of the earth sciences, emphasizing the principles and interrelationships of weather, climate, landforms, water resources, ocean and ocean basins, native plants and animals, and soils. Laboratory consists of data and map analysis and special projects. Three lectures and one two-hour laboratory a week. (DAY, FOWLER)
- 12 **Economic Geography** 3 credits F & S A study of the reciprocal relationships between mankind and its earth environment, resource distribution, and the changing pattern of commodity movement. These elements are viewed from the perspective of their effect upon national and international development. Three lectures a week. (CALDWELL, FOWLER)
- 51 **Introductory Cartography** 3 credits F Theory and techniques of visual presentation, map projections, diverse lettering and sketching techniques, layout, compilation and design problems, three dimensional models, map and photo interpretation. One lecture and two three-hour laboratories. (CALDWELL)
- 52 **Cultural Geography** 3 credits S Population growth, distribution, movement; origin and dispersal of culture traits; analysis of landscape settlement patterns; reciprocal relations of man's impact on the land and the environment's impact on man. Three lectures each week. (STAFF)
- 54 **World Regional Geography** 2 credits S A study of the countries and peoples of the world; the interrelationships between man and his physical and cultural environments. Two lectures a week. (STAFF)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 **Weather and Climate** 3 credits S A survey of the elements of weather, air masses, storms and associated phenomena, meteorological instruments, weather maps, and forecasting. The characteristics and distribution of the world's weather and climate types are considered with emphasis on their application to man. Three lectures each week. One one-day field trip. Prerequisite: Either Geog. 3, Geol. 9, or permission of the instructor. (DAY)
- 116 **Geography of Europe** 3 credits F, S & SS A study of Europe exclusive of the U.S.S.R. by geographic regions and occupation patterns. Careful consideration is given to such basic factors as climate, topography, human and economic resources, which underlie contemporary European problems. Prerequisite: junior standing. (STAFF)
- 124 **Intermediate Economic Geography** 3 credits S Principles of industrial location; distribution of manufacturing; studies of transportation and traffic flow; case studies. Three lectures each week. (DAY)
- 137 **Conservation of Natural Resources** 3 credits F An analysis of the use of mineral, soil, vegetation, and water resources of the United States. Study of the physical, social and economic problems involved in integrating resources development. On the international scale, concentration on the relation between population growth and resources. Three lectures each week. Two one-day field trips. (FOWLER)
- 140 **Geography of North America** 3 credits F A study of Anglo-America by geographic regions and occupation patterns. Careful consideration is given to such basic factors as climate, topography, industries, and natural resources which underlie modern problems. Three lectures each week. Two one-day field trips. Prerequisite: Junior standing. (DAY)

- 143 Geography of Idaho and the Pacific Northwest—3 credits S** A study of the human and physical resources of Idaho and adjacent regions, with particular emphasis upon changes that are taking place. Case studies will be undertaken of specific areas, problems of industries. Three lectures each week. One three-day field trip. (DAY)
- 145 Geography of Latin America 3 credits F, S & SS** Geographic factors, physical and cultural, basic to an understanding of the historical development of South America, Central America, Mexico, the West Indies; contemporary economic and social geography of individual countries. (STAFF)
- 152 Advanced Cartography 2 credits S** Problems and projects in modern cartography. Includes scribing, reproduction, darkroom, air brush, computer cartography and model construction. Offered alternate years. Two three-hour laboratories each week. One one-and-one-half-day field trip. (CALDWELL)
- 155 Geography of Asia 3 credits F** An analysis of political units; physical, cultural, and economic regions; demographic problems; and the role of Asia including the U.S.S.R. in world affairs. Three lectures a week. Prerequisite: Junior standing. (CALDWELL)
- 170 Urban Geography 3 credits S** The origin, development, and distribution of cities; urban patterns, forms and functions; systems of urban land classification; forces affecting urban land use; geographic aspects of city planning. Three lectures each week. One one-day field trip. (FOWLER)
- 180 Political Geography 3 credits F** A study of the geographic nature of States. Their organization, power, boundaries, ethnic units, internal and external relations as influenced by, and adjusted to, geographic conditions. Geopolitics and contemporary problems are considered. Three lectures each week. Prerequisite: Junior standing. (CALDWELL)
- 185-186 Special Topics in Geography 1 to 3 credits F, S, SS** This course gives the undergraduate student an opportunity to do supervised work in some aspect of geography. The work to be done will be arranged with the instructor. Depending upon the nature of the work and the number of students electing a course, it may be given as a formal lecture course; directed study problems; laboratory work; or a short research project. Except when given as a lecture course, a formal report will be required. Work covered may be in any one of the following fields: (a) advanced physical geography (b) advanced economic geography (c) urban geography and planning (d) recreational geography (e) conservation (f) settlement geography (g) historical geography (h) land use (i) rural and regional planning (j) South America (k) Africa (l) Europe (m) Asia (n) Oceania (o) dynamic and synoptic meteorology (p) physical climatology. May be elected more than once to pursue different studies. A maximum of 12 hours may be taken in 185-186 and a maximum of 6 hours in any one subdivision. Not more than four of these courses will be offered in any one year. Prerequisite: Senior standing or consent of instructor. (STAFF)
- 195-196 Pro-Seminar 1 credit F & S** The first semester is devoted to the evolution of geographic thought, the nature of the field as a discipline and as a profession; during the second semester geographic problems and techniques are reviewed in selected literature, presented formally, and discussed. Prerequisite: Senior standing. (STAFF)

#### PRIMARILY FOR GRADUATES

- 201-202 Advanced Studies in Geography 1 to 4 credits F, S, & SS (STAFF)**
- 204 Seminar 2 credits S** Attendance is required of all graduate students in residence. A maximum of 2 credits may be applied toward any one degree. (STAFF)
- 206 Location Theory 3 credits S** Analysis of hypotheses, laws, and theoretical constructs which apply to locational decision making process in industry and agriculture. Examination of contributions of Weber, Calander, Taunhardt, Greenhut, Hoover, Dunn, Von Thunen, Losch. Three lectures each week. Prerequisite: Economic Geography and one statistics course. (FOWLER)
- 207 Field Geography 3 credits F** Theory and application of geographic field and mapping techniques to the analysis of areas. Field problem culminating in a finished report. (STAFF)
- 221 Applied Climatology 3 credits S** Approaches to climatic classifications microclimatic investigations, instrumentation; studies of impact of climate on agriculture, vegetation, and economic activities. Three lectures each week. (DAY)
- 232 Recreational Geography 3 credits S** Study of the dynamics of recreational uses of land and water. Field and research techniques of measurement and planning for present and future needs. Interaction of local and regional approaches. Some economic impact studies. Two lectures each week. (CALDWELL)

- 241 (WSU 595) **Geometrics 3 credits F** A study of quantitative techniques and their application to spatial and geologic problems. Two lectures and one two-hour laboratory. Prerequisite: Permission of instructor. Cooperative course with Washington State University offered at the University of Idaho. (FOWLER)
- 242 **Applied Geometrics 2 credits S** Formulation of specific research project that starts from statement of problem and culminating in a quantitative research document. One lecture and one two-hour laboratory each week. Prerequisite: Geog. 241 or permission of instructor. (FOWLER)
- 300 **Research and Thesis Credits to be arranged F, S, & SS (STAFF)**

## GEOLOGY

### PRIMARILY FOR UNDERGRADUATES

- 9 **Physical Geology 4 credits F & S** A study of the earth, its composition, structure, and natural processes that are at work upon and within it. Three lectures and one two-hour laboratory each week. One one-day field trip. (STAFF)
- 10 **Historical Geology 4 credits S** The evolution of the physical earth, plants, and animals through geologic time; and consideration of the techniques used in the interpretation of geologic history. Three lectures and one two-hour laboratory period each week. One one-day field trip. (STAFF)
- 13 **Mineralogy 2 credits F** Fundamentals of identification and systematic classification of minerals. Two two-hour lecture-laboratories each week. One and one-half days field trips. (SIEMS)
- X23 **Geology of Idaho and the Pacific Northwest 3 credits X** The geologic history of Idaho and adjacent regions with particular reference to the development of geologic structures and the present-day distribution of rocks and mineral deposits. Detailed study of the geology of the area in which the course is given.
- X50 **Applied Geology 3 credits X** Application of geology to prospecting, mineral property development, water well location, flood control, foundation and excavation problems. Laws affecting mineral resource exploration and development are discussed. Prerequisite: Permission of instructor.
- 51 **Rock Study 2 credits S** Hand specimen identification of igneous, sedimentary, and metamorphic rocks and study of their modes of occurrence. Two two-hour laboratories each week. Two one-day and one two-day field trips. Prerequisite: Geol. 9. (JONES)
- 53 **Introduction to Paleontology 4 credits F** The study of ancient life as illustrated by fossils. The principles of paleontology, and their application to the study of life in different geologic periods of the past. The evolutionary development of organisms through time. Laboratory study of selected fossil specimens. Three lectures, one two-hour laboratory each week. (SMILEY)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 **Geomorphology 3 credits S** Classification, recognition, origin, and significance of landforms. Contribution of landform analysis in the interpretation of geologic structure and history. Two lectures and one two-hour laboratory each week. One two-day field trip. Prerequisites: Geol. 9 or Geol. 10, or consent of instructor. (HALL)
- N107 **Historical Geology 3 credits SS** A study of rock and fossil record of the earth's history and of the principles and methods used in interpreting geologic history from the evolutionary record. Four lectures and three hours of laboratory a week. Two one-day field trips. (STAFF)
- N109 **Earth Science 3 credits SS** A study of geologic processes and their effects on the earth's crust. The rock and fossil record of the earth's history. The principles of weather, climate, and the origin of landforms. The relations of water resources, soils, oceans, and native plants and animals. Four lectures and three hours of laboratory a week. Two one-day field trips. (STAFF)
- 112 **Invertebrate Paleontology 3 credits S** A study of the distribution of the different invertebrate fossil groups throughout geologic time together with their morphology, evolutionary trends, and classification. Two lectures and one three-hour laboratory a week. One two-day field trip. Prerequisite: Geol. 9, 10, or 53. (STAFF)
- 113 **Sedimentology 2 credits F** Physical, chemical, and biological environments and processes responsible for separation of clastic and nonclastic sedimentary rock materials from source areas; and the roles of transportation, deposition (including siltation), and lithification. One lecture and one three-hour laboratory period each week. One one-day field trip. Prerequisite: Geol. 9. (SAVAGE)

- 114 Stratigraphy 2 credits S** The description, classification, distribution, and correlation of layered rocks; and the significance of stratigraphic analysis and geologic history. One lecture and one three-hour laboratory period each week. One one-day field trip. Prerequisite: Geol. 9 and Geol. 10. (SAVAGE)
- N116 Origin of Rocks and Minerals 3 credits SS** A study of the origin, identification, and classification of the common rocks, rock-forming minerals, and ore minerals. The interpretation of hand specimens in terms of origin or history will be emphasized over descriptive mineralogy and petrography. Four lectures and three hours of laboratory a week. Two one-day field trips. (STAFF)
- 117 Rocks and Minerals 3 credits SS** Hand specimen identification of important rock-forming and ore minerals, and of the principal igneous, sedimentary and metamorphic rocks; study of the origin, occurrence, composition, and uses of minerals and rocks. Four lectures and two two-hour laboratories each week. One one-day field trip. (STAFF)
- 121 Structural Geology 3 credits F** The study of deformed rocks, with examination of mechanics of failure, and problems of recognition, description, classification and genesis of folded and fractured rocks. Laboratory exercises are designed to develop ability to visualize geologic problems in 3 dimensions. Two lectures and one three-hour laboratory each week. One two-day field trip. Prerequisites: Geol. 9, Engr. 2, Phys. 4 or Phys. 53. (HALL)
- 127 Earth Science 3 credits SS** Study of the earth's place in the solar system and of the earth itself. Examination of processes responsible for changes in the earth. The course is patterned on the Earth Science Curriculum Project recommendations for teachers of earth science. Four lectures and two two-hour laboratories each week. Two one-day field trips. (STAFF)
- 131 Field Geology and Report Writing 6 credits SS** A field course that introduces the student to geologic problems, develops the methods of geologic field work, note taking, interpretation of geologic maps, and the use of geologic instruments to enable him successfully to compile the data required to solve a problem, and to complete the problem by presenting a final geologic report prepared at camp. Three field trips will be taken away from camp. Accident and health insurance is required. Prerequisite: Geol. 121 or permission of instructor. (JONES)
- 141 Engineering Geology 3 credits F** The application of geology to engineering problems. Effects of weathering on properties of rocks; soil mechanics, analysis and testing; significance of fractures; landslide recognition and avoidance; materials location; uses of explosives; damsite and reservoir problems; earthquakes and vibrations; transportation route locations; and the essentials of a geologic report for an engineering project. Two lectures and one two-hour laboratory each week. Two one-day field trips. Prerequisite: Geol. 9 and Phys. 3 or Phys. 54. (HALL)
- 145 Geological Engineering Design 3 credits S** The joint application of engineering and geological principles to the problems of analysis and design in the construction industries. One one-day field trip. Three lectures a week. Prerequisite: Geol. 141. (G. WILLIAMS)
- 148 Ground Water 2 credits F** Fundamentals of ground-water geology and introduction to ground-water hydrology. Two lectures each week. Two half-day field trips. Prerequisite: Geol. 9 or permission of instructor. (ROSS)
- 153 Advanced Paleontology 3 credits S** The study of fossil assemblages of different ages and different environments. The sequence of floras and faunas through time. Three lectures each week. One one-day field trip. Prerequisite: Geol. 10 or Geol. 53, or permission of instructor. (STAFF)
- 158 Mineral Deposits 4 credits S** The occurrence, classification, and origin of metallic and non-metallic economic mineral deposits. Three lectures and one three-hour laboratory. One three-day field trip. Prerequisites: Geol. 13 and Geol. 121. (SIEMS)
- 160 Exploration Geology 3 credits S** Design of geologic surveys and mineral exploration programs. Integration and evaluation of geologic, geochemical, and geophysical exploration techniques. Three lectures each week. Prerequisite or corequisite: Geol. 158. (SIEMS)
- 167 Optical Mineralogy 2 credits F** Principles of optical crystallography; identification of minerals in thin section and crushed fragment by use of petrographic microscope; introduction to advanced methods, including universal stage. Two two-hour laboratories a week. Prerequisite: Geology 13 or permission. (JONES)
- 168 Petrography and Petrology 3 credits S** Origin, characteristics, and classification of igneous, sedimentary, and metamorphic rocks; their description and identification by use of the petrographic microscope and in hand specimen. Two lectures and one two-hour laboratory a week. One three-day field trip. Prerequisite: Geology 167.

- 170 (WSU 480) **Principles of Geochemistry 2 credits S** Basic concepts and approaches in chemical mineralogy and nuclear geochemistry. Alternate year. Two one-hour lectures each week. Prerequisites: Geol. 9, one year of physical chemistry; or Geol. 13, 51, and one year of general chemistry. Cooperative course offered at Washington State University. (ROSENBERG)
- 171 (WSU 481) **Principles of Geochemistry 2 credits S** Principles of experimental petrology and phase equilibria in mineral systems and their applications to geologic problems. Alternate year. Two one-hour lectures each week. Prerequisites: Geol. 9, one year of physical chemistry; or Geol. 13, 51, and one year of general chemistry. Cooperative course offered at Washington State University. (ROSENBERG)
- 180 (WSU 485) **Geochemical Exploration 3 credits F** The principles and use of rapid chemical tests on rock, soil, sediment, vegetation, or water samples to determine dispersion patterns in prospecting for mineral deposits. Two lectures and one three-hour laboratory each week. Two one-day field trips. Prerequisites: Chem. 12 and Geol. 9. Cooperative course with Washington State University offered at the University of Idaho. (SIEMS)
- 197 **Pro-Seminar 1 credit F** The Seminar will be devoted to evolution of geologic thought and to features of geology as a science and as a profession. Prerequisite: Senior standing. (STAFF)
- 199 **Undergraduate Research 1 to 3 credits F, S, SS** (a) Directed Field Research, (b) Directed Laboratory Research, (c) Professional Report Writing. These courses are designed primarily for field research; laboratory analysis of field data; and a final professional report on the research projects. Above courses may be taken concurrently or consecutively. Total credits earned not to exceed 8. Departmental consent is required. Field research may be conducted during summer field season. (STAFF)

#### PRIMARILY FOR GRADUATES

- 201-201 **Advanced Geology 1 to 5 credits F, S & SS** (a) General geology (b) regional geology (c) geomorphology (d) structural geology (e) mineralogy (f) petrography (g) sedimentation (h) mineral deposits (i) mineral economics (k) ground water (l) engineering geology (m) geologic research methods (n) history of geology (o) Pleistocene geology (p) paleontology (q) petroleum geology. These courses consist of lectures, supervised reading, laboratory or field work, and periodic conferences. May be elected more than once to pursue different studies. No more than 12 credits are allowed. (STAFF)
- 210 (WSU 590) **Photogeology 3 credits S** Study of airphotos for geologic information. Elements of photogrammetry; map preparation and interpretation of stereo vertical and oblique air-photos, some in color. One lecture and two three-hour laboratories each week. Prerequisites: Geol. 101 and 121 or permission of instructor. Cooperative course with Washington State University offered at the University of Idaho. (HALL)
- 215 (W.S.U. 520) **Regional Stratigraphic Analysis 3 credits F** The analysis, synthesis, interpretation, and presentation of stratigraphic data. Students select individual problems concerning the stratigraphy of specific areas; collect data from the literature, prepare isopach, lithofacies, environmental, paleotectonic, environmental paleogeologic and paleogeographic maps, then make oral and written presentation of their interpretations. One lecture and two laboratory sessions per week. Prerequisite: Stratigraphy. Cooperative course at Washington State University. (SCOTT)
- 216 (WSU 573) **Advanced Topics in Economic Geology 2 credits S** Lectures and discussions critically reviewing recent ideas, concepts, and factual data relating to the character and origin of mineral deposits. Two lectures each week. Prerequisite: One course in the origin of mineral deposits. Cooperative course offered at Washington State University. (MILLS)
- 225 **Mineragraphy 3 credits F** Identification of ore minerals, their texture, association and paragenesis, using systematic microscopic, microchemical, and etch-testing methods; including preparation of specimens, hardness testing, and photomicroscopy. Three three-hour laboratories each week. (G. WILLIAMS)
- 235 (WSU 564) **Volcanic Geology 3 credits F** Volcanoes, volcanic activity, petrology of volcanic rocks, and regional problems of layered volcanic rocks. Two lectures and one three-hour laboratory each week. (JONES)
- 240 (WSU 565) **Metamorphism 3 credits F or S** Advanced study of metamorphic minerals, rocks, processes, and facies. Emphasis is placed on poly-metamorphic rocks and recent developments in structural geometry are summarized. Two lectures and one three-hour laboratory. Prerequisite: Geol. 167. This is a cooperative course with Washington State University offered at the University of Idaho. (REID)

1 Offered in 1967-68

2 Offered in 1968-69

- 245 **Advanced Igneous Petrology** 3 credits F Advanced study of the classification and genesis of igneous rocks with an emphasis on plutonic bodies. Two lectures and one two-hour laboratory a week. Prerequisite: Geol. 167. (STAFF)
- ①251 **Stratigraphic Paleobotany** 3 credits F Discussions on fossil floras and floral successions; taxonomic problems, geologic ranges and past distributions of plant taxa; paleoecological interpretations; methods and correlation and dating by fossil plants. Three lectures. One one-day and one two-day field trips. (SMILEY)
- ②258 **Advanced Mineral Deposits** 3 credits F Detailed study of the origin and geochemistry of mineral deposits. Examination of syngenetic and epigenetic theories of genesis of major ore bodies. Three lectures each week. Prerequisite: Geol. 158. (SIEMS)
- ①260 **Theory of Mineral Exploration** 3 credits F Advanced study of the genetic factors in mineral deposition and concentration, as a basis for the establishment of guides in the exploration of economic mineral deposits. History of the development of thought on the genesis of ore deposits. Three lectures a week. (G. WILLIAMS)
- ②270 **Tectonics** 3 credits F Study of the form, pattern and evolution of the large-scale units of the earth's crust. Three lectures each week. (JONES)
- ①280 **Advanced Geochemical Exploration** 3 credits S Theory and use of colorimetric and instrumental analytical methods in mineral exploration. Interpretation of primary and secondary dispersion patterns. Study of endogenetic and exogenetic behavior of individual elements. Two lectures and one three-hour laboratory each week. Prerequisite: Geol. 180. (SIEMS)
- ②285 (Anthro. 248) (WSU 548) **Paleoecology** 3 credits F or S Interpretation of past environments, stressing the interrelations of physical and biological factors. Problems dealing with changes in the physical environment of the past, and their influence on the distribution and evolution of organisms including man. Three lectures each week. Cooperative course with Washington State University offered at the University of Idaho. (SMILEY)
- 289-290 (Ag.E. 289-290) (For. 289-290) **Water Resources Seminar** 1 credit F or S Assigned reports by faculty and graduate students in current water resource problems and projects. Reports will be organized to give maximum interchange of ideas between divisions. (STAFF)
- 297-298 **Seminar** 1 credit F & S Attendance is required of all graduate students in residence. A maximum of 2 credits may be applied toward any one degree. (STAFF)
- 300 **Research and Thesis** Credits to be arranged F, S & SS

## GERMAN

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Elementary German** 4 credits F-S Pronunciation, vocabulary study, reading practice, exercises in spoken German, functional grammar.
- 5-6 **German for Graduate Students** 0 credits F-S Designed for the graduate student preparing for the doctoral reading examination in German. Two one-hour meetings per week.
- \*13-14 **Intermediate German** 4 credits F-S The aim of this course is the development of a sound reading knowledge of German. Systematic grammar review and practice in speaking and writing are included. Prerequisite: Ger. 2 or the equivalent.
- \*51-52 **Scientific German** 4 credits F-S Reading of materials adapted to the needs of students in scientific curricula, especially chemistry, physics, and premedical studies. Prerequisite: Elementary German or equivalent preparation.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 **Advanced Grammar and Composition** 3 credits F-S Composition, the fundamentals of style, and practice in the spoken language. Recommended for the prospective teacher of German.
- 106 **Modern German Literature in Translation** 3 credits F or S Readings in major twentieth-century authors. No knowledge of German required. Does not count towards a German major.

\*—No more than 4 credits may be earned in either Ger. 13 and 51 or Ger. 14 and 52.

① Offered in alternate years; given in 1967-68

② Offered in alternate years; given in 1968-69



- 111-112 **German Culture and Institutions** 3 credits An area study course appropriately documenting the traditional aspects of German civilization.
- 121-122 **Survey of German Literature** 3 credits F-S A study of the historical development of German literature from the beginning to the close of the nineteenth century.
- 135-136 **The Nineteenth Century** 3 credits F-S An intensive study of the principal works in fiction, drama, and poetry. Lectures, reading, reports, discussions.
- 138-139 **Modern German Literature** 3 credits F-S A survey of the contemporary literary scene. Reading in representative modern authors, with special emphasis given the problems which these pose for the critic and historian of literature.
- 141-142 **The Eighteenth Century** 3 credits F-S In the first semester the major writers of the century, up to and including Lessing, will be studied; the second semester will be devoted to the works of young Goethe and young Schiller.
- 143-144 **The Classical Period** 3 credits F-S A study of the contributions of the classicists of Weimar, Goethe and Schiller, to the German literary tradition. Selected prose, dramas, verse, and criticism.
- 171-172 **Phonetics** 1 credit F-S Phonetic description and phonemic analysis of German. Stress, its nature and place; intonation patterns in conversation, and reading of prose and poetry.
- 181-182 **Free Composition and Conversation** 2 credits F-S The course seeks to develop in the student the ability to express himself freely in German, both in conversation and in written work.
- 191-192 **German for Teachers** 2 credits F-S Philological work necessary for the efficient teacher with attention to the cultural background. Open to majors, and others by special permission.
- 198-199 **Special Problems** 1 to 3 credits F-S (a) Medieval through 16th Century (b) 17th Century, (c) 18th Century, (d) 19th Century, (e) 20th Century. No more than one section will be offered each semester. Course content will be highly specialized and reflect current research activity of the staff. Number of credits for each offering will be listed in Time Schedule. No more than six credits in this sequence may be earned.

#### PRIMARILY FOR GRADUATES

- 201-202 **Middle High German** 3 credits Phonology, morphology, and syntax. Reading of selections from the Nibelungenlied, Hartman's *Der Arme Heinrich*, Gottfried's *Tristan*, and Wolfram's *Parzival*.
- 231 **Gothic** 3 credits F Introduction to the study of Germanic philology. After a brief treatment of the phonology and morphology of Gothic, reading in *Ulfilas*. Prerequisite: Old English or two years of German.
- 233-234 **Special Studies Course** 3 credits F-S Varying topics will be considered at the discretion of the instructor and in relation to the needs of the student, provided that the area is not represented in the graduate curriculum in the semester in question.
- 261-261 **Seminar in German Literature** 3 credits (a) Early Romanticism, (b) Realism and Naturalism, (c) Expressionism, (d) Romanticism. Only one area will be considered in any one semester.
- 300 **Research and Thesis** Maximum of 6 credits is allowed F & S

## GREEK

For general information concerning Foreign Languages see Page 224.

#### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Elementary Greek** 4 credits F-S First lessons comprising the main features of inflection and syntax are learned, simple sentences are written into Greek, and easy selections from Greek authors are translated. Emphasis is placed upon the Greek words in current use in modern English writing.
- 13-14 **Intermediate Greek** 4 credits F-S In the first semester selections from Xenophon and Herodotus and other prose writers are translated, and practice in writing Greek is continued. In the second semester passages from Homer are translated and various topics such as the influence of Homer upon English literature is investigated. Prerequisite: Greek 1-2.
- 53-54 **Scientific Terminology** 2 credits F-S A study of the fundamental Latin and Greek words used in the humanistic and natural sciences. Particular attention will be given to the terminology of the study in which each student is especially interested. Previous study of Greek or Latin is not a prerequisite.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

Professor and Head, Health, Physical Education and Recreation, Chairman for Men, L. Green; Professor and Chairman for Women, Locke; Professor Kirkland; Associate Professors Betts and Parberry; Assistant Professors Marten, Schafer and Wolf; Instructors Boyle, Hall, MacFarlane, McIver, Thompson and Zuroff; Coaches: Football, Musseau; Basketball, Anderson; Baseball, Smith; Track and Cross Country, MacFarlane; Swimming, Hatheway.

Physical and medical examinations are required of all new students on matriculation.

Unless excused by the University Physician, all students are required to enroll in activity courses during their freshman and sophomore years. All men students are required to complete four semesters of activity courses. All women students are required to complete six credits in physical education; two credits in Healthful Living, except those women students who are registered in the home economics, pre-nursing, pre-medic and bacteriology curricula; and four credits in activity courses (one each semester) normally to be taken during the freshman and sophomore year except those women students who are majoring in the physical education curriculum. In taking the four required activity courses women students are required to select one in each of the following four areas, unless excused for medical reasons or by their dean: rhythmic, individual sports, swimming, and team sports-body mechanics. These courses may be repeated for credit on an elective basis if a student engages in a different activity. If a student for medical reasons is excused from one area (i.e. swimming), the fourth course may be taken in any of the given areas if she selects an activity for which she has not previously received credit. Any woman student who wishes to take proficiency test (skill and knowledge) in the activity in any of the above areas and who satisfactorily passes such a test will for that one unit be allowed to elect within any area. Any woman who satisfactorily passes a standardized health knowledge test will be exempt from meeting the healthful living requirement.

See page 58 for required physical education activity courses.

## HISTORY

(History is one of the subject matter fields within the Department of Social Sciences.)

Professors Greever (Chairman), Rolland; Associate Professor Winkler; Assistant Professors Proctor, Harris; Instructor Barnes; Visiting Instructor Mashinter.

### PRIMARILY FOR UNDERGRADUATES

These courses require no prerequisite. Students may enroll for a second semester course without having had the first semester course.

**3-4 History of Civilization 3 credits F & S** A survey of the great civilizations and of their contributions to the modern world. (BARNES, PROCTER, WINKLER)

**9-10 Introduction to United States History 3 credits F & S** A broad survey of the political, diplomatic, economic, social, and cultural history of the United States, from the earliest times to the present. (BARNES, GREEVER, ROLLAND, SIMMONS, WINKLER)

**57-58 History of England 3 credits F-S** A survey of the history of the British Isles; their political, social, economic, and religious development from prehistoric times to the present. (STAFF)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

Ordinarily six credits in lower division courses in history are required for registration in the following courses. Exceptions may be made in special cases with the consent of the instructor concerned. Students may enroll for a second semester course without having had the first semester course.

**103 The Revolutionary Era 3 credits F or S** Europe from 1763 to 1815. Origins of the revolutionary movement. Detailed study of the revolutionary decade in France. The Napoleonic era and its impact on France and Europe. (HARRIS)

**105-106 History of Europe from Vienna to Versailles 3 credits F-S** Revolution and reform in the nineteenth century, and international friction after 1870, culminating in irredentist and imperialist rivalries and resulting in world war. (PROCTOR)

**107-108 The British Empire 2 credits F-S** The Second Hundred Years' War and the resulting expansion of England in the West and East; relations of England with other colonial powers; acquisition of India; rise of a consciousness of empire and an imperial policy: The Commonwealth of Nations. (STAFF)

- 109-110 **History of Russia** 3 credits F-S First Semester: Medieval Russia, Muscovite Russia, and the St. Petersburg period to 1856. Second semester: the reform era, the rise of revolutionary movements, the revolution of 1917 and the Soviet period to the present. (HARRIS)
- 111-112 **History of Latin America** 3 credits F-S A study of Spanish and Portuguese America, winning Latin American Independence; rise of the republics of Mexico, Central America, Caribbean, and South America; Pan-Americanism; Panama Canal, Latin American cultural, social, and political evolution; international relations of Latin America and the Second World War. (SIMMONS)
- 114 **History of Mexico Since 1850** 3 credits F or S Traces developments in economic, social, political and diplomatic spheres since 1850. Examines carefully the relations between the United States and Mexico in the twentieth century. (SIMMONS)
- 115-116 **History of American Diplomacy** 3 credits F-S First semester: the quest for diplomatic independence and the emergence of the United States as a world power, 1783-1921. Second semester: Problems of the United States as a world power since 1921. (WINKLER)
- 117-118 **Recent Times** 3 credits F-S The first semester treats world history from 1914 to 1939; the second semester covers World War II and the postwar era. Emphasis is placed upon Europe and its impact on world-wide events. (PROCTOR)
- 123 **Idaho and the Pacific Northwest** 3 credits F & S The political, economic and social development of the Pacific Northwest from the earliest times to the present, with particular attention to Idaho and the Inland Empire. Offered on an accelerated basis in either the fall or spring semester of each year. Will be offered on an ordinary basis the other semester of the year. (BARNES, ROLLAND)
- 127-128 **History of the Westward Movement** 3 credits F & S The history of the westward migration of people, customs and institutions in the United States, appropriating and developing the wilderness to the uses of man. May be accelerated. (BARNES, GREEVER)
- 133-134 **Social and Cultural History of the United States** 3 credits F-S Traces the growth of customs, traditions, and intellectual habits which made up the American way of life from colonial times to the present. (GREEVER)
- 135 **Economic History of Europe** 3 credits F or S The history of agriculture, industry, and commerce in England and the continent. (STAFF)
- 136 **Economic History of the United States** 3 credits F or S History of agriculture, industry, and commerce in the Thirteen Colonies and the Federal Union. (GREEVER)
- 137-138 **Classical Civilization** 3 credits F-S The course deals with the Grecian and Roman governments, customs, art, literature, and institutions, and their contributions to the modern world. It is carried on through lectures by instructors, and reports, papers, and written exercises of the class. (ROLLAND)
- 139-140 **American Colonial and Revolutionary History to 1789** 3 credits F-S First semester: An examination of the foundations, and of the political, intellectual, economic and military history of the colonies to 1750. Second semester: The achievement of independence and the founding of a new nation, with emphasis on the Great War for the Empire, the confederation period, and the framing and adoption of the Constitution. (ROLLAND)
- 142 **France Since Napoleon** 3 credits F or S The evolution of the French nation during the periods of the parliamentary monarch, the Second Empire, the Third, Fourth, and Fifth Republics. (HARRIS)
- 143 **European Diplomatic History 1500-1914** 3 credits F or S The development of the European state system with emphasis upon the struggle for the control over central Europe, the Near Eastern Question, the diplomacy of imperialism, and the diplomatic background of World War I. (WINKLER)
- 147 **The Renaissance and Reformation** 3 credits F or S Europe from 1450 to 1600. Emphasis will be on the political, economic, and religious developments in the transition from medieval to modern Europe. Study of the impact of the Reformation upon politics and economics. (HARRIS)
- 148 **The Age of Absolutism** 3 credits F or S Europe from 1600 to 1763. The rise of absolute states in the seventeenth century. The political, social and economic life of the Old Regime up to the beginning of the revolutionary movement. (HARRIS)
- 155-156 **Tudor and Stuart England** 3 credits F-S The first semester covers the Tudor rulers; the second semester covers the Stuarts. Emphasis on royal prerogative versus representative government, the rise of the middle class, exploration and colonization, religious changes and conflicts, and cultural characteristics. (STAFF)

- 157 English Constitutional History** 3 credits F or S An analysis of the origin, expansion and change of the constitution and government of England from Anglo-Saxon times to the present. (STAFF)
- 173-174 Social and Cultural History of Europe** 3 credits F-S Social and cultural factors in European history from the Renaissance to the present. First semester includes the Renaissance and the eighteenth-century Enlightenment. Second semester: The significant cultural and intellectual trends of the nineteenth and twentieth centuries. (HARRIS)
- 181-182 Medieval Europe** 3 credits F-S First semester: The transition from Graeco-Roman civilization to the Byzantine, Islamic and Frankish realms in the early middle ages. Second semester: The expansion and fruition of Latin Christian civilization in the high middle ages, and its decline in the later middle ages. (HARRIS)
- 191-192 Great Epochs and Interpretations** 3 credits F-S Topical and comparative studies of major problems and concepts in history as interpreted by major historians. First semester: European history; second semester: American history. (HARRIS, WINKLER)

#### PRIMARILY FOR GRADUATES

- 207-208 Seminar** 2 to 4 credits (One or more each semester)
- a. European History (HARRIS, PROCTOR)
  - b. English History (STAFF)
  - c. American History (BARNES, GREEVER, ROLLAND, WINKLER)
  - d. Problems in the History of the West (GREEVER, ROLLAND)
- 209-210 Directed Reading** 1 to 3 credits F & S
- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>a. American Foreign Relations</li> <li>b. The American Frontier</li> <li>c. Society and Thought in America</li> <li>d. The Pacific Northwest Region</li> <li>e. American Economic Progress</li> <li>f. America Before 1789</li> <li>g. Evolution of the English Constitution</li> <li>h. The Emergence of the British Commonwealth</li> <li>i. Early Modern England</li> <li>j. Greek and Roman History</li> <li>k. The Middle Ages</li> </ol> | <ol style="list-style-type: none"> <li>l. Renaissance and Reformation</li> <li>m. Age of Absolutism and the Revolutionary Era</li> <li>n. Nineteenth Century Europe</li> <li>o. The Twentieth Century</li> <li>p. The Evolution of Russia</li> <li>q. The Evolution of France</li> <li>r. Society and Thought in Europe</li> <li>s. European Economic Progress</li> <li>t. European Foreign Relations</li> <li>u. Hispanic America</li> <li>v. Modern Mexico</li> </ol> |
|---|---|
- Directed study and research in the literature of the field. Maximum of 15 credits for any combination of sub-topics. Prerequisite: Consent of instructor. (STAFF)
- 290 Introduction to Historical Research** 2 credits F Techniques in compiling a bibliography, assembling material, composition, interpretation, and historical criticism. (ROLLAND)
- 291-292 Historiography** 2 credits F & S The nature of history, the major historians, ideas in history, philosophy of history, and a bibliography of the entire field of American, European and British history. First semester: American historians. Second semester: European and British historians. (HARRIS, WINKLER)
- 300 Research and Thesis** Credits to be arranged F & S

## HOME ECONOMICS

Professor Bellinger (Head); Associate Professors Aller, Featherstone, Newcomb, Nielsen; Assistant Professors Jackle, Lawe, Potter, Ridenour; Instructors Kessel, Smelcer.

#### PRIMARILY FOR UNDERGRADUATES

- 3 Family Nutrition and Meal Management** 0 or 2 credits F or S No prerequisite; open to men and women on an audit, zero credit, or credit basis; primarily for non-majors. Study of basic nutrition and meal management through demonstrations, lectures, and discussion. (KESSEL, LAWE)
- 6 Elementary Nutrition** 2 credits F or S Study of fundamentals of nutrition. Required of home economics majors and open to non-majors. Two lectures a week. (NEWCOMB)
- 8 Introduction to Foods** 4 credits F or S Principles involved in basic cookery and meal planning. Two lectures and two three hour laboratories a week. Prerequisites: H.Ec. 6, Chem. 3 or 11; may parallel Chem. 12, 14, or 75-76. (LAWE)

- 9 **Introduction to Home Economics 1 credit F** Home Economics as a profession; history, scope and career opportunities. One lecture a week (not required of transfers.) (BELLINGER, KESSEL)
- 13 **Art 3 credits F & S** Art and crafts for home and community. One lecture and six hours of laboratory a week. (FEATHERSTONE)
- 14 **Handweaving 1 credit F or S** Practical problems in weaving. Three hours of laboratory a week. (FEATHERSTONE)
- 23 **Textiles 3 credits F & S** A study of the factors in the intelligent selection and purchase of textile materials including identification of fibers and fabrics, fundamental weaves, yarn, colors and finishes; standardization and trade conditions affecting the consumer. Two lectures and one two-hour laboratory a week. (JACKLE)
- 24 **Elementary Clothing 2 credits F or S** Basic problems of clothing construction. Emphasis on individual progress. One lecture and three hours of laboratory a week. (NIELSEN)
- 34 **Introduction to Child Development 2 credits F or S** Principles of development and guidance of the preschool child in the home. Two lectures a week and 1 or 2 hours of supervised nursery school observation. (BELLINGER, JACKLE)
- 52 **Household Equipment 2 credits F or S** Selection, care, and operation of household appliances and equipment. One lecture and one two-hour laboratory a week. (KESSEL)
- 65 **Costume Design and Wardrobe Planning 2 credits F or S** A study of the design, selection and purchasing of clothing for the individual and the family. Two two-hour periods a week with outside work. Prerequisite: H.Ec. 13. (FEATHERSTONE)
- 73 **Food Management 3 credits F or S** Principles of food preservation, marketing, table service, meal planning, and food preparation techniques by demonstration. Two lectures and one three hour laboratory a week. Prerequisite: H.Ec. 8. (LAWE)
- 82 **House Construction 2 credits S** Problems involved in designing a house; the plan; the interior and exterior design; building materials; and methods of construction. Two lectures a week. Prerequisite: H.Ec. 13. (PRICHARD)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 104 **Dietetics 4 credits S** Diet therapy. Adaptation of the normal diet to meet needs of adults and children in disease and convalescence. Four lectures a week. Prerequisite: A.S. 105. (LAWE)
- 106 **Problems in Nutrition 2 credits F or S** Study of the most recent advances in all fields of nutrition with emphasis on recent investigations in infant, child and adult nutrition. Two lectures a week. Prerequisite: H.Ec. 6, or consent of instructor; senior or graduate standing. (NEWCOMB)
- 107 **Investigation of Foods 2 credits F or S** Advanced course for investigation of problems in cookery. Individual research project required. One lecture and one three-hour laboratory a week. Prerequisite: H.Ec. 73. (LAWE)
- 114 **Advanced Handweaving 2 credits F or S** Creative design and fabric construction on the handloom. Six laboratory hours a week. (FEATHERSTONE)
- 123 **Recent Developments in Textiles and Clothing 2 credits SS** Investigation of the developments in textiles and of techniques in advanced clothing construction. (STAFF)
- 124 **Advanced Clothing 2 credits F & S** Advanced problems including fabric selection, cost, flat pattern design and construction of garments for children and adults. Demonstration techniques. One hour lecture and three laboratory hours a week. Prerequisites: H.Ec 23 and 24. (NIELSEN)
- 130 **Family Relations 2 credits F or S** Study of interpersonal relationships throughout the family life cycle. Two lectures a week. Prerequisites: Psych. 1 and Soc. 51, or consent of instructor. (BELLINGER)
- 135 **Child Development 3 credits F or S** Professional approach to the principles of development in infants and young children; application of principles of guidance in supervised nursery school experiences. Interpretation and evaluation of research. Two lectures a week and supervised nursery school experience equivalent to a three-hour laboratory. Prerequisites: Psych. 1 and Soc. 51, or consent of instructor. (BELLINGER, JACKLE)
- C136 **Economic Problems of the Family 2 credits C** A course dealing with the problems of household production; earning and spending the family income.
- 137 **Clothing for the Family 2 credits F or S** Psychological, social and economic aspects of family clothing. Two lectures a week. Prerequisites: H.Ec. 23 and 24 or equivalent. (NIELSEN)

- 141 **Housing and Home Furnishings** 3 credits F or S A study of housing principles, and of furniture, materials, and color in the present day home. Two hours of lecture and three hours of laboratory a week. (FEATHERSTONE)
- 144 **Advanced Home Furnishings** 3 credits F & S A study of furnishings and room plans for various types of houses. One lecture and two hours of laboratory a week with outside work. Prerequisite: H.Ec. 141 or equivalent. (STAFF)
- 146 **Principles of Home Management** 2 credits F or S Analysis of resources in meeting family goals: Time and money management, work simplification; emphasis on decision making and evaluation as family processes. Non-majors by consent of instructor. (NEWCOMB, ALLER)
- 147 **Home Management House Residence** 3 credits F & S Management integrating home economics knowledge and skills. Emphasis on relationships, decision-making in use of resources and evaluation. Residence 6 to 8 weeks. Advance reservation with department required. Prerequisites: H.Ec. 73, and 146 may parallel. (ALLER)
- 149 **Home Management for Married Students** 3 credits F or S A course comparable to H.Ec. 147 for homemakers or students with special dietary or other problems. Prerequisites: H.Ec. 73 and 146. May parallel. (ALLER, KESSEL)
- 152 **Methods in Teaching Home Economics** 3 credits F & S Resume of educational philosophy, principles of learning, and adolescent behavior. Emphasis on teaching techniques and materials for secondary schools and lesson plan development. Guided observation. Three lectures a week. Prerequisites: Ed. 87, Psych. 56, and Ag.Ed. 151 or consent of instructor. (ALLER)
- 153 **Problems in Teaching Home Economics** 2 credits F & S Study of secondary school home economics curriculum and problems frequently encountered by the teacher of home economics. Accelerated and scheduled in conjunction with H.Ec. 157. Four lectures a week. Prerequisite: H.Ec. 152. (RIDENOUR, POTTER)
- 156 **Methods in Adult Home Economics Education** 2 credits F & S Study of program planning methods and techniques, and organization in Home Economics Adult Education. Some observation and participation in community adult programs. Accelerated and scheduled in conjunction with H.Ec. 157 except in summer. Four lectures a week. Prerequisite: H.Ec. 152. (RIDENOUR, POTTER)
- 157 **Student Teaching in Home Economics Classes** 9 credits F & S Supervised teaching in secondary school home economics classes. Application for admission to be submitted to Home Economics Teacher Educator a semester before registration. Cumulative GPA of 2.25 and Home Economics GPA of 2.5. Prerequisite: H.Ec. 152. (RIDENOUR, POTTER)
- 161 **Problems in Tailoring** 2 credits F or S Study of textile selection, methods and techniques for construction of tailored garments. One lecture and three hours of laboratory a week. Prerequisites: H.Ec. 23 and 24, or consent of instructor. (NIELSEN)
- 178 **Recent Advances in Foods** 2 credits F or S Principles underlying factors in selected topics of food preservation and processing, the development of low calorie foods, commercial mixes, food additives. Lecture-demonstration. Prerequisite: H.Ec. 8 or equivalent. (LAWE)
- 182 **Quantity Cookery** 3 credits F or S Preparation of food in large quantities, menu planning for institutions; laboratory experience in institution food service. One lecture a week. Two six-hour laboratories a week for nine weeks, (1-7 p.m.) One day field trip at student expense. (NEWCOMB)
- 183 **Institutional Administration** 4 credits F or S Principles of organization and scientific management applied to institutional administration in food service units. Selection, arrangement, and care of institution equipment. Three lectures and one two-hour laboratory a week. (NEWCOMB)
- 185 **Institution Food Buying** 2 credits F or S Includes study of food distribution, specifications, and legislation. Methods of quantity food purchasing. Two lectures a week. Prerequisite: H.Ec. 73 or consent of instructor. (NEWCOMB)
- 187 **Consumers in the Market** 2 credits F or S Consumer motivation and behavior, protection, information, organizations, use of credit, and selected problems in consumer decision making.
- 189 **Consumer Education** 2 credits SS A survey of current consumer interests—buying, legislation, advertising and research. Attention given to ways of adapting information to high school homemaking classes. (POTTER) (No credit if H.Ec. 187 is also completed.)

#### PRIMARILY FOR GRADUATES

- 203 **Home Economics Education Accelerated Course** 1 to 4 credits SS

- 204 **Curriculum in Home Economics** 2 credits SS Study of curriculum problems and planning in secondary homemaking education. (RIDENOUR)
- 205 **Seminar** 1 to 2 credits F & S (STAFF)
- 207 **Technique of Supervision** 2 credits SS
- 210 **Directed Readings** 1 to 3 credits F & S  
 a. Child Development  
 b. Economic Problems of the Family  
 c. Family Relations  
 d. Food and Nutrition  
 e. Home Furnishings  
 Directed study and research, both extensive and intensive, in the literatures of the field at a graduate level of proficiency and mastery. Prerequisite: Consent of Home Economics Department. (BELLINGER, ALLER, LAWE)
- 300 **Research and Thesis** 1 to 7 credits F & S (STAFF)

## HONORS

These courses are offered by the various departments within the College of Letters and Science.

- 51-52 **Humanities** 3 credits F-S An approach to the understanding of a selected century of music and art during the first semester. The literature of the same century will be studied during the second semester. Open to students planning to major in Social Science or in Natural Science; limited to 20.
- 51-52 **Social Science** 3 credits F-S The major classical works or the main currents of contemporary thought which appear in the various Social Sciences. Open to students planning to major in Humanities or Natural Science; limited to 20.
- 51-52 **Natural Sciences** 3 credits F-S Representative classical scientific experiments in connection with laboratory experiments and mathematics plus the major scientific work of the 20th century. Open to students planning to major in Humanities or in Social Science; limited to 20.

101-102 **Honors I** 3 credits F-S

- |                          |                      |
|--------------------------|----------------------|
| (a) Art and Architecture | (f) Mathematics      |
| (b) Biological Science   | (g) Music            |
| (c) Communications       | (h) Physical Science |
| (d) Home Economics       | (i) Social Science   |
| (e) Humanities           |                      |

A directed program of study offered by the various departments individually or collectively to provide the student opportunity for more advanced and individual work than normally available to undergraduates. (STAFF)

103-104 **Honors II** 3 credits F-S

- |                          |                      |
|--------------------------|----------------------|
| (a) Art and Architecture | (f) Mathematics      |
| (b) Biological Science   | (g) Music            |
| (c) Communications       | (h) Physical Science |
| (d) Home Economics       | (i) Social Science   |
| (e) Humanities           |                      |

Intended to provide the student with more intensive training and/or research experience than is ordinarily available to the undergraduate. (STAFF)

## HUMANITIES

Professor Tolleson (Head).

The Department of Humanities includes three subject matter fields: Dramatics, English, and Speech. A student in this department may major in any one of these three fields.

For course offerings, see under:

**DRAMATICS**  
**ENGLISH**  
**SPEECH**

## HYDROLOGY

(Hydrology is one of the subject fields in the Department of Geology and Geography)

- 263 **Geohydrology** 3 credits F or S Derivation and solution of equations governing single fluid flow through saturated porous media under various geologic conditions. Considers models, general relations between flow systems and water quality, and between surface water and ground water. Three lectures each week. Prerequisites: Geol. 148, Math. 52, or permission of instructor. (R. WILLIAMS)

- 266 **Geochemistry of Ground Water** 3 credits F & S Nature and origin of dissolved constituents in ground water. Modification of ground water quality through mineral processes and by human activities. Prerequisite: Geol. 148 or permission. Two lectures and one two-hour laboratory. (STAFF)
- 267 **Hydrometeorology** 3 credits F & S The exchange of water between the earth's atmosphere and the lithosphere or hydrosphere. Factors that influence areal and temporal distribution, evapotranspiration and micrometeorology. Instrumentation techniques and theory. Two lectures and one laboratory a week. (STAFF)
- 268 **Advanced Geohydrology** 3 credits F or S Analysis of problems which have confronted the geohydrologist since the inception of quantitative methods. Discussion of attempts to solve these problems and of alternative and possibly improved approaches to such problems. Three lectures each week. Prerequisites: Geol. 263 or permission of instructor. (R. WILLIAMS)
- 300 **Research and Thesis** Credits to be arranged F, S, SS (STAFF)

## INDUSTRIAL EDUCATION

(Industrial Education is one of the subject matter fields within the College of Education.)

Professor Biggam.

- 30 **Basic Electricity—Electronics** 4 credits F & S A course covering basic electricity and an introduction to electronics. Includes three phases of instruction: technical theory, technical skill in performance of electrical testing and repair procedures, and preparation of instructional material for the junior high school level.
- 35 **Communications Electronics** 4 credits F & S A continuation I.Ed. 30 with emphasis upon communication electronics theory and procedures needed for radio receivers and transmitters. Both technical radio and television and radio for avocational use are given emphasis. Prerequisite I.Ed. 30.
- 36 **Industrial Electronics** 4 credits F & S A continuation of I.Ed. 30 and I.Ed. 35, with emphasis upon the theory and test procedures common for industrial control and automatic processing, with an introduction to computer electronics. Recommended for those planning to teach senior high school electronics. Prerequisites: I.Ed. 30 and I.Ed. 35.
- 40 **Woodworking I** 3 credits F A basic course in the fundamental operation of handtools; some machine work and wood turning; related technical information on materials and equipment; the selection and construction of suitable industrial arts woodwork projects. (BIGGAM)
- 50 **General Metals** 3 credits S A study of basic hand tools, materials and operations in bench metals; project work with sheet metal, coke tin, perforated metal, aluminum, and wrought iron; related technical information on materials and processes.
- 51 **Plastics** 2 credits F & S A study of varied plastic materials and the following industrial methods of fabricating plastic projects: vacuum forming, blow forming, pressure forming, laminating, extrusion, plastisol molding and injection molding.
- 60 **Industrial Education for Elementary Teachers** 3 credits F & S A course designed to give elementary teachers a working knowledge of common hand tools and processes useful in developing creative craft programs in elementary schools; project work in wood, metals, plastics, leather, and ceramics; emphasis upon the correlation and integration of manual activities with instruction in elementary school subjects. (For Elementary Education Majors only.) (BIGGAM)
- 70 **Machine Woodwork** 3 credits S The adjustment and safe operation of basic woodwork power tools; the selection and fabrication of projects suitable for machine woodwork; supplementary technical information on materials and processes. Prerequisite: I.Ed. 40. (BIGGAM)
- 80 **Carpentry** 2 credits S The application of carpentry and house construction practices in the building of model homes; framing, simple rafter layout work, building materials, and job estimating. Prerequisites: I.Ed. 40 and I.Ed. 70. (For Industrial Arts Majors only.) (BIGGAM)
- 90 **Industrial Arts Crafts** 2 credits F & S Creative craftwork in a variety of industrial craft materials, including: leather, Keene Cement, metal tooling, metal enameling, craft plastics and mosaic tile.
- FOR ADVANCED UNDERGRADUATES AND GRADUATES**
- 100 **Finishing Materials and Methods** 2 credits S The study and application of accepted finishing materials and methods of application for wood, metals, composition board, and plastics. (For I.Ed. majors or consent of instructor.) (BIGGAM)



- 101 History and Philosophy of Industrial Education 3 credits F** The historical development of both vocational and general education phases of industrial education; comparative and conflicting philosophies of industrial education; a study of outstanding leaders in industrial education and their contributions to the field of study. (BIGGAM)
- 105 Advanced Woodwork and Furniture Making 3 credits F** Students will design and construct projects involving the use of fixtures, jigs, and templates; structural details of cabinet construction, drawer and door fabrication, fastening devices, types of wood joints. Prerequisites: I.Ed. 40 and I.Ed. 70. (For Industrial Education Majors only.) (BIGGAM)
- 110 Maintenance of Tools and Equipment 3 credits F** The selection, care and maintenance of hand and machine tools common to industrial arts shops. Two, two-hour laboratory periods. Required of all Industrial Arts Education majors. Prerequisite: I.Ed. 70 or equivalent. (BIGGAM)
- 115 Industrial Design 2 credits S** The planning, designing and construction of projects in a variety of materials for shop classes; a study of period types of furniture, and principles of good project design. (For I.Ed. majors only.) (BIGGAM)
- 125 Advanced Electricity—Electronics 4 credits F & S** A prescribed course of study involving independent readings, research, and laboratory experimentation on the part of the individual student. Each student will select a problem in the area of electricity-electronics, conduct experimental laboratory research relative thereto, and prepare an acceptable paper covering his research. Prerequisites: I.Ed. 30, 35 and 36, and consent of the instructor.
- 150 Workshops in Industrial Education 1 to 3 credits SS** A series of one, two or three week workshops designed to provide work experiences in both technical and professional areas of Industrial Education. Emphasis on the introduction of new materials and techniques of fabrication utilized in industrial technology and the preparation and use of instructional materials for teaching industrial subjects:
- a. Electricity Workshop
  - b. Drafting Workshop
  - c. Instructional Materials Workshop
  - d. Production Methods and Techniques Workshop
- Students are limited to 1 credit per week and a maximum of 6 credits for the course.
- 151 School Shop Planning and Administration 3 credits F** Principles of planning and administering school technical shops and laboratories; selecting, purchasing and storage of shop supplies and equipment; organizing a shop personnel system; implementing an effective shop safety program; maintaining shop records. (BIGGAM)
- 162 Industrial Education Curriculum 3 credits** Principles of course analysis and construction as applied to industrial education; selection and arrangement of subject content; state curriculum patterns, special industrial education programs; significant trends and concepts relative to curriculum structuring in industrial education subjects. (BIGGAM)
- 165 Industrial Supervision 2 credits F & S** Principles and practices relative to industrial supervision; duties and responsibilities and the industrial plant supervisor; the use of rating scales and other employee evaluating devices; supervisory methods utilized in on-the-job and in-plant training programs; methods of conducting a trade and job analysis.
- 172 Industrial Education Methods 3 credits** Methods and techniques of instruction particularized to industrial and technical education subjects; demonstration, lecture, problem solving; the construction and use of instructional aids; preparation and use of individual instruction sheets and programmed instructional material. (BIGGAM)
- 190 Directed Study 1 to 6 credits F & S** A general course designed to afford students majoring in Industrial Education the opportunity to do independent study and research in either a technical or professional area of Industrial Education. A maximum of six credits may be taken in such study.

#### PRIMARILY FOR GRADUATES

- 200 Professional and Technical Problems in Industrial Education 1 to 6 credits F & S** Directed Individual study.
- a. Professional Problems. Problems dealing with curriculum and course of study construction, evaluation, professional literature, methods of instruction, philosophy and related problems. Students will select a specific problem for intensive study and prepare a paper. 1 to 3 credits.
  - b. Technical Problems. Advanced study of shop practices in a specific technical area. Each student will prepare a paper. 1 to 3 credits.
- 220 Evaluation in Industrial Education 3 credits SS** The application of methods and techniques of evaluation to industrial education. Special attention given to the construction and use of objective type tests, performance tests, rating scales, check lists and grading industrial products and projects. (BIGGAM)

- 230 **Administration and Supervision of Industrial Education Programs** 3 credits SS Principles and practices relating to the administration and supervision of industrial education and vocational programs at the secondary level; examination of existing federal and state legislation regarding industrial educational programs. Designed primarily for those who plan to enter administration or supervisory positions in secondary education.
- 300 **Research and Thesis** Credits to be arranged F & S (STAFF)

## ITALIAN

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Elementary Italian** 4 credits F-S Pronunciation, vocabulary study, reading practice, exercises in spoken Italian, functional grammar.
- 13-14 **Intermediate Italian** 4 credits F-S The aim of this course is to develop a sound reading knowledge of Italian. Systematic grammar review and practice in speaking and writing are included. Prerequisite: Italian 2 or the equivalent.

## JOURNALISM

(Journalism is one of the subject matter fields within the Department of Communications.)

Associate Professor Cross (Chairman); Professor Gibbs; Instructor Conway.

### PRIMARILY FOR UNDERGRADUATES

- 81 **News Writing** 2 credits F & S An introduction to the principles of news writing for newspapers and radio. Two two-hour periods per week, combining lecture and laboratory. Prerequisite: Ability to type.
- 82 **Reporting** 4 credits S Types of news and news sources. Practical work in gathering and writing news for newspaper and radio use. Two recitation periods and two three-hour laboratory periods per week. Prerequisite: Jour. 81.
- 97 **Newspaper Production (107)** 3 credits F Graphic arts techniques. Printing, business and layout problems of the weekly and small daily newspaper.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 128 **Advertising in Print (188)** 3 credits S Selection and presentation of advertising appeals through the printed media. Typography and layout with emphasis on copywriting. Lectures and laboratory sessions. Prerequisite: Jour. 81 or consent of the instructor.
- 162 **Magazine Article Writing** 2 credits S For upperclass students majoring in any field who are seriously interested in magazine writing. All types of magazines are studied. Students develop articles to submit to trade, regional, and national magazines for publication. Prerequisite: Mastery of the elements of composition and ability either as professional writers or as part-time writers in specialized fields.
- 172 **Principles of Public Relations** 2 credits F Current problems and practices in public relations with emphasis on the use of techniques for the mass media. Projects related to the student's major interest. Prerequisite: Junior standing.
- 175 **Supervising High School Publications** 2 credits F & S Planning and direction of the high school newspaper and yearbook. Teaching methods for high school journalism. Especially designed for the secondary school teacher. May be accelerated.
- 178 **Industrial Journalism** 3 credits S Writing, editing, layout, advertising and other operations of the business press. Laboratory practice in layout and publication of periodicals and brochures. Prerequisite: Junior standing.
- 181 **Advanced Reporting** 4 credits F Study and practices in the reporting of public affairs. Practical work in the professional field is required. Four hours of laboratory per week to be arranged. Prerequisite: Jour. 81-82 or consent of the instructor.
- 183 **Interpreting Contemporary Affairs** 2 credits F Interpretive and explanatory writing on current affairs. Practice in writing editorials and columns. Prerequisite: Jour. 81-82 or consent of instructor.
- 184 **News Editing** 3 credits S Problems in news selection, evaluation, editing, and display. Responsibilities of the copyreader. Two recitations and one three-hour laboratory period weekly in copyreading, headline writing, picture editing, and makeup. Prerequisite: Jour. 81-82.

- 185 History of Journalism** 2 credits F The evolution of the newspaper. The role of the press from colonial to modern times.
- 186 Special Feature Articles** 2 credits S The writing of feature articles for newspapers and magazines in specialized areas such as home, garden, and agriculture. Prerequisite: Jour. 81 or consent of the instructor.
- 187 Retail Advertising** 2 credits S Application of the fundamentals of advertising to a retail program. Preparation, selling, and servicing advertising in the retail field through local media.
- 190 Advertising Media** 2 credits S Analysis of the various advertising media in terms of markets and audience. Planning the regional or national campaign.
- 191 Law of the Press** 2 credits F Study of freedom of the press, libel, the right to know, privacy, contempt, and the regulation of advertising. Also considers press law in terms of radio and television.
- 192 Journalism and Public Opinion** 2 credits F or S The role of the news media (newspapers, magazines, radio, and television) in the formation of public opinion. Publicity and propaganda techniques of government, economic, and social groups. Prerequisite: Senior standing.
- 196 Pro-Seminar** 2 credits S Current problems in journalism; responsibility, ethics, and criticism. Analysis and significance of current research. Research paper required. Prerequisite: Jour. 181 and senior standing.
- 199 Individual Problems** 1 to 3 credits F & S Prerequisite: Consent of the instructor.

## LATIN

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 Elementary Latin** 4 credits F-S Pronunciation, vocabulary study, reading practice, exercises in spoken Latin, and functional grammar.
- 13-14 Intermediate Latin** 4 credits F-S The aim of this course is to develop a sound reading knowledge of Latin. Systematic grammar review and practice in pronunciation and writing are included. Prerequisite: Latin 2 or the equivalent.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 Advanced Latin** 3 credits F-S Composition, the fundamentals of style, and practice in the spoken language. Recommended for the prospective teacher of Latin.
- 111-112 Latin Culture and Institutions** 3 credits F-S An area study course appropriately documenting the traditional aspects of Latin civilization.
- 121-122 Survey of Latin Literature** 3 credits F-S A study of the historical development of Latin Literature from the beginnings to the close of the third century.
- 135-136 The Augustan Age** 3 credits F-S Survey of prose and poetry of the Augustan period. Study of style and technique of Livy, Horace, Virgil, and Ovid.
- 141-142 The Republic** 3 credits F-S Survey of early Roman theatre, reading of comedies of Plautus and Terence. Survey of poetry of the Republic, reading from the works of Lucretius and Catullus. Study of Cicero's style in essays and letters.
- 143-144 The Silver Age** 3 credits F-S Survey of prose and poetry of the post-Augustan period. Study of the style and technique of Pliny the Younger, Tacitus, Martial, and Juvenal. History of the Latin novel, reading from the works of Petronius and Apuleius.
- 191-192 Latin for Teachers** 2 credits F-S Advanced work in Latin philology necessary for the efficient teacher. Study of Roman cultural background. Open to majors, and to others by special permission.
- 198-199 Special Problems** 1 to 3 credits F-S (a) The Republic, (b) Augustan, (c) Silver Age. No more than one section will be offered each semester. Course content will be highly specialized and reflect current research activity of the staff. Number of credits for each offering will be listed in the Time Schedule. No more than six credits in this sequence may be earned.

### PRIMARILY FOR GRADUATES

- 300 Research and Thesis** Maximum of 6 credits is allowed F or S Special topics in Latin literature or antiquities will be set for investigation.

## LAW

Professors Bell, Stevenson, Vieira, Walenta, Berman, Hawley.

Registration in any law course by non-law students requires permission in advance by the Dean of the College of Law.

### FIRST YEAR — Required

- 101 Contracts I 3 credits F**
- 102 Contracts II 2 credits S** Formation and performance of promissory undertakings in formal and informal business transactions, including breach and the remedies therefor.
- 107 Procedure I 3 credits F** The common-law forms of action and equitable remedies followed by a summary study of trial practice under the Federal Rules.
- 108 Procedure II 3 credits S** Pleading, motions, deposition and discovery practice, pre-trial and trial practice, post-trial motions, jurisdiction of courts, and appeal.
- 112 Real Property 3 credits F** The basic history and fundamentals of real property law; estates; common-law methods of conveyancing and protecting possessory estates; reversions; remainders; the statute of uses; executory limitations; merger; acceleration; powers of appointment; restraints on alienations; rule against perpetuities; suspension of the power of alienation.
- 114 Constitutional Law I 3 credits S** The function of judicial review; the national state and its governmental organization; independence and interrelation of departments; citizenship, national and state; due process of law; equal protection of the laws; retrospective laws; regulations on interstate commerce.
- 115 Torts I 3 credits F**
- 116 Torts II 2 credits S** The law of civil injuries, including both intended and unintended interference with personal and property interests as well as liability without fault.
- 122 Trusts 2 credits S** The nature, creation, elements and administration of express trusts.
- 131 Criminal Law and Its Administration 3 credits F** The source and purposes of the criminal law; the meaning of criminal responsibility; the elements of particular crimes; the administration of criminal justice.
- 141 Titles 3 credits S** Nature of title to interests in land; modes and means of conveyancing; statute of frauds; adverse possession; boundaries; priorities and title of record; covenants; easements; licenses; rents; fixtures and waste; escrows and examination of abstracts.

### SECOND AND THIRD YEAR

- 205 Community Property 3 credits F** Marriage and divorce and their property consequences, liabilities of spouses to each other and to third persons, devolution of community and separate property.
- 207 Evidence 4 credits S** The rules governing the presentation of evidence to the tribunal; judicial notice; burden of proof and presumptions; relevancy; examination and impeachment of witnesses; competency and privilege; expert opinion; hearsay; best evidence rule; authentication; functions of judge and jury.
- 214 Constitutional Law II 3 credits S** Limitations on powers of the federal and state governments under provisions of the Constitution of the United States.
- 217 Public Regulation of Business I 2 credits F** A survey of control techniques used by the federal and state governments to regulate economic activity such as the anti-trust laws and administrative agencies and an examination of their effectiveness in relation to government policy.
- 218 Public Regulation of Business II 4 credits S** Seminar. Detailed studies of governmental controls, state and federal, as they function in selected industries, including food, energy and transportation industries.
- 219 Security 2 credits F** Security under Article 9 of the Uniform Commercial Code together with background material on suretyship, chattel mortgages, conditional sales, trust receipts, field warehousing, factoring, notification and non-notification financing, and other commercial security devices.

- 221 **Nature of the Legal Process** 2 credits S Basic problems in the making and application of law. The application of jurisprudential concepts and knowledge of legal institutions and processes to the solution of legal problems.
- 225 **Wills and Administration of Estates** 2 credits F The basic principles of intestate succession, wills and administration of estates in probate.
- 226 **Municipal Corporations** 2 credits F Creation, consolidation and dissolution of municipal corporations; municipal powers, contracts, quasi-contractual liability, and debt limitations; city zoning; licenses and franchises; tort liability of municipalities.
- 227 **Legal Ethics** 1 credit S Law as a profession and the responsibilities incident to its practice with major emphasis upon the ethical obligations of an attorney.
- 235 **Legal Writing** 1 credit F Law books and how to use them; and the application of this information in the writing for publication of case notes or comments, the drafting of statutes on selected subjects and at least one book review.
- 236 **Creditors' Rights** 3 credits S Insolvency, fraudulent conveyances, general assignments, receiverships, bankruptcy.
- 239 **Contracts III** 3 credits F The remedies available to a contracting party, including damages, specific performance, reformation and rescission; the law of quasi contracts, and the restitution based on the concept of unjust enrichments, including the study of devices to secure restitution, such as constructive trust, equitable lien and subrogation.
- 240 **Federal Jurisdiction** 3 credits S A study of federal-state relationships, problems of the allocation of jurisdiction as between state and federal courts; problems of the allocation of authority as between state and federal law.
- 243 **Commercial Transactions I** 3 credits F Sales and Security financing under the Uniform Sales Act and Articles 2 and 9 of the Uniform Commercial Code.
- 244 **Commercial Transactions II** 3 credits S Negotiable instruments, including bills of lading and warehouse receipts under the Uniform Negotiable Instruments Act and Articles 3 and 7 of the Uniform Commercial Code.
- 250 **Natural Resources** 2 credits S Jurisdiction of the state and the federal government to conserve, develop and promote the use of natural resources with emphasis on water and mineral rights. Selected problems of particular concern to the state of Idaho such as air and water pollution, power, navigation and interstate compacts are assigned as term papers.
- 251 **Estate Planning** 4 credits F The fundamentals of federal and state income, estate, gifts and inheritance taxes as applied to succession to property. Intestate succession, wills, trusts, insurance, annuities, fringe benefits, future interests and powers of appointment and their place in estate planning. Each student is required to formulate and draft an original estate plan and compute the tax consequences.
- 255 **Conflict of Laws I** 2 credits F Principles for ascertaining the applicable law, time when law applies, area, property and parties to which and to whom law applies.
- 256 **Conflict of Laws II** 2 credits S Jurisdiction of courts, jurisdiction for divorce, law governing the administration of estates of decedents and insolvents, the enforcement of foreign judgments.
- 268 **Business Associations** 4 credits F Creation, form, and nature of the agency relation. The formation of partnerships, corporations, and other types of business organizations; a comparison of the various forms; limitations on powers and authority of partners, corporate officers and directors; corporate securities, shareholders' and creditors rights in corporations.
- 274 **Taxation I** 3 credits F The federal income tax and its consequences in legal transactions.
- 275 **Taxation II** 2 credits S Corporation, trust, and partnership income taxation with primary emphasis on planning. The problem method is used.
- 277 **Labor Law** 2 credits S The law governing relations between employer and employee, including the strike, boycott, picketing and collective bargaining; the National Labor Relations Act and comparable state legislation.
- 279 **Practice Court I** 1 credit F
- 280 **Practice Court II** 1 credit S See description of the two semesters of Practice Court on page 112.
- 282 **Legal Research** Credits to be arranged F & S Individual research on the problems involved in a recent case and the writing of a note on that case which must be approved by the faculty member under whose direction the work was done. Registration limited to 2 credits a semester. (STAFF)

**290 Water Law 3 credits F & S** This course is designed for and offered to students enrolled in Colleges of the University other than the College of Law as a part of the Water Resources program of this University. Law students may not offer credits from this course as part of their program for a degree from this College. A historical approach to development of water acquisition by riparian and appropriation methods will be pursued with particular emphasis upon the western states. State and Federal legislation will be analyzed and compared with special attention directed to procedures utilized for optimum development of water resources.

A term paper discussing a current water problem is required of each student.

## LIBRARY SCIENCE

(Library Science is one of the subject fields within the College of Education)

**120 Classification and cataloging 4 credits F & S** The principles of classifying and cataloging books, including study and practice in cataloging according to the Dewey Decimal classification system. Includes main entry, added entries, analytics series, bound-withs shelf lists and authority file, and practice in adopting Library of Congress and Wilson printed cards.

**121 Selection of Books and Related Materials 3 credits F & S** The evaluation and selection of books and non-book materials for libraries; appraisal of printed aids in selection; study and practice in writing book reviews and annotations; criteria for choosing books in various subject fields; censorship and analysis of community library needs and interests.

**122 Use of the School Library 2 credits F & S** Methods of interesting students in library and teaching them to use it to the best advantage. Covers use of catalog, bibliographies, indexes, periodicals, and other sources of information.

**123 Reference in School Libraries 3 Credits F & S** The use of reference books in school and public libraries, judging and selecting suitable books and materials for reference collections, the application of reference information to practical problems, giving instruction as to the use of reference books, and the compilation of bibliographies.

**124 Children's Literature 3 credits F & S** Selection of children's literature for elementary school libraries, including trends in children's literature and reading interests of various ages. Includes illustrators of children's books.

**125 School Library Problems 2 to 4 credits F & S** Directed study of the problems of organization and management of school libraries.

## MATHEMATICS

Professor Campbell (Head); Associate Professors Botsford, Crowley (Director of Computer Center), Walker; Assistant Professors Christenson, Dierker, Elna H. Grahn, Osborne, Potratz, Wang; Instructors Braveman, Mayhew, Stockton, Takeda.

Credit obtainable from various combinations of present and past courses:

After Math. 1 — Math. 9 carries 3 credits

After Math. 1-2 — Math. 9 carries 0 credit and Math. 50 carries 5 credits

After Math. 10 — Math. 2 carries 1 credit

After Math. 9 — Math. 2 carries 3 credits

A student may raise a grade of D or F in Math. 10 by taking Math. 2 (3 credits count as review or repeat and 1 credit is new).

### PRIMARILY FOR UNDERGRADUATES

**E Plane Geometry 0 Credit F** A course in plane geometry to meet the entrance requirements of one year of high school geometry assuming no previous work in the subject. (STAFF)

**RR Basic Engineering Mathematics 0 credit** A broad review of parts of college algebra, calculus and differential equations important in the engineering curricula.

**1-2 Fundamentals of Mathematics 4 credits F & S** A terminal sequence stressing the nature of mathematics, its fundamental concepts, skills and applications rather than manipulation of an involved nature. Topics chosen from algebra, set theory, trigonometry, analytic geometry, calculus, non-Euclidean geometry. Prerequisites: One year of high school algebra and one year of plane geometry. (STAFF)

- R5 College Algebra 3 credits** A course covering the basic principles of quadratic equations in one or two unknowns, variations, ratio and proportion, progressions, binomial theorem, mathematical induction, inequalities, complex numbers, theory of equations, permutations and combinations, probability, determinants, infinite series and partial fractions. Prerequisite: Two years of high school algebra. Consent of Instructor.
- R6 Plane Trigonometry 3 credits** This course gives consideration to sets and functions, the trigonometric functions, functions of acute angles, two angles, right triangles, oblique triangles, logarithms, DeMoivre's Theorem and series expansions. Prerequisite: Math. 5. Consent of instructor.
- 9 Introduction to Mathematical Analysis 5 credits F & S** An integrated treatment of algebra and trigonometry stressing the nature of mathematics as a logical system and preparing students to enroll in analytic geometry and calculus or elementary statistics. Prerequisites: one year of plane geometry and one and one-half years of high school algebra, or equivalent, or Math. 1, or consent of Department of Mathematics.
- 15-16 The Number System and Its Structure 3 credits F-S** The first year of the sequence Math. 15, 16, 129, 130 which is designed especially for prospective elementary school teachers. Topics include the language and nature of deductive reasoning, elements of set theory, the whole numbers, numeration systems, positive rational numbers, introduction of negative rational numbers, elementary number theory, decimals and the real numbers. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 50 Analytic Geometry and Calculus I 5 credits F & S** Functions, analytic geometry of the plane, rate of change, limits, continuity, differentiation of algebraic functions, differentials, definite and indefinite integral. Prerequisite: Math. 9 or consent of Department of Mathematics. (STAFF)
- 51 Analytic Geometry and Calculus II 4 credits F & S** Conic sections, transcendental functions, applications of the differentiation process, vectors in a plane, integration methods, applications of the integration process, infinite series. Prerequisite: Math. 50 or consent of Department of Mathematics. (STAFF)
- 52 Analytic Geometry and Calculus III 4 credits F & S** Solid analytic geometry, vectors in space, partial differentiation, multiple integration, differential equations. Prerequisite: Math. 51 or consent of Department of Mathematics. (STAFF)
- R53 Analytic Geometry and Calculus I 3 credits** Functions, rate of change, limits, continuity, differentiation of algebraic functions with applications, integration.
- R54 Analytic Geometry and Calculus II 3 credits** Applications of the definite integral, differentiation and integration of transcendent functions, methods of integration, determinants and linear equations.
- R55 Analytic Geometry and Calculus III 3 credits** Two and three dimensional analytic geometry vectors, hyperbolic functions, parametric equations, polar coordinates.
- R56 Analytic Geometry and Calculus IV 3 credits** Partial derivatives, multiple integrals, infinite series, complex numbers and functions.
- 60 Theory of Numbers 3 credits S** An introduction of elementary number theory including divisibility properties, congruences and Diophantine equations. Prerequisite: Math. 50 or consent of Department of Mathematics. (STAFF)
- R67 Introduction to Digital Computer Programming 3 credits** Introduction to computer techniques using Fortran compiler language. Included are conditional and unconditional control statements, input-output statements and binary and octal number systems.
- 80 Introduction to Computer Programming 3 credits F or S** Characteristics of digital computers from the programmer's viewpoint, programming principles, introduction to programming in Fortran and PL/I.

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 Advanced Engineering Mathematics 3 credits F & S** Ordinary differential equations, Laplace-transform, vector analysis. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- 103 Linear Algebra 3 credits F or S** Algebra and geometry of vector spaces, linear transformations and matrices, quadratic forms (conic sections and quadric surfaces) and symmetric matrices, principle axes transformation and eigenvalues. Prerequisite: Math 52 or consent of Department of Mathematics. (STAFF)
- R106-124 Mathematical Statistics 3 credits** Tests of statistical hypotheses, chi-square and allied tests, design of experiments, analysis of variance, regression and correlations analysis. Prerequisite: Consent of instructor.

- 107 Digital Computers 3 credits F or S** An introduction to advanced programming techniques, data management and retrieval, operating systems. Prerequisite: Math. 52 and Math. 80 or consent of the Department of Mathematics. (STAFF)
- 108 Numerical Analysis 3 credits S** Numerical methods useful in solving applied problems with an introduction to the calculus of finite differences. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- 109-110 Higher Algebra 3 credits F & S** An introduction to abstract algebra. Prerequisite: Math. 60 or consent of Department of Mathematics. (STAFF)
- 116 Probability and Statistics 3 credits F or S** Sample spaces, random variables, distribution functions, estimation and testing of hypotheses. Prerequisite: Math. 51 or consent of Department of Mathematics. (STAFF)
- 117 Postulational Geometry 3 credits F or S** The postulates of Hilbert and Euclid; non-Euclidian geometries; the Erlanger program; projective geometry. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- 119-120 Probability Theory and Mathematical Statistics 3 credits F-S** Random variables, distribution functions, characteristic functions, limit theorems, distribution of sample statistics, order statistics, estimation, testing hypotheses. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- 121-122 Advanced Calculus 3 credits F-S** Partial differentiation, definite integral, vector analysis, line and surface integrals, infinite series, theory of integration. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- R126 Ordinary Differential Equations 3 credits** Ordinary differential equations with applications to scientific and engineering problems. Prerequisites: Calculus. Consent of instructor.
- R127-128 Finite Mathematics 3 credits** Elementary game theory, probability, statistical inference, linear algebra, linear programming, and stochastic processes with emphasis on Markov chains. Prerequisite: Consent of instructor.
- 129 Algebra for Elementary School Teachers 3 credits F** Properties of the real numbers, linear equations and inequalities, modular arithmetic, complex numbers, polynomials, algebraic structures, functions. Prerequisite: Math. 16 or consent of Department of Mathematics. (STAFF)
- 130 Geometry for Elementary School Teachers 3 credits S** Experimental and informal geometry, sets, points, lines, planes, space, elementary theorems and proofs, congruence and measurement of segments and angles, congruence of triangles and geometric construction, parallels and parallelograms, space figures, similarity and trigonometry, area and volume measurement, measurements related to circles, elements of spherical geometry, plane coordinate geometry, the postulational method. Prerequisite: Math. 16 or consent of Department of Mathematics. (STAFF)
- 131-132 Applied Mathematics 3 credits F-S** Partial differential equations, Fourier series, Bessel, Legendre and other functions, boundary value problems, other related topics. Prerequisite: Math. 101 or consent of Department of Mathematics. (STAFF)
- 142 Mathematics for Teachers 3 credits F or S** The natural numbers, theory of numbers, real and complex numbers, algebra of sets, geometrical constructions and the impossibility of certain geometrical constructions, algebra of number-fields, projective geometry, Euclidean geometry. Prerequisite: Math. 50 or consent of Department of Mathematics. (STAFF)
- 151 Introduction to Set Theory 3 credits F or S** Set operations, functions, binary operations and relations, cardinal and ordinal numbers, axiom of choice, partially ordered sets, and Zorn's lemma. Prerequisite: Math. 52 or consent of Department of Mathematics.
- 180 Readings in Mathematics 1 to 3 credits F & S**
- 181 Introduction to Complex Variables 3 credits F or S** An introduction to theory of functions of one complex variable and its applications. This course is primarily designed for engineers. Prerequisite: Math. 52 or consent of Department of Mathematics. (STAFF)
- N190 Algebra and Geometry for High School Teachers 3 credits SS** The natural numbers, theory of numbers, the real and complex number systems, the algebra of sets, geometric constructions and the impossibility of certain geometrical constructions, the algebra of number fields, projective geometry, non-Euclidean geometries. The prime purpose will be to illustrate the logical structure underlying high school mathematics. A substantial part of the course will deal with the nature of proof and the role of intuition.
- N192 An Introduction to Some Contemporary Mathematical Concepts 3 credits SS** Logic and its application to set theory and switching circuits; theory of games and linear programming, fundamental concepts of probability and statistics.



**PRIMARILY FOR GRADUATES**

- 201-202 Selected Readings in Mathematics 1 to 3 credits F-S** Directed study in the literature of mathematics. May be repeated with different material for a maximum of 12 credits. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 203-204 Seminar 1 credit F & S** The purpose of this seminar is to acquaint students during their first two years of graduate studies with various phases of mathematics. Can be taken for credit twice. (STAFF)
- R208 Advanced Numerical Analysis 3 credits** Interpolation, numerical methods of differentiation and integration, numerical methods for solution of algebraic and differential equations. Prerequisites: Numerical Analysis. Consent of instructor.
- 209 Abstract Algebra 3 credits F or S**  
 (a) Abstract Algebra I  
 (b) Abstract Algebra II  
 (c) Abstract Algebra III  
 (d) Abstract Algebra IV  
 A study of the structure of various algebraic systems. None of the subheadings may be repeated for credit. Prerequisite: Math. 110 or consent of Department of Mathematics. (STAFF)
- 218 Differential Geometry 3 credits F or S** Theory of space curves, surfaces and geometry on surfaces. Gaussian and mean curvature, non-Euclidean geometries, Riemannian geometry. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 221-222 Complex Variables 3 credits F-S** An introductory course in the theory of functions of a complex variable. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 226-227 Real Variables I and II 3 credits F-S** Selected topics in theory of functions of real variables. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 231-232 Topology 3 credits F-S** An introduction to the basic concepts of point set and algebraic topology. Prerequisite: Consent of Department of Mathematics. (STAFF)
- R233-234 Analysis of Variance and Design of Experiments 3 credits** Development and application of mathematical statistics to experimental design and analysis. Emphasis will be on the application rather than the derivation with many problems and examples from industry. Special emphasis will be on the application to chemical engineering studies. Prerequisite: Consent of instructor.
- R235-236 Advanced Mathematical Statistics 3 credits** The development and application of mathematical statistics to problems in the engineering sciences. Mathematical derivations and theory is held to a minimum with emphasis being on application. Prerequisite: Consent of instructor.
- 237 Topics in Topology 3 credits F or S** Algebraic methods and selected topics in Topology. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 241 Theory of Ordinary Differential Equations 3 credits F or S** Existence and uniqueness of solutions of systems of ordinary differential equations of first order, linear differential equations, differential equations of  $n$ 'th order with analytic coefficients and with regular singular points, self-adjoint boundary value problems. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 247-248 Functional Analysis 3 credits F-S** Linear functionals on the space of continuous functions, linear transformations, Hilbert and Banach spaces, spectral theory. Prerequisite: Math. 227 or consent of Department of Mathematics. (STAFF)
- 254 Topics in Applied Mathematics 3 credits F or S** Selected topics in integral and differential equations from the functional-theoretic point of view. Prerequisite: Consent of Department of Mathematics. (STAFF)
- R257 Operational Calculus 3 credits** Elementary properties of the LaPlace transform, complex variable theory, the inversion integral, applications to ordinary and partial differential equations. Prerequisite: Consent of instructor.
- R258 Numerical Solutions of Partial Differential Equations 3 credits** Finite difference methods for elliptic, parabolic and hyperbolic equations, with emphasis on solution methods suitable for digital computers. Includes iterative methods for the solution of large scale linear systems. Prerequisite: Consent of instructor.
- 261-262 Recent Developments in Mathematics 3 credits F or S** An advanced course designed primarily for graduate students who have acquired an extensive background in specific phases of mathematics. Prerequisite: Consent of Department of Mathematics. (STAFF)
- 281-282 Advanced Topics in Algebra 3 credits F-S** A course covering various advanced topics in algebra; primarily for advanced graduate students. Prerequisite: Consent of Department of Mathematics.

- 283-284 Advanced Topics in Analysis 3 credits F-S** A course covering various advanced topics in analysis; primarily for advanced graduate students. Prerequisite: Consent of Department of Mathematics.
- 285-286 Advanced Topics in Topology 3 credits F-S** A course covering various advanced topics in topology; primarily for advanced graduate students. Prerequisite: Consent of Department of Mathematics.
- N290 History of Mathematics 3 credits SS** The development of notation and the number system. Classic problems in number theory. The development of algebra and geometry. Foundations of the calculus. The influence of Cantor. Probability and gambling. The rise of statistics. Modern developments. The course is designed for high school teachers with an interest in historical developments.
- N292 Mathematics in the Social Sciences 3 credits SS** Matrices, determinants, vectors, vector spaces, linear inequalities, simultaneous linear equations, linear programming.
- N293 Probability and Statistics 3 credits SS** Probability, nature of statistical methods, frequency distributions, sampling theory.
- N294 Concepts of Analysis 3 credits SS** Sets, relations, functions, Dedekind cuts, sequences, limits of functions, differentiation and integration. The emphasis is on the logical development of these topics.
- N297 Number Theory 3 credits SS** The fundamentals of number theory with applications to the theory of numbers.
- N298 Directed Readings in Mathematics 1 to 6 credits SS** The student will read tutorially from selected references and will be required to demonstrate his mastery of the material assigned by examination or other means. May be repeated for credit up to a maximum of 6 credits of which at most 3 credits may be completed in absentia.
- 300 Research and Thesis Credits to be arranged F & S**

## MECHANICAL ENGINEERING

Professors Peterson (Head), Barnes; Associate Professors Silha, Norgord; Assistant Professors Amos, Abbasi, Avery, Penton, Johnson, Jacobsen; Instructor Pauley.

### PRIMARILY FOR UNDERGRADUATES

- 53 Machine Tool Laboratory I 1 credit F, S & SS** Designed to acquaint the student with the operation of machine tools and with the shaping methods for metals. Exercises include casting, turning, milling, drilling, shaping and cutting. One demonstration and one two-hour laboratory period per week. Prerequisite: Engr. 1 or 3, or with Engr. 1 or 3. (AMOS, STAFF)
- 54 Machine Tool Laboratory II 2 credits F, S & SS** A continuation of M.E. 53. Fundamentals of production are illustrated by machining and assembling a commercial machine (band or table saw or similar project). Jigs and fixtures used. Two three-hour laboratory periods per week. A charge is required for materials used in the project made in this course. This charge is payable at the Bursar's Office before the third week of the semester. Prerequisite: M. E. 53. (AMOS, STAFF)
- 60 Welding 2 credits F & SS** A survey of basic principles and processes of welding and cutting; weldability of metals; weld design, fabrication, and inspection. Practice in the art of welding. One recitation and one three-hour laboratory period per week. A charge, payable at the Bursar's Office before the third week of the semester, is made for materials used in the course. Elective. Prerequisite: Chem. 3 or Chem. 11. (AMOS, STAFF)
- 61 Materials and Processes 3 credits F & S** Properties and processing of materials used by engineers, including metallic and non-metallic materials, plastics, rubber, glasses, refractories, ceramics, lubricants and fuels. A survey of casting, powder metallurgy, heat treatment, hot and cold working, welding processes, tooling, fabrication methods, and their relation to engineering design and economics. Also, cleaning, plating, organic finishing, gauging, inspection, testing and quality control. Three recitations per week. Prerequisite: Chem. 3 or Chem. 11, or consent of instructor. (AMOS, STAFF)
- 63 Kinematics 3 credits F & S** The principles underlying the displacement, velocity, and acceleration of machine elements; the communication of motion by gears, belts, cams, screws, and linkages; relationships between shape and kinematic characteristics. Two recitations and one three-hour laboratory period per week. Prerequisites: Engr. 1, Math. 51 or with Math. 51. (SILHA, STAFF)

- 65 **Heat Treatment of Metals** 2 credits S Mechanical properties of metals; annealing and normalizing, hardening by quenching, tempering, hardenability, surface hardening; cast irons and their heat treatment; heat treatment of non-ferrous metals; stress relief of welds; and equipment and methods used in heat treatment practice. One lecture and one laboratory per week. Elective. Prerequisite: M.E. 61 or Met. 53. (AMOS)

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 103 **Machine Tool Laboratory Projects** 1 to 3 credits F & S The investigation by an individual student of a project in the field of materials processing. The project is to be selected by the student subject only to departmental approval. The instructor assigned to supervise the project will act as an advisor only, and the planning and execution of the project will be the student's responsibility. A final report will be required. Elective. Prerequisite: M.E. 54. (STAFF)
- 121 **Thermodynamics I** 3 credits F & S Definitions, units, energy transformations; thermal capacities, properties of gases; laws of thermodynamics; equations of state; gaseous mixtures; internal combustion engines; compressed air; flow of gases. A one-day field trip to visit regional industrial developments normally will be required. Prerequisites: Chem. 11, Phys. 53 and Math. 51. (PETERSON, JACOBSEN)
- 122 **Thermodynamics II** 4 credits F & S A continuation of M.E. 121. Liquids and vapors; vapor cycles; steam engines and turbines; power plants; flow of fluids; refrigeration; mixtures of vapors and gases. A one-day field trip to visit regional industrial developments normally will be required. Prerequisite: M.E. 121. (JACOBSEN, STAFF)
- 123 **Compressible Fluid Mechanics** 3 credits F A course emphasizing the thermodynamic aspects of compressible fluid flow as related to air foils and channels. Compressibility and boundary-layer phenomena, shock waves, energy losses, friction, and heat transfer, general features of fluid machinery, unsteady flow and fluid vibrations. Three recitations per week. Prerequisite: E.S. 102, E.S. 120 or M.E. 121. (NORGORD, STAFF)
- 124 **Machine Design I** 3 credits F A review of fundamental stress and strain analysis, failure theories and engineering materials. An introduction to variable loads and stress concentration, design procedures for screw fastenings, shafting, couplings, bearings and power transmission equipment. Three recitations per week. Prerequisites: M.E. 63, E.S. 69, E.S. 103. (SILHA, STAFF)
- 125 **Machine Design II** 4 credits S A continuation of M.E. 124 covering spur, helical, bevel and worm gearing, brakes and clutches and welding design. Laboratory devoted to designing (calculations, drafting, specifications) of a project with emphasis on creativeness. Two recitations and two three-hour design periods per week. Prerequisite: M.E. 124. (SILHA, STAFF)
- 126 **Mechanical Engineering Project** 1 to 3 credits F & S The investigation by an individual student of a project which may be of a design, experimental, or analytical nature, or any combination thereof. The project is to be selected by the student subject only to departmental approval. The instructor assigned to supervise the project will act as an advisor only. Planning and execution of the project will be the student's responsibility. A final engineering report will be required. Elective. Prerequisite: Junior standing. (STAFF)
- 131 **Energy Conversion Systems I** 2 credits F One of two courses dealing with the production of power from fossil and nuclear fuels and by direct energy conversion, with emphasis placed on the overall plant, its controls, and its place in the general economy. This course will deal with internal and external combustion plants, and with steam plants. A one-day field trip will normally be required. Prerequisite: M.E. 122. (BARNES, STAFF)
- 132 **Energy Conversion Systems II** 2 credits S A course paralleling M.E. 131, and covering hydroelectric and nuclear power plants, and direct energy conversion. A one-day field trip will normally be required. Prerequisite: M.E. 122. (STAFF)
- 136 **Mechanical Engineering Laboratory I** 1 credit S An introductory course in measurement, instrumentation techniques, and data analysis. Instruments include those used for the measurement of pressure, temperature, flow, power, speed, strain, and the properties of materials including fuels and lubricants. One three-hour laboratory period per week. Prerequisite: E.S. 120 or with M.E. 122. (JOHNSON, STAFF)
- 137 **Mechanical Engineering Laboratory II** 3 credits F Beginning engineering experimentation. Investigation of equipment and phenomena, with emphasis on analysis of results as affected by procedure and explained by theory. Experiments will be selected from all areas of mechanical engineering. One discussion, one three-hour laboratory period, and three hours of outside preparation per week. Prerequisite: M.E. 136; and/or with E.S. 103, M.E. 131, M.E. 145. (JOHNSON, STAFF)
- 138 **Mechanical Engineering Laboratory III** 2 credits S An advanced course in laboratory testing with emphasis on the determination of experimental procedure

- and on the analysis of theory and results. Problems will be chosen from all fields of mechanical engineering, and the student will assume maximum responsibility for the test programs. One three-hour laboratory period and three hours of outside preparation per week. Prerequisites: M.E. 137; and/or with M.E. 131 and M.E. 172. (JOHNSON, STAFF)
- 140 Pro-Seminar 1 or 2 credits S** A study of technical periodicals and selected literature. Papers on engineering topics will be prepared, read and discussed. Prerequisite: Senior standing. (PETERSON, STAFF)
- 141 Thermal Systems Design 3 credits S** The design of an integrated thermal system such as a power plant. The student will function as a project design engineer. Emphasis will be placed on economics, and on the influence on design of variable output, construction, operation, and maintenance. Elective. Prerequisite: M.E. 122. (NORGORD, STAFF)
- 144 Air Conditioning 2 credits F** A survey course of phenomena and problems associated with air conditioning. Psychrometrics, heating and cooling loads, and systems for maintaining required air conditions. Steam systems, hot water systems, forced air systems, refrigeration, and heat pumps. Elective. Prerequisite: E.S. 120 or M.E. 122. (JOHNSON)
- 145 Heat Transfer 3 credits F** A study of the laws which govern heat transmission; conduction of heat in the steady and unsteady states; heat transfer by free and forced convection; heat transfer by radiation; combined effects of conduction, convection, and radiation; heat transfer and fluid friction. Prerequisites: E.S. 102, and E.S. 120 or with M.E. 122. (AVERY, STAFF)
- 167 Fuels and Lubricants (M.E. 67) 2 credits F** A study of the properties and the uses of fuels and lubricants. Identification, processing, testing, and the application of fossil, nuclear and jet fuels. Theory of lubrication. Processing and testing of commercial lubricants, and their application in industrial practice. Two recitations per week. Elective. Prerequisite: Junior standing. (JOHNSON)
- 168 Engineering Acoustics 3 credits S** Theory of acoustics and its engineering applications. The theory of sound generation, noise measurement and noise control. Applications will include noise in buildings, industrial and aircraft noise, and underwater sonics. Instrumentation techniques studied will include transducers and signal processing for the measurement of sound and vibration from a variety of sources. Three recitations per week. Elective. Prerequisite: Phys. 54 and Math. 101. (SILHA)
- 172 Mechanical Vibrations 3 credits S** Free, forced, and transient vibrations with and without damping. Multimass and distributed systems. Single degree and two degrees of freedom. Special techniques for problem solution. Prerequisites: E.S. 69, E.S. 103, and Math. 101. (SILHA, STAFF)
- 173 Stress Analysis 3 credits S** A course for students interested in design who need a broader background in the analytical and experimental techniques available for determining stresses and strains under static and dynamic loads, including photoelastic methods. Available equipment will be demonstrated and used. Elective. Prerequisite: E.S. 103, Math. 52. (AVERY, STAFF)
- PRIMARILY FOR GRADUATES**
- 201-202 Seminar 1 to 3 credits F-S** The investigation and discussion of general topics and developments affecting mechanical engineering. (STAFF)
- 205 Advanced Dynamics 3 credits F** Kinematical analysis, dynamic specification of a solid body, basic principles of dynamics, dynamics of rectangular, angular, and plane motion and dynamics in three dimensions. Beams. Prerequisites: E.S. 69, Math. 101, or their equivalents. (SILHA)
- 206 Photoelasticity 2 or 3 credits F** Mathematical approach to photoelasticity and study of the optical bench, its parts and their functions. Analysis of specimens of various materials in two dimensions, and if time allows in three dimensions. Prerequisites: Math. 101 and E.S. 103, or their equivalents. (AMOS)
- 207 Advanced Machine Design 2 or 3 credits S** A study of subjects beyond those discussed in M.E. 124 and 125. Special projects in design. Prerequisites: M.E. 125 or equivalent. (SILHA)
- R208 Advanced Strength of Material 3 credits** Advanced study of stress and strain in tension, compression, and torsion. Bending on elastic foundation, combined stress, curved bars, plates, and elementary photoelasticity. Prerequisite: Consent of instructor. (STAFF)
- 210 Hydrodynamics (M.E. 204a) 2 credits F & S** Velocity potential and the stream function. Vortex motion. Application of conformal mapping to ideal fluid flow. The Blasius theorem and the Schwartz-Christoffel theorem. Prerequisites: E.S. 102 or equivalent, and some knowledge of complex variables. (NORGORD)

- 211 Boundary Layer Theory (M.E. 204b) 3 credits F** The Navier-Stokes equations. Approximate and exact solutions of the boundary-layer equations. The fundamentals of turbulent flow. Prerequisites: E.S. 102 or equivalent, and some knowledge of vector analysis. (NORGORD)
- 212 Gas Dynamics (M.E. 204c) 3 credits S** Similarity rules of high-speed flow, bodies of revolution, slender body theory, transonic and supersonic flow, concepts of gas kinetics. Prerequisite: M.E. 123 or equivalent. (NORGORD)
- R215 Transport Phenomena 3 credits A** A unified treatment of the fundamentals of momentum, heat, and mass transfer in three dimensions including the unsteady state. The three subjects are studied in parallel to achieve maximum integration. The pertinent vector equations are derived and methods of solution developed. This course provides the basis for further graduate courses in advanced heat transmission and advanced fluid mechanics. Prerequisite: Consent of instructor. (STAFF)
- 224 Advanced Thermodynamics 3 credits F** A study of classical and statistical thermodynamics and their application to modern energy conversion methods. Included are kinetic theory of gases, transport phenomena, basic quantum mechanics, magnetohydrodynamics, thermionic emission, and thermoelectricity. Prerequisite: M.E. 122 or equivalent. (STAFF)
- R227 Advanced Fluid Mechanics 3 credits An** An advanced study of the application of the fundamentals of fluid flow. Practical applications in flow through process equipment, with special problems in areas such as the flow of compressible fluids, two-phase flow, non-Newtonian behaviour of particle and plastic systems, fluidized beds, and particle dynamics. Prerequisite: Consent of instructor. (STAFF)
- 250 Advanced Mechanical Vibrations 3 credits S** Advanced analysis of vibrating systems, including those with several degrees of freedom, branched systems, closed systems, and applications of the energy method. Prerequisite: M.E. 172 or equivalent. (SILHA, STAFF)
- 251 Advanced Jet Propulsion 3 credits S** The thermodynamics of rockets and guided missiles including a discussion of solid and liquid propellants, dissociation of gases during combustion, and basic jet propulsion systems. Prerequisite: M.E. 131 or equivalent. (BARNES)
- 253 Advanced Heat Transfer I 3 credits F** Analytical study of thermal conduction and radiation. Prerequisite: M.E. 145 or equivalent. (NORGORD, AVERY)
- 254 Advanced Heat Transfer II 3 credits S** Analytical study of thermal convection. Integral methods. Prerequisite: M.E. 145 or equivalent. (NORGORD, AVERY)
- 300 Research and Thesis Credits to be arranged F, S & SS** Subjects for investigation and group discussion will be selected in some field of special activity. (STAFF)

## MINING ENGINEERING AND METALLURGY

Professors: Newton (Head) and Hoskins; Associate Professor Clifton; Assistant Professors: Chan and Green.

### METALLURGY

#### PRIMARILY FOR UNDERGRADUATES

- 10 Materials and Their Manufacture 1 credit S** An introduction to materials for anyone interested in how and from what the material things of our civilization are made. The course is based on laboratory demonstrations and experiments, motion pictures of industrial operations, and a one-day field trip. One three-hour laboratory per week. (STAFF)
- 53 Elements of Materials Science 2 credits F & S** An introductory course dealing with the structure of material substances and the relations between structures and physical properties. Topics covered will include crystal structures of metals, alloys, minerals, and ceramic phases; structures of non-crystalline solids such as glasses and cements; imperfections in crystals; phase diagrams. Two lectures a week. Prerequisite: Chem. 3, 11 or 14. (NEWTON)
- 56 Metallography (114) 1 credit S** Laboratory preparation of metal specimens for microscopic examination; hardness testing. One three-hour laboratory per week. Prerequisite: Met. 53. (CLIFTON)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 111 Ore Dressing (110) 3 credits F** Fundamentals of ore dressing processes. Topics covered will include crushing and grinding, screening, classification, gravity concentration, flotation, magnetic and electrostatic concentration, and flowsheets. Three lectures per week. Two one-day field trips to ore dressing plants. Prerequisites: Chem. 3 or 11 and Phys. 3-4 or 53-54. May be taken concurrently with Phys. 4 or 54. (NEWTON)

1 Offered in alternate years; given in 1967-68.

- 117 Elements of Crystallography 2 credits F** Elementary crystallography with an introduction to crystal chemistry and crystal physics. Two lectures per week. Prerequisites: Chem. 3, 11 or 14, Phys. 54. (CLIFTON)
- 118 Introduction to Metallurgical Thermodynamics 2 credits S** An introduction to the aspects of thermodynamics most used in metallurgy; applications to metallurgical problems. Two lectures a week. Prerequisites: Chem. 105 and E.S. 120. (CLIFTON)
- ② **127 Introductory Production Metallurgy 3 credits F** A general introduction to the extraction and refining of ferrous and non-ferrous metals. Three lectures a week. Prerequisites: Chem. 3, 11, or 14, Phys. 3-4, or Phys. 53-54. (NEWTON)
- 130 Metallurgical Laboratory (112) 2 credits S** Experiments in ore dressing, sampling, hydrometallurgy, electrometallurgy, high-temperature metallurgy, fire assaying for gold and silver. Students will be assigned a limited number of selected experiments for thorough investigation; formal reports will be required. Two three-hour laboratory periods a week. Prerequisites: Met. 111, Met. 127. (STAFF)
- ② **142 Mechanical Metallurgy (141) 2 credits S** A study of the mechanical forming and testing of metals. Two lectures a week. One one-day field trip. Prerequisites: Met. 56 and E.S. 103. (CLIFTON)
- 145 Physical Metallurgy (104) 3 credits S** An introductory study of the theory, structure, and properties of metals and alloys with examples of their relation to industrial problems. Two lectures and one three-hour laboratory a week. Prerequisites: Met. 56 and Met. 118. (CLIFTON)
- ① **148 Materials Engineering (108) 2 credits S** Selection of materials and manufacturing processes; industrial practices. Two lectures per week. Prerequisites: Met. 53, E.S. 103. (CLIFTON)
- 151 X-ray Diffraction 3 credits F** Principles of the diffraction of X-rays by crystals and application to the study of polycrystalline materials. Two lectures and one three-hour laboratory a week. Prerequisite: Phys. 4 or 54. (CLIFTON)
- 155-156 Special Topics in Metallurgy 1 to 3 credits F, S, SS** This course gives the undergraduate student an opportunity to do supervised work on some aspect of metallurgy. The work to be done will be arranged with the instructor. Depending upon the nature of the work and the number of students electing the course, it may be given as directed study problems; laboratory work; or a short research project. A formal report will be required. Work covered may be in any one of the following fields: (a) ore dressing, (b) pyrometallurgy, (c) hydrometallurgy, (d) electrometallurgy, (e) corrosion, (f) metallurgical design, (g) metallography, (h) physical metallurgy, (i) X-rays, (j) powder metallurgy, (k) chemical metallurgy, (l) casting, (m) fabrication, (n) ceramics, or (o) mechanical metallurgy. May be elected more than once to pursue different studies. A maximum of 12 hours may be taken in 155-156 and a maximum of 6 hours in any one subdivision. Not more than four of these courses will be offered in any one year. Prerequisite: Senior standing or consent of instructor. (STAFF)
- 161 Ceramic Materials 3 credits F** A study of the properties and uses of ceramic materials, including cermets and related materials. Three lectures a week. Prerequisites: Physics 3-4 or 53-54 and Chem. 3, 11, or 14. (NEWTON)
- 162 Ceramics Laboratory 2 credits S** Laboratory study of some of the processes of ceramic fabrication; preparation and properties of slips and pastes; drying and firing; measurement of drying and firing shrinkages and deformation; measurement of porosity; properties of various clays; glazing; PCE and DTA determinations. Two three-hour laboratory periods. Prerequisite: Met. 161. (STAFF)
- 187-188 Pro-Seminar 1 credit F & S** Review and discussion of current literature. Prerequisite: Senior standing or consent of instructor. (STAFF)

#### PRIMARILY FOR GRADUATES

- 203 Advanced Ore Dressing 3 credits F** Study of advanced topics in ore dressing; theories of comminution; flotation and related surface phenomena; electrical and magnetic concentration; process control. Three lectures a week. Prerequisites: Met. 111 and 130 or consent of instructor. (NEWTON)
- 205 Advanced Extractive Metallurgy 3 credits F** Study of advanced topics in the extraction and refining of metals. Three lectures a week. Prerequisites: Met. 127 or consent of instructor. (STAFF)
- ① **208 Advanced Ceramics 3 credits S** Consideration of some of the theoretical aspects of ceramic materials; constitution of green ceramic bodies; drying and firing shrinkage; porosity and its effect on properties; sintering; effect of structure on the mechanical, electrical and magnetic properties of ceramics and cermets; glasses and "crystalline glasses". Three lectures a week. Prerequisite: Consent of instructor. (STAFF)

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

- ② **210 Metallurgical Research Methods** 3 credits S Advanced experimental methods and apparatus, planning experiments, evaluation of experimental results. Two lectures and one laboratory a week. Prerequisite: Consent of instructor. (STAFF)
- 211 Advanced Physical Metallurgy** 3 credits F An advanced study of the theory of metals and alloys and its application to problems of structure and the properties of engineering metals. Three lectures a week. Prerequisite: Consent of instructor. (CLIFTON)
- ① **212 Metallurgical Thermodynamics** 3 credits S A graduate level study of those aspects of thermodynamics most used in metallurgy and their application to typical metallurgical problems. Three lectures a week. Prerequisite: Consent of instructor. (STAFF)
- ② **214 Phase Rule and Phase Relations** 3 credits S The meaning of the phase rule, construction and interpretation of phase diagrams, metastable and unstable phase relations. Three lectures a week. Prerequisite: Consent of instructor. (STAFF)
- 215-216 Seminar** 1 credit F & S Review and discussion of current literature. (STAFF)
- 217 Rheology** 3 credits F The principles of deformation and flow of matter, viscosity, properties of suspensions, elasticity and plasticity of crystalline solids. Explanation of the phenomena in terms of movement of atoms is stressed. Three lectures a week. Prerequisite: Consent of instructor. (STAFF)
- ① **218 Advanced Mechanical Metallurgy** 3 credits S An advanced study of the macroscopic theory of deformation, selected material-forming processes, and mechanical tests. Three lectures a week. Prerequisite: Met. 217 or consent of instructor. (STAFF)
- R219 Behavior of Engineering Materials** 3 credits Static and dynamic properties of materials including stress-strain in tension, compression, shear, bending, combined stresses, fatigue, shock, impact, damping, and creep. Relationship of mechanical properties to the physical properties and the crystalline imperfections. Prerequisite: Consent of instructor.
- ② **222 Surface Reactions of Metals** 3 credits S An introduction to surface chemistry and physics with illustrative examples from metallurgy. Three lectures a week. Prerequisite: Consent of instructor. (STAFF)
- R225 Physical Chemistry of Metals** 3 credits First, second and third laws of thermodynamics, fugacity, activity, and the equilibrium constant, solutions, phase relations, heterogeneous equilibria, free energy, composition diagrams, temperature-pressure diagrams, electro-chemistry, formal basis of diffusion theory, kinetics and metallurgical processes. Prerequisite: Consent of instructor.
- R251 Advanced X-Ray Diffraction** 3 credits Geometry of crystals, directions and intensities of diffracted X-ray beams, Laue and powder photographs, diffractometer measurements, orientation of single crystals, structure of polycrystalline material, pole figures and orientation determination, order-disorder transformation, and stress measurement. Prerequisite: Consent of instructor.
- R252 Radiation Effects in Materials** 3 credits Interactions between radiation and solids, influence of lattice imperfections on the properties of solids and radiation effects in metals, alloys, covalent crystals, ionic crystals, semiconductors, uranium, graphite, polymers, and organic substances. Prerequisite: Consent of instructor.
- R254 Theoretical Structural Metallurgy** 3 credits Forces between atoms, metallic crystals, free electron theory of metals, the zone theory of metals, applications of the electron theory, equilibrium and the rate of approach to equilibrium, the thermal behavior of metals, structure of alloys, free energy of alloy phases, the equilibrium diagram, diffusion in metals and alloys, the order-disorder change in alloys, kinetics of phase changes and shear processes in metal crystals. Prerequisite: Consent of instructor.
- R258 Corrosion in Metallurgy** 3 credits Fundamental principles of corrosion by aqueous media, gases, liquid metals and fused salts. Effect of radiation fields on corrosion. Corrosion testing. Prevention of corrosion. Prerequisites: Physical Chemistry including Electrochemistry, or consent of instructor.
- 300 Research and Thesis** Credits to be arranged F, S & SS

## MINING ENGINEERING

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 Elements of Mining** 3 credits F Introductory course in mining engineering. Course covers basic theories and terminology involved in mining law, materials handling, drills and drilling, prospecting, shaft sinking, tunneling, sampling, surface and underground mining methods, explosives, support of ground rock, rock mechanics, ventilation, and management. (GREEN)

① Offered in alternate years; given in 1967-1968.

② Offered in alternate years; given in 1968-1969.

- 106 Mine Plant Design 2 credits F or S** Two three-hour problem and design laboratories per week. Design of mine structures (headframes, buildings, ore bins); cage safety devices; transportation problems are investigated. One one-day field trip. Prerequisite: Min. 101. (CHAN)
- 113 Mine Ventilation 2 credits S** Theory and principles of fluid mechanics applied to mine ventilation. Design of mine ventilation systems. Choice of equipment used in mine ventilation and air conditioning systems. Prerequisite: Math. 50; Phys. 3 or 53; Min. 101. (GREEN)
- 115 Mine Rescue and Accident Prevention 1 credit F & S** This course is given in cooperation with the U.S. Bureau of Mines, the mine rescue car visiting Moscow for this purpose. (CHAN)
- 118 Mine Surveying Summer Camp 3 credits SS** Application of modern engineering and surveying theories and equipment to underground and surface mine surveys. Detailed underground and surface geologic mapping techniques. A portion of an underground mine is surveyed. Notes are reduced and maps are drawn. Mines in summer camp area may be inspected. Students other than University of Idaho by permission. Accident and health insurance is required. Prerequisite: C.E. 51. (STAFF)
- 124 Mine Examination and Evaluation 2 credits F** Mine examination and valuation; sampling; classification of ore bodies; amortization; production costs; important aspects of mining law; mining engineering reports. Prerequisite: Min. 101, or permission of instructor. (GREEN)
- 128 Rock Mechanics 3 credits F** A study of the behavior of rock masses under pressure and the stability of underground openings, rock slopes, and rock foundations. Emphasis is given to the theory of elasticity in plane polar coordinates, the beam theory, and plate theory of rock failure in three-dimensional mine structures, Griffith's and Mohr's criteria of failure, mechanical properties of mine rocks, theories and applications of engineering similitude, stresses around underground openings, stress waves, causes and control of rockburst and ground subsidence, application of methods in experimental stress analysis to the measurement of underground stresses and the design of laboratory tests. Methods for improving stability both in rock foundations and in underground openings by design are also considered. Two lectures a week. Prerequisite: E.S. 103 (may be taken concurrently). (CHAN)
- 129 Advanced Rock Mechanics 2 credits S** A study of theories of failure, and the discussion of the application of mechanical, electrical, and electronic measuring instruments to the design of underground openings. Two lectures a week. Prerequisite: Min. 128. (CHAN)
- 130 Design of Surface Mining Systems 2 credits S** Design of surface excavations for engineering foundations; profitable mining of metallic and non-metallic deposits in open pits and quarries; alluvial dredging operations. Subjects such as time-motion study, research in blasting, slope stability, and the application of digital computer programming are also emphasized. One two-day field trip. Two lectures a week. Prerequisite: Min. 101 or permission of instructor. (CHAN)
- 150-151 Special Topics in Mining Engineering 1 to 4 credits F, S & SS** This course gives the undergraduate student in mining an opportunity to do supervised work in such fields as mining law, mineral economics, and mine management. Depending upon the nature of the work and the number of students electing the course, it may be given as directed study programs; laboratory work; or a short research project. A formal report will be required. Prerequisite: Senior standing or consent of instructor. (STAFF)
- 161 Geophysical Prospecting 2 credits S** An introduction to the principles and practical methods of geophysical exploration for mineral deposits. This includes magnetic, electrical, electromagnetic, seismic, gravitational, radioactive, and geothermal methods and all types of geophysical well logging. Two lectures a week. Prerequisites: Geol. 14, Physics 3, 4 or Physics 53-54. (CHAN)
- 180 Explosives and Their Uses 2 credits S** Equipment used for drilling and blasting; theory of detonation of explosives; use of commercial explosives and detonators in engineering, agriculture, forestry, and mining. Design of blasting rounds—surface and underground. Forming of metal shapes with explosives. Use of shaped charges. One one-day field trip. Prerequisite: Junior standing or consent of instructor. (GREEN)
- 190 Design of Mine Systems 4 credits S** Design of underground and surface mining operations and methods through the use of geology, rock mechanics and materials handling principles. Prerequisite: Min. 101, 113, 128. Four lectures per week. One three-day field trip. (STAFF)
- 197-198 Pro-Seminar 1 or 2 credits F & S** Review and report on current mining problems of interest to the student. Prerequisite: Senior standing or consent of instructor. (STAFF)



**PRIMARILY FOR GRADUATES**

- 206 Mine Mechanization 2 credits F or S** Selection, application and maintenance of mining, shaft sinking, tunnel driving, and transportation equipment. Also, principles of production engineering. Two lectures per week. Prerequisite: Min. 101 or consent of instructor. One two-day field trip. (STAFF)
- 207 Mine Management 2 credits F or S** Study of mine financing, management-labor relations, operation unit, and government regulations. Two lectures per week. Prerequisite: Consent of instructor. (GREEN)
- 208 Mine Industrial Engineering 3 credits F** Fundamentals of industrial engineering, operations research, and computer programming and their application to mining engineering problems. Three lectures per week. Prerequisite: Consent of instructor. (CHAN)
- 210-211 Advanced Mining 1 to 5 credits F, S & SS**
- (a) Mine plant design
  - (b) Mine development and exploitation
  - (c) Mining Law
  - (d) Theory of explosives
  - (e) Current mining industry problems
- These courses may consist of lectures, supervised readings, laboratory or field work, and periodic conferences. A maximum of 9 credits may be taken in 210-211, and a maximum of 6 credits in any one sub-division. Prerequisite: Consent of instructor. (STAFF)
- 228 Design of Mine Structure 2 credits S** The application of experimental stress analysis in the design of stable mine structure. One lecture and three laboratory hours per week. Prerequisite: Min. 128 or consent of instructor. (CHAN)
- 261 Mining Geophysics 3 credits S or F** A detailed study of the theory and application of magnetic, electrical, electromagnetic, and radioactive methods of geophysical prospecting for mineral deposits. Two lectures and three laboratory hours per week which include problem solving and field measurement. Prerequisite: Min. 161 or consent of instructor. (CHAN)
- 300 Research and Thesis Credits to be arranged F, S & SS (STAFF)**

**MUSEOLOGY**

(Museology is a subject offered in the Department of Social Sciences.)

Museum Director Burcaw.

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 101 Introduction to Museology 3 credits F** History, theory, and practice of museums and museum work. A museum appreciation course for the general student with extensive reading, illustrated lectures, and simple exercises in museum problems. Not specialized as to subject field. One one-day and two half-day field trips. (BURCAW)
- 150 Intermediate Museology 3 credits S** Techniques of handling collections, exhibit preparation, administration, extension services, and museum planning. Group research and work projects. Individual study related to the student's major field. Intended for the student who is considering museum work as a career. Not specialized as to subject field. One four-day field trip. Prerequisite: Museology 101. (BURCAW)
- 175 Advanced Museology 2 credits F & S** Specialized work tailored to the individual needs of the student, involving actual museum work under supervision. Some travel may be necessary. Prerequisites: Museology 150 and consent of instructor. (BURCAW)

**MUSIC**

Professors Macklin (Head), Bauer, Billingsley, Lockery, Schuldt; Associate Professors Bray, Frykman, Logan; Assistant Professors Seiler, Walton, Whisner, Wise; Instructors Barnes, Pachey, Tyler.

**GENERAL INFORMATION**

**Accreditation**—The Department of Music holds full membership in the National Association of Schools of Music and is accredited by that agency at both the undergraduate and graduate levels.

**First Degrees**—Undergraduate curricula are offered leading to the degrees of Bachelor of Music, Bachelor of Music Education, and Bachelor of Arts. Detailed state-

ments of the requirements of these programs are contained in Part III of this catalog: B.A. and B.Mus. under the College of Letters and Science; B.Mus.Ed. under the College of Education.

**Advanced Degrees**—The graduate major in music is offered under the degrees of Master of Music, Master of Arts, and Master of Arts in the Teaching of Music. Concentrations are available in music history, music literature, theory, performance-repertory, composition-theory and music teaching. The general requirements for these degrees may be found in the Graduate School section of this catalog.

**Minor in Music**—Students in other departments may, in consultation with the Department of Music, arrange a minor in music. To assist such students in registering for the necessary courses in their proper sequence, a check list is available in the Departmental office. Basic courses in the minor are: Mus. 1-2, Elements of Music Theory, and Mus. 123-124, Music in Western Civilization.

**Transfer Students**—Because the various curricula in music are planned in continuity with basic courses taken during the first year, students planning to major in music at the University of Idaho are strongly advised to enter the University as freshmen. Students transferring from other institutions with preparation differing from the University pattern may be admitted to an appropriate curriculum in music; however, it may be necessary for such students to take more than the minimum number of credits required for a degree.

**Accelerated Program**—An accelerated collegiate credit program in music for talented high school juniors is offered. The plan includes summer sessions (eight weeks each) at the close of the junior and senior years. College credit is validated when the student becomes eligible for admission to the University of Idaho. To be admitted to this program, applicants must give evidence of musical performance equal to that of freshmen admitted to the University and present proper high school records and letters of recommendation from their high school principals and music directors.

**Scholarships**—A special bulletin, "Financial Aids for Music Students," is available from the Departmental office. Information is also contained in Part I of this catalog under "Foundations, Scholarships, Awards."

**Correlated Theory-History Sequence**—The three-year sequence in theory and history courses for music students is based on the evolutionary development of music from melody to counterpoint and harmony. Transfer students should consult the head of the Department about placement in the program. (See Mus. 9-10, 11-12, 75-76, 79-80, 101-102, and 103-104 in the course section below.)

**Concerts and Recitals**—Music majors are required to attend designated musical events unless excused by the head of the Department. See Mus. 14, Convocation.

**Graduation Examination**—At the discretion of the music faculty, a final comprehensive examination will be required of all majors in the Department of Music. It may include such a test as the Graduate Record Examination for which a fee will be charged.

#### REGULATIONS COVERING INDIVIDUAL INSTRUCTION

**Note:** See Mus. 30, 130, and 230 in the Applied Music course section immediately following these regulations.

(1) **REGULAR ENROLLMENT:** Majors in the Department of Music are expected to register for their principal applied music field each period of registration in the University. The minimum levels and credits required are stated in the various curricula.

(2) **ELECTIVE CREDIT:** Applied music may be taken as an elective by any qualified student in the University.

(3) **CREDIT BY EXAMINATION:** Application for credit by examination in applied music may be made by any student who has studied applied music of college grade with private teachers after high school graduation, or at an unaccredited institution. The application for credit by examination must be approved by a teacher in the student's branch of applied music and the head of the Department of Music.

(4) **GRADUATION RECITALS:** Graduation recitals are required of all candidates for degrees with a concentration in musical performance. Graduation depends on proficiency attained and not necessarily on the number of credits earned.

(5) **FEES:** \$30.00 for one half-hour lesson (2 credits) per week for a semester; \$60.00 for two half-hour lessons (4 credits) per week for a semester. The fees are payable in advance at the Cashier's office for the semester or unexpired portion thereof. Students entering after the opening of the semester are charged pro-rata, except that no allowance is made for lessons missed by the student, nor will such lessons be made up. In case of serious illness, make-up lessons will be arranged by the Departmental office. Lessons missed because of University holidays or during examination weeks will not be made up. On withdrawal from the University, refunds for individual instruction will be made in accordance with the requirements under "Refund of Fees" in Part I of this catalog.

**APPLIED MUSIC COURSES (INDIVIDUAL INSTRUCTION)**

**Note:** Students must have the permission of the Department of Music BEFORE registering in Mus. 30, 130, or 230. The detailed regulations covering these courses are stated in the section immediately above.

**30 or 130 or 230 Applied Music 2 or 4 credits F & S** Individual instruction in musical performance. Each subtitle may be repeated for credit. Consult the Departmental office for information concerning the levels of proficiency required for admission to Mus. 30 (lower division), Mus. 130 (upper division), and Mus. 230 (graduate).

- (a) Voice (LOCKERY, LOGAN, WALTON BARNES)
- (b) Piano (MACKLIN, FRYKMAN, SCHULDT, TYLER)
- (c) Organ (MACKLIN, FRYKMAN)
- (d) Harpsichord (STAFF)
- (e) Harp (STAFF)
- (f) Violin (BAUER)
- (g) Viola (BAUER)
- (h) Cello (WHISNER)
- (i) String Bass (WHISNER)
- (j) Flute (SEILER, PACHEY)
- (k) Clarinet (SEILER, PACHEY)
- (l) Saxophone (SEILER, PACHEY)
- (m) Oboe (SEILER)
- (n) Bassoon (SEILER)
- (o) French Horn (WISE)
- (p) Trumpet (BILLINGSLEY)
- (q) Trombone (WISE, BILLINGSLEY)
- (r) Baritone (WISE)
- (s) Tuba (WISE)
- (t) Percussion (PACHEY)

**ORGANIZED MUSIC COURSES (PERFORMING GROUPS)**

**Note:** Registration for upper-division credit in organized music is limited to students who have earned a minimum of four lower-division credits in the appropriate area, or who have attained upper-division standing in applied music (those qualified to register for Mus. 130). Organized music courses may be repeated for credit, subject to the general limitation that for all bachelor's degrees other than the Bachelor of Music and the Bachelor of Music Education only the first eight credits in any combination of these classes may be counted toward graduation.

- 35 or 135 Concert Choir 1 credit F & S** Prerequisite: Membership in the Concert Choir, informally known as the "Vandaleers," requires an audition and permission of the conductor. (LOCKERY)
- 36 or 136 University Singers 1 credit F & S** Open to all students in the University with permission of the conductor. (LOGAN)
- 37 or 137 University Symphony Orchestra 1 credit F & S** Prerequisite: Permission of the conductor. (BAUER)
- 38 or 138 University Bands 1 credit F & S** Prerequisite: Permission of the conductor. (SEILER, PACHEY)
- 39 or 139 Festival Chamber Orchestra 1 credit SS** Prerequisite: Permission of the conductor. (BAUER)
- 40 or 140 Festival Choir 1 credit SS** Open to all students in the University without audition. (LOCKERY)

**GENERAL COURSES IN MUSIC**

**Note:** These courses, together with Mus. 123-124, are primarily for students in other departments.

- \*1-2 Elements of Music Theory 4 credits F-S** The elements and skills of music, including singing, playing, dictation, and writing of scales, intervals, chords, and progressions. Primarily for students in other departments. Not open to students who have taken Mus. 9-10. (STAFF)
- \*3 Fundamentals of Music 2 credits F & S** A practical introduction to music fundamentals and basic skills for the general student. Not open to music majors or minors, or to students who have taken Mus. 1 or 9. (STAFF)
- 5-6 Survey of Music 2 credits F & S** Illustrated lectures with supplementary reading and listening to provide the general student with an understanding of various musical periods and styles. Not open to music majors, or to students who have taken Mus. 11-12. No prerequisite. Students may enroll for Mus. 6 without having had Mus. 5. (STAFF)

\*—A maximum of eight credits may be earned in any combination of Mus. 1-2, 3, and 9-10.

- 8 Introduction to (a) the Symphony, (b) Opera, (c) Chamber Music 2 credits SS** Humanistic approach to musical understanding. Open to all University students. (STAFF)

**PRIMARILY FOR UNDERGRADUATES IN MUSIC**

**Note:** See statement concerning the "Correlated Theory-History Sequence" in the general information at the beginning of the music course section.

- \*9-10 Theory of Music I 4 credits F-S** Ear-training, sight-singing, and written exercises based on melody and counterpoint from Gregorian chant through music of Palestrina. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 11-12. (STAFF)
- 11-12 History of Music I 2 credits F-S** Music theory from the early medieval period through the Renaissance. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 9-10. (STAFF)
- 14 Convocation 0 credit F & S** Required of all majors in the Department of Music each period of registration. The class consists of attendance at designated musical events. (MACKLIN)
- 15 Instrumental Techniques (Group Instruction) 1 credit F & S** Laboratory classes covering the fundamental problems involved in the playing and teaching of instruments in elementary and secondary schools. Each subtitle may be repeated once for credit. A total of twelve credits may be earned in Mus. 15, all subtitles combined. Prerequisite: Permission of the instructor of each instrument. (STAFF)
- |                 |               |                 |                |
|-----------------|---------------|-----------------|----------------|
| (a) Violin      | (e) Flute     | (h) Oboe        | (k) Trumpet    |
| (b) Viola       | (f) Clarinet  | (i) Bassoon     | (l) Trombone   |
| (c) Cello       | (g) Saxophone | (j) French Horn | (m) Percussion |
| (d) String Bass |               |                 |                |
- 19-20 Voice Class 2 credits F-S** Consult the Department of Music before registering. (WALTON, BARNES)
- 23-24 Piano Class 2 credits F-S** Consult the Department of Music before registering. (FRYKMAN, STAFF)
- 30 Applied Music (Individual Instruction)** This course is listed near the beginning of the music section. (STAFF)
- 35, 36, 37, 38, 39, 40 Organized Music (Performing Groups)** These courses are listed near the beginning of the music section. (STAFF)
- 42 Rudiments of Music 3 credits SS** Flexible content to meet the needs of the students enrolled. May be repeated for a total of six credits. (WHISNER)
- 57-58 Accompanying and Sight Reading 1 credit F-S** A practical course in rapid sight reading, including experience in accompanying singers and instrumentalists. Prerequisite: Permission of the instructor. (MACKLIN)
- 59-60 Diction for Singers 2 credits F-S** German first semester; French second semester. (LOGAN)
- 67 Chamber Ensemble 1 credit F & S** Each course consists of study, rehearsal, and performance of music for small ensembles. May be repeated for a total of four credits. Prerequisite: Permission of the instructor. (STAFF)
- |              |               |              |                |
|--------------|---------------|--------------|----------------|
| (a) Vocal    | (c) Collegium | (e) Woodwind | (g) Percussion |
| (b) Keyboard | Musicum       | (f) Brass    | (h) Jazz       |
|              | (d) String    |              |                |
- 68 Opera Workshop 1 credit F & S** Study of operatic literature through analysis, rehearsal, and performance. May be repeated for a total of four credits. Prerequisite: Permission of the instructor. (WALTON, BARNES)
- 75-76 Theory of Music II 4 credits F-S** Counterpoint, harmony, and forms of the baroque, classic, and romantic periods. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 79-80. (STAFF)
- 77 Theory Review 0 credit SS** Summary of material covered in the music theory core courses. Primarily for advanced-degree candidates. Daily recitations. (WHISNER)
- 79-80 History of Music II 2 credits F-S** Music history from the baroque through the romantic period of the nineteenth century. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 75-76. (STAFF)

\*—A maximum of either credits may be earned in any combination of Mus. 1-2, 3, and 9-10.

- 90 **Directed Study 1 to 4 credits F & S** Independent study under faculty direction. Each subtitle may be repeated for credit. Prerequisite: Permission of the head of the Department of Music and of the instructor. (STAFF)
- |                             |                                    |
|-----------------------------|------------------------------------|
| (a) Music Literature        | (d) Diction for Singers            |
| (b) Theory of Music         | (e) Accompanying and Sight Reading |
| (c) Instrumental Techniques | (f) Composition                    |

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- \*\*101-102 **History of Music III 2 credits F-S** Music history and aesthetics of the late-nineteenth and twentieth centuries. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 103-104. (STAFF)
- 103-104 **Theory of Music III 3 credits F-S** Techniques of the late-nineteenth and twentieth centuries. Primarily for music majors. Others may enroll with the permission of the instructor. This course should be taken concurrently with Mus. 101-102. (STAFF)
- 105 **Modal Counterpoint 2 to 4 credits F or S** Prerequisite: Mus. 76. (BILLINGSLEY)
- 106 **Tonal Counterpoint 2 to 4 credits F or S** Prerequisite: Mus. 76. (BILLINGSLEY)
- 107 **Choral Arranging 2 credits F or S** Techniques of arranging for various types of choral groups. Prerequisite: Mus. 76. (STAFF)
- 109-110 **Composition 2 to 4 credits F-S** A laboratory course in composition with an emphasis on techniques of the twentieth century. Prerequisite: Mus. 76. (BILLINGSLEY)
- 111 **Band Arranging 2 to 4 credits F or S** Scoring for wind instruments, including a study of range, transposition, and tone color. Prerequisite: Mus. 76. (SEILER)
- 112 **Orchestration 2 to 4 credits F or S** A study of the range, tone color, and uses of orchestral instruments; scoring for various ensembles and the symphony orchestra. Prerequisite: Mus. 76. (BAUER)
- 113-114 **Piano Literature 2 credits F-S** Keyboard music from the baroque through the contemporary period. Prerequisite: Permission of the instructor. (FRYKMAN)
- 115 **Piano Pedagogy 2 credits F or S** Materials and techniques of piano teaching. Prerequisite: Permission of the instructor. (FRYKMAN)
- 116 **String Pedagogy 2 credits F or S** Materials and techniques of teaching stringed instruments, including repertory for orchestras and string groups in schools. (BAUER)
- 117 **Solo Vocal Literature 2 credits F or S** Solo vocal music from the baroque through the contemporary period. Prerequisite: Permission of the instructor. (WALTON)
- 119 **Vocal Pedagogy 2 credits F or S** Materials and techniques of vocal music teaching. Prerequisite: Permission of the instructor. (WALTON)
- 120 **Historical Survey of Jazz 2 credits F or S** Origins, musical sources, evolution, styles, and performers of jazz music. (WHISNER)
- 122 **Theoretical Basis of Jazz 2 credits F or S** Harmonic, melodic, rhythmic, and stylistic analysis of the principal trends in jazz music. Prerequisite: Keyboard facility and permission of the instructor. (WHISNER)
- \*\*123-124 **Music in Western Civilization 3 credits F-S** The history of music from the early middle ages to the mid-twentieth century. Musical styles are studied in the context of the cultural values of each period. (STAFF)
- 130 **Applied Music (Individual Instruction)** This course is listed near the beginning of the music section. (STAFF)
- 135, 136, 137, 138, 139, 140 **Organized Music (Performing Groups)** These courses are listed near the beginning of the music section. (STAFF)
- 154 **Performance Coaching 1 credit SS** See Mus. 30 in the applied music section for the subtitles applicable to Mus. 154. Each course concentrates on performance and interpretation. Offered for two hours a day for two weeks, or for four hours a day for one week. Prerequisite: Permission of the instructor. (STAFF)
- 160 **Period Studies 2 credits F & S** Each course is an intensive study of the music of the period indicated by the subtitle. Prerequisite: Mus. 101-102 or 123-124 or equivalent. (WALTON, WISE)
- |                               |                             |
|-------------------------------|-----------------------------|
| (a) Antiquity and Middle Ages | (e) Classic                 |
| (b) Renaissance               | (f) Romantic                |
| (c) Baroque                   | (g) Late-Nineteenth Century |
| (d) Rococo and Preclassic     | (h) Twentieth Century       |

\*\*—A maximum of six credits may be earned in Mus. 101-102 and 123-124 combined.

- 167 **Advanced Chamber Ensemble** 1 credit F & S See Mus. 67 for description and subtitles. Prerequisite: Two credits in Mus. 67 or upper-division standing in applied music. (STAFF)
- 168 **Advanced Opera Workshop** 1 credit F & S See Mus. 68 for description. Prerequisite: Two credits in Mus. 68 or upper-division standing in applied music. (WALTON, BARNES)
- 171 **Elementary School Music** 2 credits F & S General classroom music in the elementary school; organization, content, teaching procedures, and problems of supervision. Prerequisite: Mus. 1 or 3 or 9. (BRAY)
- 172 **Choral Music Education** 2 credits F or S Repertory for the vocal program in elementary and secondary schools; problems of leadership, organization, and program planning. Prerequisite: Mus. 2 or 10. (LOGAN)
- 173 **Instrumental Music Education** 2 credits F or S Repertory for the instrumental program in elementary and secondary schools; problems of leadership, organization, and program planning. Prerequisite: Mus. 2 or 10. (SEILER, PACHEY)
- 174 **Advanced Instrumental Techniques (Group Instruction)** 1 to 3 credits F & S Playing and teaching of instruments in elementary and secondary schools. One credit is earned for each instrument studied. May be repeated for a total of six credits. Prerequisite: Permission of the instructor of each instrument. (STAFF)
- 175 **The General Music Class** 2 credits F or S Techniques and materials in teaching general music classes. (BRAY)
- 176 **Workshop** 1 to 4 credits SS Concentrated courses for teachers as designated by the subtitles below. Credit is granted on the basis of one credit for four hours of lecture and laboratory daily for one week. Prerequisite: Permission of the Department of Music. (STAFF)
- |                          |                             |   |
|--------------------------|-----------------------------|---|
| (a) Piano                | (f) Percussion              | (k) Chorus                              |
| (b) Voice                | (g) Elementary School Music | (l) Instrumental Techniques             |
| (c) Stringed Instruments | (h) Band                    | (m) Instrumental Maintenance and Repair |
| (d) Woodwind Instruments | (i) Marching Band           |   |
| (e) Brass Instruments    | (j) Orchestra               |   |
- 177 **Marching Band Techniques** 1 credit F Techniques of drilling marching bands; analysis of materials for field and street maneuvers; preparation of shows. Prerequisite: Mus. 76. (PACHEY)
- 179-180 **Conducting** 2 credits F-S Baton techniques, score reading, and general problems of the conductor of large choral and instrumental musical organizations. Prerequisite: Mus. 2 or 10. (BAUER)
- 182 **Literature for (a) Instrumental Ensembles, (b) Vocal Ensembles** 2 credits F or S These courses are primarily for teachers at the secondary level. Emphasis is on the development of musicianship through chamber music materials suitable for use in schools. (WISE, STAFF)
- 190 **Directed Study** 1 to 4 credits F & S Independent study under faculty direction. Each subtitle may be repeated for credit. Prerequisite: Permission of the head of the Department of Music and of the instructor. (STAFF)
- |                                  |                                    |                                      |
|----------------------------------|------------------------------------|--------------------------------------|
| (a) Music History and Literature | (j) Choral Arranging               | (r) Elementary School Music          |
| (b) Interpretation Practices     | (k) Conducting                     | (s) Choral Music Education           |
| (c) Contemporary Music           | (l) Keyboard Literature            | (t) Instrumental Music Education     |
| (d) Musical Structure            | (m) Vocal Literature               | (u) Advanced Instrumental Techniques |
| (e) Theory of Music              | (n) Stringed-Instrument Literature | (v) The General Music Class          |
| (f) Counterpoint                 | (o) Wind-Instrument Literature     |                                      |
| (g) Composition                  | (p) Piano Pedagogy                 |                                      |
| (h) Orchestration                | (q) Vocal Pedagogy                 |                                      |
| (i) Band Arranging               |                                    |                                      |
- 193 **Senior Seminar** 2 credits F & S Critical readings, discussions, and the presentation of papers in specially assigned fields of music literature. (SCHULDT)
- 199 **Senior Recital** 0 credit F & S Candidates who have passed the qualifying examination for a graduation recital register for this course during the semester or summer session in which the recital is to be given. Prerequisite: Permission of the Department of Music. (STAFF)

#### PRIMARILY FOR GRADUATES

- 200 **Introduction to Musical Scholarship** 2 credits F Bibliographical materials and research procedures in music. Designed to prepare students for their work in seminars, directed study projects, and the writing of papers and theses. (BRAY)
- 205-206 **Counterpoint** 2 credits F-S Advanced contrapuntal writing, including canon and fugue. Prerequisite: Mus. 106 or equivalent. (BILLINGSLEY)

- 207 **Musical Analysis 3 credits F & S** Thorough analysis of selected compositions. May be repeated for a total of six credits. (BILLINGSLEY)
- 208 **Seminar in Music History 3 credits F & S** Presentation and defense of individual projects in music history and literature. May be repeated for a total of nine credits. (SCHULDT, STAFF)
- 209 **Graduate Composition 1 to 10 credits F & S** Original writing in the larger forms, including writing for the orchestra. Primarily for graduate students concentrating in composition-theory. Prerequisite: Permission of the instructor. (BILLINGSLEY)
- 212 **Advanced Orchestration 2 to 4 credits F** Scoring for the orchestra, with emphasis on recent trends. Prerequisite: Mus. 112 or equivalent. (BAUER)
- 230 **Applied Music (Individual Instruction)** This course is listed near the beginning of the music section. (STAFF)
- 262 **Choral Literature and Techniques 2 credits F or S** Prerequisite: Mus. 172 and 179, or equivalent experience. (LOCKERY)
- 263 **Orchestral Literature and Techniques 2 credits F or S** Prerequisite: Mus. 173 and 179, or equivalent experience. (BAUER)
- 264 **Band Literature and Techniques 2 credits F or S** Prerequisite: Mus. 173 and 179, or equivalent experience. (SEILER)
- 267 **Graduate Chamber Ensemble 1 credit F & S** Study, rehearsal, and performance of music for small ensembles. See Mus. 67 for subtitles. May be repeated for a total of three credits. Prerequisite: Graduate standing; audition; permission of the instructor. (STAFF)
- 271 **Seminar in (a) Elementary School Music, (b) Junior-High School Music, (c) Senior-High School Music 2 or 3 credits F & S** Each seminar consists of critical readings, discussions, and the presentation of papers concerning issues and problems in music teaching at the level named. A maximum of six credits may be earned in Mus. 271, all subtitles combined. Prerequisite: One year of teaching experience or permission of the instructor. (BRAY)
- 272 **Seminar in Choral Music Education 2 credits S** Critical readings, discussions, and the presentation of papers concerning issues and problems in choral music teaching. Prerequisite: Mus. 172 and 179, or equivalent experience. (LOGAN, STAFF)
- 273 **Seminar in Instrumental Music Education 2 credits F** Critical readings, discussions, and the presentation of papers concerning issues and problems in instrumental music teaching. Prerequisite: Mus. 173 and 179, or equivalent experience. (SEILER, STAFF)
- 274 **School Music Administration 2 credits F or S** Principles underlying sound policies in the supervision and administration of school music. Prerequisite: One year of teaching experience or permission of the instructor. (BRAY)
- 275 **Trends in Music Education 2 credits F or S** Current trends in music teaching. Prerequisite: One year of teaching experience or permission of the instructor. (BRAY)
- 279 **Advanced Choral Conducting 2 credits F** Interpretation, rehearsal procedures, and program building. Prerequisite: Mus. 179 or equivalent experience. (LOCKERY)
- 280 **Advanced Instrumental Conducting 2 credits S** Interpretation, rehearsal procedures, and program building. Prerequisite: Mus. 179 or equivalent experience. (BAUER)
- 287-288 **Music in Higher Education 3 credits F-S** Symposium on contemporary teaching techniques in applied music, theory, music history and literature, composition, and music education at the college and university level. Prerequisite: Teaching experience or permission of the instructor. (MACKLIN, STAFF)
- 290 **Directed Study 1 to 4 credits F & S** Independent graduate study under faculty direction. Each subtitle may be repeated for credit. A maximum of nine credits may be earned in Mus. 290, all subtitles combined. Prerequisite: Permission of the head of the Department of Music and of the instructor. (STAFF)
- |                           |  |
|---------------------------|--|
| (a) Music History         | (g) Choral Literature and Techniques     |
| (b) Theory of Music       | (h) Orchestral Literature and Techniques |
| (c) Counterpoint          | (i) Band Literature and Techniques       |
| (d) Orchestration         | (j) School Music Administration          |
| (e) Composition           | (k) Music Education                      |
| (f) Performance Practices |  |
- 300 **Research and Thesis 1 to 10 credits F & S** For Master of Arts candidates and students electing the thesis option (may be an original composition) under the degree of Master of Music. (STAFF)

## NAVAL ROTC

(The Naval ROTC is one unit of the Reserve Officers Training Corps)

Colonel Case, USMC, (Head); Associate Professor Comander Hirschi, USN; Assistant Professors Major Deem, USMC, Lt. Commander Kostoch, USN, Lieutenant Anderson, USN, Lieutenant Brandberry, USN, Lieutenant Junior Grade Salkeld, USN.

- 11 **Naval Orientation and Elements of Sea Power** 3 credits F A study of geo-political theory and its relation to national policy and goals. Commences the development of history of sea power from ancient to modern times emphasizing its influence on the course of national development. Basic naval orientation and organization are also treated.
- 12 **Influence of Sea Power on History** 3 credits S A continuing strategical analysis of the role which command of the seas has played on world affairs to the present day. Includes a study of world navies within the context of social and economic pressures surrounding their utilization. Presents parallels of history as guides to understanding the roles of navies in the world today with particular emphasis on the unchanging qualities of leadership as exhibited in naval leaders past and present.
- 51 **Naval Weapons** 3 credits S This course is intended to acquaint the student with the broad range of naval weapons currently employed in ships, aircraft, and submarines. The weapons system concept is utilized to present the detection, launching, control, vehicle, propulsion, and warhead components of each weapon studied. Basic mechanics, hydraulics, electricity and electronics and the application to weapons systems are stressed. Gun type systems, anti-submarine weapon systems, and missile systems are discussed. Also introduced are the fundamental principles of nuclear physics as applied to nuclear weapons.
- 52 **Introduction to Naval Leadership** 1 credit F A two-hour per week course divided between seminar-type instruction in problems of naval leadership and laboratory sessions in which case studies of principles of leadership are discussed and analyzed. Sophomore NROTC students will register for Psychology 1 concurrently with the course.
- 131 **Naval Engineering** 1 to 3 credits F This course relates the basic principles of mechanics, thermodynamics, electrical and nuclear engineering to a study of the conventional and nuclear-powered shipboard propulsion plants. A thorough study is made of the applications of thermodynamics to high pressure closed cycle engineering systems and internal combustion engines. The fundamentals of nuclear physics and practical shipboard application in the propulsion plant are introduced. Included is a study of the design, construction, and stability of the naval ship. A concurrent two-hour per week one-credit modification of Navy 131 is offered for engineering students. It covers the practical shipboard application of the basic principles of mechanics, thermodynamics, electricity and nuclear physics..
- 132 **Navigation** 3 credits F A study of terrestrial and celestial navigation with emphasis on the practical aspects. The terrestrial navigations phase includes treatments of piloting, navigational aids, tides, currents and electronic navigation. The theory of celestial navigation is approached utilizing the celestial sphere concept. A systematic study of time, celestial equator and horizon system of coordinates is used to develop the techniques of obtaining a line of position by solution of the astronomical triangle. In addition, techniques for determining sunrise, sunset, moonrise, moonset and time of civil twilight are considered.
- 133 **Evolution of the Art of War** 3 credits F A study of military history from Alexander the Great to the present. Examines the development of weapons, equipment, tactics, and techniques through an analysis of selected campaigns and battles throughout the world. Presents the evolution of the principles of war and their interrelationship by development of classical historical examples.
- 134 **Basic Strategy and Tactics** 3 credits S A study of the development of strategic concepts in relation to foreign policies. The organization of the U.S. Marine Corps and a study of basic small-unit offensive and defensive tactics are emphasized. Military map reading is also included as a part of this course.
- 141 **Naval Operations** 3 credits S A study of naval operations and tactics from individual ship to fleet-size units. Includes development and application of relative motion problems, the rules of the nautical road, and multi-ship formations. Inspects the art of preparing plans and orders. Carrier striking force doctrine is discussed in the light of tactical, strategical and diplomatic considerations. Laboratory sessions provide practice in tactical maneuvering and communication procedure.
- 142 **Principles of Naval Leadership and Administration** 3 credits S A study of the principles and problems of human relations and personnel management as related to the leadership responsibilities of naval officers. Included are the concepts of leadership, the development of effective relations with others, the principles of group motivation and the basic concepts, functions, and objectives of scientific management. The principles and application of military law are then studied in relation to the structure and functions of naval organizations and the principles of leadership and personnel management.



- 143 Amphibious Warfare I 3 credits F** Studies history of amphibious warfare with emphasis upon the U. S. Marine Corps role in its development. Discusses amphibious operations and their significance in recent wars. An introduction to Marine Corps administration is made emphasizing broad concepts.
- 144 Amphibious Warfare II Leadership 3 credits S A** study of doctrinal techniques and present concepts of amphibious warfare. Introduces the principles of military justice and the administration of courts-martial. The principles of Marine Corps leadership are studied in this course.
- 151 Navy Flight Instruction Program 0 credits F & S** Available to those Navy students who desire to become Naval Aviators. Ground school consists of thirty hours of instruction to include the principles of flight, weather, navigation, radio communications and federal aviation regulations. Flight training includes approximately thirty-six hours of flying time of which twenty hours are dual and sixteen hours are solo flying. Upon successful completion of written examination and flight checks Navy students receive FAA private pilot's licenses.

## NUCLEAR ENGINEERING\*

(Nuclear Engineering is one of the subject matter fields within the College of Engineering. It is administered by an interdepartmental committee.)

Professors Barnes (Chairman), Mann; Associate Professors Dixon, Hagen, Furgason, Peebles, Romero; Assistant Professors Avery, Rigas.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 123 Introduction to Nuclear Engineering (Ch. E. 161) 2 credits F & S** A basic course in Nuclear Engineering for students in all fields. Course will cover basic nuclear and atomic physics, elementary reactor principles, materials, chemical processes, reactor types, application, thermonuclear principles and basic material in other related fields. Two recitations per week. No prerequisites. (ROMERO, AVERY)
- 160 Nuclear Reactor Engineering (M.E. 160) 3 credits F or S** Concepts of nuclear physics as applied to nuclear reactor design. Basic reactor design problems in thermodynamics, fluid flow, and heat transfer. Reactor theory, shielding, control, materials, safety, as they affect the engineering analysis. Prerequisite: N.E. 123 or consent of instructor. (BARNES, AVERY)
- 161 Nuclear Reactor Laboratory (M.E. 161) 1 or 2 credits F & S** Use of the water-moderated subcritical reactor for experiments on neutron diffusion length, Fermi age, thermal utilization factor, critical size, cadmium ratio, material buckling, etc. Includes the use of basic instrumentation such as: probes; alpha, beta, gamma and neutron detectors; and counters. One or two three-hour laboratory periods per week. Prerequisite: With N.E. 123 or consent of instructor. (BARNES, AVERY, ROMERO)
- 170 Radiation Hazards and Protection 2 credits F or S** A study of interaction of radiation with matter, especially living matter; radiology, measurement, shielding and radiation protection. Prerequisite: N.E. 123 or consent of instructor. (ROMERO, AVERY)
- 173 Nuclear Instrumentation 3 credits F or S** A study of the principles of radiation detection instruments and associated circuitry as applied to nuclear engineering. Prerequisite: N.E. 123 or consent of instructor. (HAGEN, AVERY)
- 180 Fallout Shelter Analysis 2 credits F or S** The methodology involved to determine the radiological protection of buildings when subjected to nuclear fallout. Protection factor calculation methods for both simple and complex buildings will be studied as will methods for making a building a better fallout shelter. Primarily for practicing engineers and architects. Prerequisite: Consent of instructor. (DIXON, AVERY)

### PRIMARILY FOR GRADUATES

- R250 Topics in Advanced Nuclear Engineering 3 credits F or S** Recent and current developments in the fields of reactor physics and nuclear engineering will be presented using the current literature. Prerequisite: Consent of instructor.
- 255 Advanced Nuclear Reactor Design 3 credits F or S** Nuclear reactor design from a standpoint of heat transfer, metallurgy, fluid flow, machine design, and engineering economics. Special problems in these areas to be solved by students. Prerequisite: N.E. 160 or equivalent. (BARNES, AVERY)

\*—In addition to the above courses the following undergraduate and graduate level courses are offered in the nuclear field: Physics 181 Introduction to Nuclear Physics; Chemistry 116 Methods of Radiochemistry; Chemistry 213 Nuclear Chemistry.

- 256 **Nuclear Engineering Laboratory** 2 credits F & S Experimental analysis of nuclear parameters including the variation of neutron flux with reactor core configuration. Use of the water-modulated subcritical reactor, and of laboratory instrumentation such as probes, detectors, and counters. Special projects, problems and reading will be assigned. Prerequisite: Consent of instructor. (BARNES, AVERY)
- 261-262 **Advanced Nuclear Engineering** 2 or 3 credits F or S An advanced study of engineering fundamentals in nuclear reactor systems. Included are considerations of fuel preparation and configuration, materials of construction, fluid flow, heat removal, product separation, reactor theory, control, waste treatment, safety and economics. Two recitations or two recitaions and one laboratory period per week. Prerequisite: Consent of instructor. (ROMERO)
- R265 **Reactor Engineering** 3 credits F or S Radiation shielding, materials of construction, reactor instrumentation and controls, separation of stable isotopes, chemical separation and processing, and special techniques in nuclear engineering. Prerequisite: Phys. 285 or consent of instructor.

## OFFICE ADMINISTRATION

Professor Kessel (Head); Associate Professor Anderson; and Assistant Professor Dacres.

### PRIMARILY FOR UNDERGRADUATES

- 1 **Beginning Typewriting** 2 credits F & S The development of typewriting skill sufficient for personal use. Students with one year of previous typewriting instruction will not receive credit.
- 2 **Typewriting Skill Development** 2 credits F & S The development of typewriting speed and control to occupational competency levels. Prerequisite: Consent of instructor.
- 3 **Typewriting Problems** 2 credits F & S The development of occupational competence in office-type production problems including correspondence, manuscripts, legal documents, and other special problems. Prerequisite: Consent of instructor.
- 15D **Shorthand Theory** 4 credits F A first course in Gregg Shorthand Simplified theory. Students with one year previous Gregg shorthand instruction will not receive credit.
- 16 **Shorthand Dictation** 4 credits S Development of skill in taking dictation in Gregg Shorthand Simplified; introduction to transcription. Prerequisite: Consent of instructor.
- 71 **Shorthand Speed Development** 3 credits F The development of the ability to take dictation at high speed. Prerequisite: Consent of instructor.
- 72 **Shorthand Transcription** 3 credits S The development of transcription skills to occupational competency levels. Prerequisite: Consent of instructor.
- 85 **Office Machines** 2 credits F & S A first course in the operation of commonly used office adding-calculating machines.
- 195 **Secretarial Office Procedures** 3 credits F & S A study of the various filing systems; practice in the use of them; training in the operation of transcribing and duplicating machines; training in secretarial duties, responsibilities, and procedures. Prerequisite: Consent of instructor.
- 196 **Applied Secretarial Procedures** 3 credits F & S Supervised office experience with related seminars; problems in secretarial administration; advanced dictation and transcription. Prerequisite: Consent of instructor.

## PHILOSOPHY

(Philosophy is one of the subject matter fields within the Department of Social Sciences.)

Associate Professor Seaman (Chairman); Assistant Professor Bayles.

- 1 **Introduction of Philosophy: Types of Philosophy** 3 credits F The chief types of philosophic thought through a study of their more distinguished representatives: Plato, Lucretius, Descartes, Berkeley, and James. Not open to students who have taken Philosophy 3 (SEAMAN)
- 3 **Introduction to Philosophy: Principles and Problems** 3 credits S The nature of philosophy through a consideration of certain key philosophic questions, reflecting student interest, and explored by methods appropriate to their solution. Not open to students who have taken Philosophy 1. (BAYLES)

- 11 Introduction to Philosophy of Religion** 2 credits F & S The main points of view in religious philosophy, the nature of knowledge and its relations to faith, the problems of good and evil. (SEAMAN)
- 61 Ethics** 3 credits S The development of ethical thought. Prerequisite: Sophomore standing or Philosophy 1. (SEAMAN)
- 71 Logic** 3 credits F Valid and invalid methods of reasoning with special attention to the function of logic in the methods of science. Prerequisite: Sophomore standing or Philosophy 1. (BAYLES)
- 81 Inductive Logic** 3 credits F The history of science with special attention to the development of the logic of science. (SEAMAN)
- 103 Advanced Logic** 3 credits S The ideas and techniques of contemporary logic. (BAYLES)
- 105 Philosophy of Religion** 3 credits F Topics in the current dialogue between the religious and the secular. Prerequisite: Phil. 11, or Rel. Ed. 73, or permission of the instructor.
- 109 History of Ancient Philosophy** 3 credits F The development of philosophical and political thought from the early Greeks through the Middle Ages. Prerequisite: Junior standing. (BAYLES)
- 110 History of Modern Philosophy** 3 credits S The development of philosophical and political thought from Descartes through Kant. Prerequisite: Junior standing. (BAYLES)
- 111 Philosophy of the Social Sciences** 3 credits F Analysis of concepts and methods of the social sciences. Prerequisite: 6 credits of Social Science. (BAYLES)
- 112 Philosophy of Science** 3 credits F The basic concepts of modern science. (SEAMAN)
- 113 Esthetics** 3 credits S The esthetic experience and the leading philosophies of art. Prerequisite: Junior standing. (SEAMAN)
- 114 Ethical Theory** 3 credits S Analysis of selected problems of ethical theory with representative readings. Prerequisite: Phil. 61 or consent of instructor. (BAYLES)
- 115-116 Contemporary Philosophy** 3 credits F-S The important philosophical movements of the twentieth century. Lectures and a critical reading of a few representative works. (BAYLES, SEAMAN)
- 122 Philosophical Ideas in Recent Literature** 3 credits S Current ethical, social and political trends through the medium of the work of such writers as Nietzsche, Stein, Sartre, Maugham, Joyce, and Hardy. (SEAMAN)
- 125 American Philosophy** 3 credits S The development of philosophical ideas in the United States with emphasis on the period since 1875. (SEAMAN)
- 130 Philosophy of Law** 3 credits S Analysis of philosophical theories about the nature of law and legal obligations. (BAYLES)
- 191-192 Pro-Seminar** 3 credits F-S Prerequisites: Instructor's permission and Senior standing. (STAFF)

#### PRIMARILY FOR GRADUATES

- 207-208 Seminar** 2 to 4 credits F & S  
 a. History of Philosophy (BAYLES)  
 b. Value Theory (BAYLES)  
 c. Epistemology (SEAMAN)  
 d. Philosophy of Science (SEAMAN)  
 e. Metaphysics (STAFF)
- 209-210 Directed Reading** 1 to 3 credits F & S  
 a. History of Philosophy  
 b. Value Theory  
 c. Contemporary Philosophy  
 d. Philosophy of Science  
 e. Metaphysics  
 Directed study and research in the literature of the field. Maximum total of 9 credits. Prerequisite: Consent of the instructor. (STAFF)
- 300 Research and Thesis** Credits to be arranged F & S

## PHOTOGRAPHY

(Photography is one of the subject matter fields within the Department of Communications.)

Associate Professor R. Bell.

**PRIMARILY FOR UNDERGRADUATES**

- 81-82 **Introduction to Photography** 3 credits F-S The technique of photography, history of its development and present day uses.
- 85 **Photography Workshop** 2 credits SS An intensive course in the better use of the camera; composition, photographic processing. Lectures and laboratory.

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

- 181-182 **Advanced Photography** 3 credits F-S A study of the applications and advanced techniques of photography. Prerequisite: Photog. 81 and 82.
- 183-184 **Miniature Photography** 3 credits F-S A study of the history, present day uses and the techniques of the miniature camera, including practical application of color. Prerequisite: Photog. 81-82.

**PHYSICAL EDUCATION**

(See Health, Physical Education and Recreation.)

**HEALTH COURSE FOR WOMEN**

- 1 **Healthful Living** 2 credits F & S Informal discussion of and project approach to consideration of problems of the college woman. Two hours per week. (STAFF)

**REQUIRED ACTIVITY COURSES FOR WOMEN**

- 3 **Restricted Physical Education** 1 credit F & S Required for graduation in lieu of P.E. 5, 6, 7, 8, when physical and medical examination is certified by the University physician necessitates prescribing specific activities to meet the individual need. (STAFF)
- 5 **Rhythms** 1 credit F & S Instruction and practice in fundamentals and techniques of modern dancing, folk dancing and rhythmic expression. Two hours per week. (STAFF)
- 6 **Individual and Dual Sports** 1 credit F & S Instruction and practice in fundamentals and techniques of skill for leisure time. Two hours per week. (STAFF)
- 7 **Team Sports and Body Mechanics** 1 credit F & S Nine weeks instruction and practice in fundamentals and techniques of field hockey, volleyball, basketball, softball. Nine weeks of body mechanics, techniques with emphasis on physical efficiency, poise, posture-training exercises and relaxation. Two hours per week. (STAFF)
- 8 **Swimming** 1 credit F & S Instruction and practice in all levels of swimming, including senior life-saving and diving. Two hours per week. (STAFF)

**REQUIRED ACTIVITY COURSES FOR MEN**

- 31 **Freshman Physical Education** ½ credit F & S Instruction in fundamental skills and participation in touch football, volleyball, basketball, and softball. One hour per week. (STAFF)
- 33 **Sophomore Physical Education** ½ credit F & S Instruction in fundamental skills and participation in archery, boxing, badminton, basketball, baseball, bowling, fencing, football, golf, handball, life saving, swimming, table tennis, trampoline, tumbling, wrestling, rhythms and weight training. One hour per week. (STAFF)
- 35 **Restricted Physical Education** ½ credit F & S Required for freshmen and sophomores in lieu of P.E. 31 and 33 when physical and medical examinations necessitate prescribing specific activities to meet the individual need. One hour per week. (STAFF)

**FUNDAMENTAL SKILL COURSES**

Designed Primarily for Students Majoring or Minorng in Physical Education.

- 11 **Fundamentals of Movement** 1 credit F Development of skills and techniques of basic movement design and rhythmic expression. (STAFF)
- 12 **Dance Techniques** 1 credit S Techniques and practice in modern and folk dance with opportunity for individual and group composition. (McIVER)
- 13 **Special Problems in Dance Composition** 1 credit F & S A study of various styles in dance composition, including style, choreography, movement quality, music, costuming and staging. A maximum of four credits may be taken. Prerequisite: P.E. 5 or permission of instructor. McIVER)

- 15-16 Team Sport—Coaching and Officiating (For Women) 1 credit F & S** Instruction and practice in coaching and officiating of all field games, basketball, volleyball and softball. (STAFF)
- 17-18 Individual Sports—Coaching and Officiating (For Women) 1 credit F & S** Instruction and practice in coaching and officiating in track and field, fencing, racket games, archery, bowling and golf. (STAFF)
- 19 Individual Sports—Coaching and Officiating (For Women) 1 credit F & S** Instruction and practice in coaching and officiating in track and field, fencing, racket games, archery, bowling and golf. (STAFF)
- 28 Square and Social Dance 1 credit F & S** Instruction in the basic dance steps, leading into social, round and square dance. (McIVER, THOMPSON)
- 37 Individual Sports 1 credit F & S** Instruction in fundamental skills and participation in bowling, archery, fencing and paddle ball. (THOMPSON)
- 38 Beginner's Swimming 1 credit F & S** An elective course offering instruction in fundamental skills and participation in swimming. Majors in Physical Education may be excused from taking this course if they can satisfactorily pass an elementary swimming test. Prerequisite: Permission of instructor. Two hours per week. (HALL)
- 39 Gymnastics 2 credits F & S** Instruction in the fundamental skills of gymnastics. Men will receive instruction in horizontal bar, horse, parallel bars, and trampoline. Women will receive instruction in tumbling, balance beam, side horse, uneven and even parallel bars, free exercise and trampoline. Opportunity provided for learning to teach these activities. Three hours per week. (ZUROFF, THOMPSON)
- 40 Recreational Sports 1 credit F** Instruction in fundamental skills and participation in badminton, tennis and golf. Two hours per week. (THOMPSON)
- 41 Wrestling and Weight Training 2 credits F** One lecture and two laboratory periods per week covering the techniques and skills of wrestling and weight training. Practice in the fundamentals of these sports. (MARTEN, HATHEWAY)
- 42 Tumbling, Pyramids and Stunts 2 credits F & S** One lecture and two laboratory periods per week covering the techniques and skills in tumbling, pyramid building and stunts; practice in the fundamentals of these activities. (THOMPSON)
- 43 High Organized Games 2 credits F & S** One lecture and two laboratory periods a week covering the techniques and skills of games of high organization and lead-up activities. (KIRKLAND)
- 44 Swimming 2 credits F & S** One lecture and two laboratory periods per week covering the techniques and skills in swimming, life saving and diving, practice in the fundamentals of these skills. Students satisfactorily passing the Red Cross tests will receive Advanced Swimmer and Life-Saving Certificates. (STAFF)

#### PROFESSIONAL COURSES

These Courses are Intended for Students Majoring or Minorng in Physical Education

- 45 Introduction to Physical Education 2 credits F** A course designed especially to orient students intending to major in the field of physical education. It will include an approach to philosophy, aims and objectives, and a general survey of the field of physical education. Two hours per week. (GREEN)
- 47 History of Physical Education 2 credits C** A study of the backgrounds and the development of the physical education movement, the comparison of distinctive trends in different countries with special emphasis upon the modern trend in the United States. (GREEN)
- 50 General Hygiene 3 credits F & S** A three-hour lecture course covering the important factors in maintaining health. Individual health practice and the measures of public health are included. (MARTEN)
- 52 Elementary School Physical Education 2 credits F & S** Organization of a program of physical education for the classroom, playground and gymnasium related to the motor development of children. Methods of teaching the elementary school child in a development program with laboratory experience. (KIRKLAND, WOLF)
- 54 Camp Leadership 3 credits S** The objectives, program and philosophy of private, organizational, and school camp programs. Theory and practice of all aspects of camping. A 3-4 day field trip is required as a part of the course. (SCHAFER)
- 61 Recreational Arts and Crafts 2 credits F & S** A study of the handicraft techniques and forms suitable for playground projects. Students will make handicraft projects and study procedures of teaching these projects. (SCHAFER)
- 62 Handicrafts for the Handicapped 2 credits F** A study of the theory and practice of teaching handicrafts to the handicapped. (STAFF)
- 64 Recreational Music 1 credit S** A course in the techniques and materials for a musical program in recreational and community centers. Song leading, program building, and rhythmic activities. (KIRKLAND)

- 66 **Aquatic Instructors Course** 2 credits S Teaching and practice in the methods of instruction of all the areas of swimming and life-saving. Those students satisfactorily passing the Red Cross tests will receive Red Cross Water Safety Instructor's certificates. Prerequisites: Senior life-saving and eighteen years of age. (HALL)
- 71 **Interpretations of Physical Education, Health and Recreation** 3 credits F A study of these related fields and their importance to general education, beginning with the Greeks and extending through various contemporary developments. (GREEN)
- 88 **First Aid** 2 credits F & S Emphasis is placed on emergency care of injuries as a result of accidents and illness. Control of hemorrhage, artificial respiration, shock, first aid for fractures, and proper methods of transportation of injured persons are included in the course. American Red Cross standard and advanced certificates are issued to those students completing the course. (MACFARLANE, THOMPSON, MARTEN)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 116 **Elementary School Health Materials** 2 credits F & S The course is designed to prepare the elementary classroom teacher with basic health knowledge and to provide practical information concerning the use of material aids to learning in health education. (MARTEN)
- 118 **Physiology of Exercise** 2 credits S The effects of various forms of physical activity in the circulatory, respiratory and other physiological processes. Prerequisite: Zool. 6 (MARTEN)
- 119 **Human Kinesiology** 3 credits F A study of the body in movement, leading to an understanding of various types of muscular exercise with reference to corrective and developmental problems. (LOCKE)
- 121 **History and Theory of Dance** 2 credits S The history and philosophy of dance, including social, folk, modern dance theory, composition and analysis, development of teaching skills. One field trip. (McIVER)
- 124 **Adaptive and Corrective Physical Education** 2 credits F & S A study of the fundamentals of body mechanics with emphasis on the development of adaptive and corrective activities program. (LOCKE)
- 125 **Theory of Sports** 2 credits F A study of the history and theory of sport; techniques, analysis and organization of sport; development of teaching skills. Two field trips. (BETTS)
- 129 **Leadership in Recreation** 2 credits S This course deals with the organization, planning and conduct of school and community, social, recreational and extra-curricular events. (SCHAFER)
- 141 **Technique and Methods of Coaching Basketball** 2 credits F Two-hour lecture course in the methods of coaching basketball teams. Details of teaching individual fundamentals, offensive and defensive team play, strategy, and conditioning of athletes. In addition, all students will receive practical instruction on the field in basketball from the coach's viewpoint. Prerequisite: Junior standing. (ANDERSON)
- 142 **Techniques and Methods of Coaching Baseball** 2 credits S Two-hour lecture course in the methods of coaching baseball teams. Details of teaching individual fundamentals, offensive and defensive team play, strategy and conditioning of athletes. In addition, all students will receive practical instruction on the field in baseball from the coach's viewpoint. Prerequisite: Junior standing. (SMITH)
- 143 **Techniques and Methods of Coaching Track** 2 credits S Two-hour lecture course in the methods of coaching track teams. Details of teaching individual fundamentals, strategy, and conditioning of athletes. In addition, all students will receive practical instruction on the field in track from the coach's viewpoint. (MACFARLANE)
- 144 **Techniques and Methods of Coaching Football** 2 credits S Two-hour lecture course in the methods of coaching football teams. Details of teaching individual fundamentals, offensive and defensive play, strategy, and conditioning of athletes. In addition to eleven-man football, a certain amount of time will be given to fundamentals of six-man football. All students will receive practical instruction on the field in football from the coach's viewpoint. Prerequisite: Junior standing. (MUSSEAU)
- 145 **Seminar in Recreation Internship** 0 credit F & S Designed for recreation majors to orient them to the recreation program and the purposes and methods of performing their task. (SCHAFER)
- 146 **Technique and Analysis of Golf and Tennis** 2 credits SS Instruction in the fundamentals of golf and tennis with emphasis on technique analysis and methods of instruction. (STAFF)

- 148 Athletic Injuries 2 credits F** The care, prevention and treatment of athletic injuries. The study and practice of modern athletic training methods. (BOYLE)
- 150 Coaching Clinic 1, 2 or 3 credits SS** Procedures and techniques involved in coaching high school and college sports. The first eight weeks of the course will be held on the campus, and a final week at the Idaho Coaches' Association Clinic. Students may register for 1 credit for Association Clinic participation only, 2 credits for Campus Clinic participation only, and 3 credits for complete participation. A special additional fee is charged for Association Clinic Participation. (STAFF)
- 167 Physical Education and Recreation for the Handicapped 3 credits F, S & SS** Adaptation of physical education and recreation programs to the mentally and physically handicapped child with particular emphasis on individual problems. (MARTEN)
- C171 and X171 Principles of Physical Education 3 credits** Interpretation of the aims and objectives of physical education, the principles and procedures upon which the physical education program should be based, and its relation and contribution to general education. (GREEN)
- 181 Physical Education Tests and Measurements 3 credits F** A study of the general historical background and the need for the use of tests in physical education. Elementary statistical methods, scoring methods, how to build tests, administration of tests, and their use in classification and placement. Prerequisite: Psych. 1 or Phych. 55-56, and junior standing. (PARBERRY)
- 186 Program Planning for Recreation Centers 3 credits F & S** The theory and practice of administration of recreation centers. The study of methods of organization, management, programs and public relations involved in the operation of recreation centers, settlement housing, military posts and college student unions. (SCHAFER)
- 187 Intramurals and Athletic Officiating 3 credits F** The organization and administration of intramural programs in elementary and secondary schools. Rules and methods of officiating athletic contests. Thirty hours of officiating in intramural sports and other athletic contests. (PARBERRY)
- 194 Administration of Recreation Programs 3 credits F & S** Organization and administration of public and private agency programs, leadership, facilities, finance, public relations and services. (SCHAFER)
- 195 Internship in Recreation 9 credits F & S** Supervised field work in recreation centers, playgrounds, camps, churches, and other social agencies. Placement in a full-time professional recreation position for a minimum of nine weeks. (GREEN)
- 196 Organization and Administration 3 credits S** The organization of a staff, of programs, constructing the gymnasium arrangement, and care of equipment, care and administration of courts, tanks, and fields, and general problems of supervision of a physical education department. (GREEN)

#### PRIMARILY FOR GRADUATES

- 206 The Nature and Foundations of Motor Skills 3 credits F & S** The application of physiological, kinesiological and mechanical principles leading to an understanding of motor activity. (MARTEN)
- 244 Development Program in Physical Education 3 credits S** Programs to meet individual fitness and social needs through physical education activities, case study techniques, development programs, administration problems. (BETTS)
- 281-282 Professional Problems in Physical Education Credits to be arranged F & S** This course is primarily designed for students working toward the master degree. It is done under the direction of the professor in whose field the greater portion of the work is offered. It should be taken by those students satisfying their professional problems requirements. (KIRKLAND)
- 291 Social Basis of the Profession 3 credits F & S** A democratic philosophy for physical education, health education and recreation. An analysis of basic principles and objectives as related to the development of the individual and man's cultural heritage. (GREEN)
- 294 Workshop in Program Construction 1 credit SS** Half the workshop will be spent in analysis of theories, principles and methods in various areas of physical education and the other half in practice in the skills pertinent to the following sections: (STAFF)

- a. Track
- b. Modern Dance
- c. Gymnastics

- 296 Advanced Organization and Administration 3 credits S** Deals with the policies in the organization of the program, and methods of administration to secure results in the public schools, high schools and elementary schools. Topics stressed; classification of children; the time schedule; teaching staff; training; load; office organization and administration; state laws and programs of physical administration; the plant; and the finances. (PARBERRY)
- 297 Seminar 1 to 3 credits F & S** Current trends in Physical Education, Health and Recreation. (GREEN)
- 300 Research and Thesis Credits to be arranged F & S**

## PHYSICS

Professors Browne (Head), Miller (Emeritus), Peck, Kim; Associate Professor Sieckmann; Assistant Professors Kearney, Park, Robinson, Spiker; Instructor Beyers.

### PRIMARILY FOR UNDERGRADUATES

- A Remedial Physics No credit F & S** A Prerequisite to Physics 53 for students who have not had high school physics. Three lectures each week. (BEYERS)
- † **Elementary Physics 4 credits F & S** An introductory survey of the fields of classical and modern physics for non-science majors. Three lectures and one two-hour laboratory period per week. (BEYERS)
- † **3-4 General Physics 3 or 4 credits F & S** A general study of mechanics, sound, and heat the first semester, and magnetism, electricity, light and modern physics the second semester. Three lectures, one two-hour laboratory period and one recitation period per week. Prerequisite: Math. 9. (BEYERS, MILLER)
- R5 Principles of Physics 3 credits** A general study of mechanics. Prerequisite: Math. 53. Consent of instructor.
- R6 Principles of Physics 3 credits** A general study of electricity and magnetism. Prerequisite: Math 53. Consent of instructor.
- R7 Principles of Physics 3 credits** A general study of heat, sound and optics. Prerequisite: Math. 53. Consent of instructor.
- 15 Fundamentals of Physical Science (Phys. Sc. 5) 4 credits F & S** A course intended to provide a general understanding of the methods of science and the nature of matter and energy. Historical advances in chemistry, physics, and astronomy will be discussed in relation to current knowledge. The quantitative nature of physical science will be demonstrated by appropriate experiments and problems. Three lectures and one two-hour laboratory each week. (BEYERS)
- 53 Engineering Physics I 3 credits F & S** A course for students in engineering and physical sciences. Treats fundamentals of mechanics and heat. Two lectures, one recitation, and one two-hour laboratory per week. Prerequisites: High school physics or Phys. A; Math. 50 concurrently. (PECK)
- 54 Engineering Physics II 3 credits F or S** A continuation of Physics 53. Topics include wave motion, sound, electricity and magnetism, and geometrical optics. Two lectures, one recitation, and one two-hour laboratory per week. Prerequisites: Phys. 53; Math. 51 concurrently. (PECK)
- 55 Engineering Physics III 3 credits S or F** A continuation of Physics 54. The course deals with physical optics and provides an introduction of modern physics, including such topics as relativity, quantum theory and nuclear energy. Two lectures, one recitation, and one two-hour laboratory per week. Prerequisite: Physics 54, Math. 51. (PECK)
- N103 Physics for High School Teachers 3 credits SS** The fundamentals of mechanics, heat, sound, light, electricity, and magnetism, and modern physics. Examples will be taken from the PSSC physics materials. Four lectures and three hours of laboratory a week.
- 104 General Astronomy 3 credits F or S** An introduction to descriptive and physical astronomy. Prerequisite: Consent of instructor. (PECK)
- R105 Fundamentals of Radiation Biophysics 3 credits** Basic principles of nuclear physics, interaction of radiation with matter, detection of radiation, radiation dose limits, theory of ionization, dosimetry, dosimetry techniques, biological and medical effects of radiation, radiation shielding, radiation protection standards, counting statistics, etc. Prerequisite: Consent of instructor.

†—Students may not take Physics 1 and 3, or Physics 3 and 53, or Physics 1 and 53, or Physics 4 and 54 for more than the maximum credits allowed for one member of the pair.



- 107 Experimental Astronomy 1 credit F or S** An introduction to the experimental techniques of astronomy. One three-hour laboratory per week on nights permitting use of the observatory. Prerequisite or Corequisite: Physics 104.
- 121-122 Analytical Mechanics 3 credits F-S** Statics, kinematics, and dynamics of a particle, a system of particles, a rigid body, and continuous media. Introduction to Lagrange's equations. Three lectures per week. Prerequisites: Physics 4 or 55, Math. 52. (KEARNEY)
- 125 Introduction to Modern Physics 3 or 4 credits F** The course presents the qualitative ideas and simpler quantitative results of atomic physics. Topics include the electron, quantum theory, relativity, atomic structure, X-rays, and solid state physics. The laboratory work consists largely of experiments involving the use of modern apparatus, and experiments of historical interests in sub-atomic physics. Three lectures and one three-hour laboratory period per week. Prerequisites: Physics 4 or 55, Math. 52. (ROBINSON)
- 129 Physical Instrumentation I 3 credits F** General survey of the methods and instruments used in experimental physics with special emphasis on electronic techniques. Includes design problems in electronic measurement of physical quantities encountered in research. Two lectures and one three-hour laboratory per week. Prerequisite: Physics 52 or 54 and Math. 52. (KEARNEY)
- 130 Physical Instrumentation II 2 credits S** A continuation of Physics 129. One lecture and one three-hour laboratory per week. Prerequisite: Phys. 129. (KEARNEY, MILLER)
- 131-132 Electricity and Magnetism 3 or 4 credits F-S** The course presents the theory of electricity and magnetism using vector methods. Topics include electrostatics, magnetostatics, electromagnetism, analysis of D.C. and A.C. circuits. Maxwell's equations, and radiation and propagation of electromagnetic waves. The laboratory work consists of experiments involving the use, calibration, and care of precision electrical measuring instruments. Three lectures per week and one three-hour laboratory per week second semester. Prerequisites: Physics 4 or 55, Math. 52. (KIM)
- 133 Sound Waves and Acoustics 3 credits F or S** Sources of sound, propagation of sound waves through elastic media, and architectural acoustics. Three lectures per week. Prerequisite: Physics 4 or 55, Math 52. (MILLER)
- R136 Electronics 3 credits** A fundamental course in electronics dealing with electron ballistics, vacuum and gaseous tubes. Prerequisite: Consent of instructor.
- 141 Optics 4 credits F or S** The fundamentals of optics including geometrical optics and photometry, interference, diffraction, double refraction, and polarization with applications to modern optical instruments. The laboratory work includes experiments in the optics of lenses, photometry, absorption spectroscopy, interferometry, and polarized light. Three lectures and one three-hour laboratory period per week. Prerequisites: Physics 4 or 55, Math. 52. (PECK, ROBINSON)
- R153-154 Introduction to Solid State 3 credits F or S** An introductory course in the physics of bulk matter. The topics include the structure and types of solids, the elastic and thermal properties of solids, the electrical and magnetic properties of solids, and the theory of conduction in metals and semiconductors. Three lectures per week. Prerequisites. Physics 122, or the consent of the instructor. (KEARNEY, SIECKMANN)
- 155-156 Thermodynamics and Kinetic Theory 3 credits F-S** The course deals with the laws of thermodynamics, kinetic theory and their application to topics in physics. The material is chosen to prepare the student for advanced study in statistical physics. Three lectures per week. Prerequisites or Corequisite: Physics 121, or consent of instructor. (KEARNEY, KIM)
- 157 Advanced Physics Laboratory 2 credits F or S** This course is designed to increase the experimental skills of students by providing experience with varied laboratory assignments at advanced levels in the major fields of physics. Two three-hour laboratory periods per week. Prerequisite or Corequisite: Phys. 130.
- 161 Pro-Seminar 1 credit F** The presentation and discussion of papers on recent developments in physics. Students specializing in physics are required to attend and take part in these seminars during their senior year. One one-hour discussion period per week. Prerequisite: Senior standing in physics. (STAFF)
- R176 Introduction to Theoretical Physics 3 credits** Vector and tensor methods will be introduced and used in conjunction with the Newtonian and Lagrangian methods in solving problems of mechanical systems. Prerequisites: General Physics, Differential Equations. Consent of instructor.
- 181 Introduction to Nuclear Physics 3 or 4 credits F or S** An introductory course in nuclear physics. The course includes elementary particles, structure of the nucleus, processes of transformation, interaction of nuclear radiation with matter, nuclear reactions, particle accelerators, fission, nuclear reactors, and cosmic rays. Three lectures and one three-hour laboratory period per week. Prerequisite: Physics 125. (ROBINSON)

- 185 Elementary Quantum Mechanics 3 credits F or S** An introduction to some of the methods of quantum mechanics. Topics include the one dimensional harmonic oscillator, the free particle, the rectangular potential barrier, the hydrogen atom, and perturbation theory. Three lectures per week. Prerequisites: Physics 122, 125. (SIECKMANN)
- 191 Research 1 to 6 credits F & S** Students specializing in physics may elect to do a thesis representing a library or laboratory study under the supervision of a member of the department. No more than 6 credits may be earned in this course. Prerequisite: Upper division standing in physics and permission of department chairman. (STAFF)

#### PRIMARILY FOR GRADUATES

- 211 (WSU Phys. 511) Atomic Spectra and Atomic Structure 3 credits F or S** A discussion of the experimental methods for the production and investigation of spectra, interpretation of spectral series, stationary states, spinning electrons and fine line structure, vector models, Zeeman and Stark effects, intensity of spectral lines. May be used by WSU graduate students as a cooperative course. Prerequisites: Physics 185 or 271. (PECK)
- 212 (WSU 512) Molecular Spectra 3 credits S** A survey of molecular spectra and their relations to molecular structure, with special emphasis upon diatomic and triatomic molecules. Three lectures per week. May be used by WSU students as a cooperative course. Prerequisites: Physics 211 or consent of instructor. (PECK)
- 221 Advanced Mechanics 3 credits F or S** An advanced course in classical mechanics. Topics include Lagrange's and Hamilton's principle, two-body problem, rigid body motion, special relativity, canonical transformation, Hamilton-Jacobi theory, small oscillations and Lagrangian and Hamiltonian formulations for continuous systems and fields. Three lectures per week. Prerequisite: Physics 122. (KIM)
- 223-224 Electromagnetic Theory 3 credits** An advanced course in electromagnetic theory including Maxwell's equations, electrostatics, magnetostatics, currents and their interactions, the general theory of emission, propagation and absorption of electromagnetic waves, boundary value problems, principle of relativistic electrodynamics. Three lectures per week. Prerequisites: Physics: 122, 132. (PECK)
- N225 Analytical Mechanics 3 credits SS** Dynamics and kinematics of particles. Statics, dynamics and kinematics of rigid bodies. Lectures.
- 234 Statistical Mechanics 3 credits F or S** The course starts with the classical statistical mechanics of Maxwell, Boltzmann and Gibbs, and includes Maxwell-Boltzmann distribution law, Boltzmann's H-theorem, quantum statistical mechanics, Bose-Einstein and Fermi-Dirac statistics, and applications of statistical mechanics to problems in thermodynamics. Three lectures per week. Prerequisites: Physics 271, 155 or consent of instructor. (KIM)
- N235 Electricity and Magnetism 3 credits SS** Electrostatics, magnetostatics, electromagnetism, direct current, and alternating current circuits. Laboratory: fundamental electrical measurements. Four lectures and three hours of laboratory a week.
- 241-242 Solid State Physics 3 credits** An advanced treatment of the modern theory of metals, semiconductors, and insulators. Topics include crystal structure, thermal, electrical and magnetic properties of solids, band theory of solids, crystal imperfections, semiconductors, superconductivity, and photoconductivity. Three lectures per week. Prerequisites: Physics 132 and 271 (prior or concurrently). (SIECKMANN)
- R243-244 Fundamental Reactor Kinetics 3 credits** Review of complex plane transformations. Determination of transfer functions for various systems. Derivation of reactor kinetics equations. Analysis of nuclear feedback systems. Statistical control theory as applied to nuclear systems. Prerequisite: Consent of instructor.
- 251-252 Theoretical Physics 3 credits** A discussion of the methods and problems of theoretical physics. Prerequisites: Physics 122, or consent of instructor. (SIECKMANN)
- 261-262 Seminar 1 credit** Recent developments in physics are reviewed and discussed. Papers on the investigations of staff and graduate students are also presented and discussed. Graduate students in physics are required to attend and take part in these seminars. One one-hour discussion period per week. Prerequisite: Graduate standing in Physics. (STAFF)
- N266 Atomic and Nuclear Physics 3 credits SS** Concepts of atomic and nuclear physics including a description of the methods of determining the fundamental constants of atomic physics, structure of the nucleus, processes of transformation, nuclear reactions, particle accelerators, fission and nuclear reactors. Lectures, and laboratory.
- N270 Professional Problems 1 to 6 credits SS** Advanced work is individually assigned and will require reading, reports, and in certain special cases experimentation. The student may register for a problem in any of the fields of study in physics and chemistry. Permission of the instructor is required in order to register. At most, 3 credits may be completed in absentia.

- 271-272 Quantum Mechanics 3 credits** An advanced course in quantum mechanics. Topics include the physical basis of quantum mechanics, Schroedinger wave formulation, Heisenberg matrix formulation, transformation theory, approximation methods, radiation theory, theory of scattering, and some applications to atomic systems. Three lectures per week. Prerequisites: Physics 122 and 125. (SIECKMANN, PARKS)
- 273 Quantum Mechanics 3 credits F or S** A continuation of Physics 272. Topics include detailed study of relativistic quantum mechanics, field theory, and quantum electrodynamics with applications to the theory of radiation, pair production, and scattering. Prerequisites: Physics 272. (SIECKMANN)
- 275-276 Techniques of Experimental Physics 3 credits F & S** A development of experimental techniques and skills in active research fields. The course serves as a foundation for experimental research in any field of physics. Nine hours of laboratory work per week. Prerequisites: Physics 130 and consent of instructor. (STAFF)
- 283-R284 (WSU 514) Nuclear Physics 3 credits F or S** A thorough discussion of nuclei and nuclear interactions from a theoretical and experimental viewpoint. Topics include properties of nuclei, two-body problems, complex nuclei, nuclear spectroscopy, nuclear reactions, interaction of nuclei with radiation, beta decay, nuclear shell structure, nuclear models, mesons and meson theory, and selected topics in high energy physics. Three lectures per week. This may be taken at WSU as a cooperative course for graduate students. Prerequisites: Physics 181, and 185, or 271.
- R285 Reactor Physics for Engineers 3 credits** Prerequisite to Reactor Engineering. Review of nuclear physics, nuclear fission, chain reaction and reactor theory. Prerequisites: A current working knowledge of differential equations (Math. 101 or 126). Consent of instructor.
- R287 Experimental Nuclear Physics 3 credits** Experimental methods of the interpretation of experimental measurements to determine the static and dynamic properties of nuclei. Prerequisites: Physics 125. Consent of instructor.
- R289 Advanced Reactor Theory 3 credits** The integrodifferential Boltzmann equation, the integral Boltzmann equation, the Pn approximation, the double Pn approximation. Diffusion theory as obtained from transport theory. Microscopic heterogeneous reactor theory, small source theory, reactor kinetics, perturbation theory, burnable poisons, control rod theory. Prerequisite: Consent of instructor.
- 290 Selected Topics in Advanced Physics 1 to 9 credits F or S** Specialized topics in advanced physics selected according to the interests of the students and staff. Three lectures per week. (STAFF)
- 300 Research and Thesis Credits to be arranged F & S (STAFF)**

## PLANT SCIENCES

Professors Finley (Head), Erickson, Helton, Seely, and Woodbury; Associate Professors Fenwick, Guthrie, Slinkard, and Watson; Assistant Professors Heinicke, Huber, Ridley, Snyder and Murray.

### PRIMARILY FOR UNDERGRADUATES

- 1 Introduction to Plant Sciences 3 credits F** A study of the importance and distribution of economic plants throughout the world and the relationship of plants to man's welfare. Emphasis will be given to basic plant growth processes, plant relationships and development. Three lectures per week. (WOODBURY)
- 56 Floriculture 2 credits S** Emphasis on the culture and arrangement of flowering plants in the home, greenhouse and garden. One lecture and one three-hour laboratory period per week. (SNYDER)
- 58 Plant Propagation 3 credits S** Emphasis will be placed on seed formation, physiology of the seed, seed longevity and storage and methods of seeding. Plant anatomy and physiology as they relate to asexual reproduction, will be studied. Two lectures and one two-hour laboratory period per week. Prerequisite: Biol. 13 or equivalent. May be taken concurrently. (SNYDER)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 Genetics 3 credits F** An introduction to genetics with emphasis upon basic principles and the significance of genetics in our lives. Three lectures per week. (SLINKARD)
- ☐ **102 Plant Breeding 3 credits S** Application of the principles of genetics to the improvement of crop plants. Two lectures and one two-hour laboratory per week. Prerequisite: Pl. Sci. 101 or equivalent. (SLINKARD)
- ☐ Offered in alternate years; given in 1967-68

- ② **103 Biology of Field Crops 3 credits F** The classification, identification and adaptation of field crops with emphasis on biological factors that influence plant production, composition and utilization. Three lectures per week. One one-day field trip. (ERICKSON)
- 104 General Plant Pathology 4 credits F** A study of plant diseases due to bacteria, fungi, viruses and non-parasitic causes. Includes a study of causes, symptoms, effects, means of dissemination and principles of control. Two lectures and two two-hour laboratory periods per week. Prerequisites: Bot. 1-2, or Bot. 3. (FENWICK)
- ① **105 Biology of Weeds 3 credits F** Biological factors involved in classification, identification and distribution of weeds. Emphasis will be given to those factors influencing adaptation and persistence, seed anatomy, and principles of purity and germination analysis. One lecture and two two-hour laboratory periods per week. One one-day field trip. (ERICKSON)
- 108 Forage Crops 3 credits S** The production and utilization of annual and perennial forage plants; the establishment and care of tame meadows and pastures as well as the conservation, management and improvement of native meadow and pasture lands. Three lectures per week. (SLINKARD)
- 109 Crop Ecology 3 credits S** A study of crop environment, its modification, and its effect on crop response and the influence of physical and social environment in crop distribution. Three lectures per week. (STAFF)
- 111 (Bot. 111) The Biology of Fungi 4 credits F** See Botany 111 for course description.
- 117 Woody Plant Materials 2 credits F** A taxonomic study of ornamental woody plants for landscape use. Growth characteristics of deciduous and evergreen trees, shrubs, and vines are critically studied. Two two-hour laboratory periods per week. One one-day field trip. (SNYDER)
- ① **120 (Arch. 173) Landscape Gardening 3 credits F** A study of the basic principles of landscape design, and the use of woody plant materials in landscape practice. Two lectures and one two-hour laboratory period per week. One two-day field trip. (SNYDER)
- ① **122 (Arch. 174) Advanced Landscape Design 3 credits S** Principles studied in Pl. Sci. 120 are applied in a series of practical problems. One lecture and two two-hour laboratory periods per week. One one-day field trip. Prerequisite: Pl.Sci. 120. (SNYDER)
- ① **123 Floral Decorations 3 credits F** A study of the use of flowers as a descriptive medium for the homemaker and the professional. Special uses of flowers, table settings, banquet decorations and commercial designs are featured. One lecture and two two-hour laboratory periods per week. (SNYDER)
- ② **125 Vegetable Crops 3 credits F** A study of the fundamentals of vegetable crop production to include basic principles of culture, classification and adaptation. Application of these principles will be related to the finished product as well as to problems of the vegetable seed industry. Two lectures and one two-hour laboratory per week. (WOODBURY)
- 138 Weed Control 3 credits S** A study of weed characteristics, weed distribution on agricultural range and non-agricultural lands, weed laws, and weed control methods. Two lectures and one two-hour laboratory period per week. (SEELY)
- ① **147 The Potato 3 credits F** A course designed for persons desiring to pursue the commercial potato industry. Emphasis will be placed on the history, adaptation and physiology of the potato plant. Potato varieties will be considered in relation to plant improvement. Principles and practices of handling and storage will be studied as well as quality factors having to do with potato use. Three lectures per week. (WOODBURY)
- ② **161 Fruit Crops 3 credits F** Fundamental principles and practices in the production and handling of fruit crops. Three lectures per week. Prerequisite: Pl. Sci. 58. (STAFF)
- 162 Physiology of Crop Plants 3 credits F** Principles of crop management and their relationship to the physiology of vegetative and reproductive growth and on the market quality of crop plant products. Three lectures per week. Prerequisite: Botany 101 or consent of instructor. (RIDLEY)
- 164 (For. 164) Forest Pathology 3 credits S** See Forestry 164 for course description.
- 193-194 Special Problems 3 credits F & S** A course affording an opportunity for advanced majors to secure additional training. Assigned reading or laboratory work as arranged. Prerequisite: Consent of department head. (STAFF)

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

**195-196 Pro-Seminar 1 credit F & S** Review of current literature in Plant Sciences. Papers by members of the department and students. For advanced majors only. (STAFF)

#### PRIMARILY FOR GRADUATES

**201-202 Seminar 1 credit F & S** Review of experimental work or technical reports on investigations in progress by members of the staff and graduate students. (STAFF)

① **208 Ecology of Soil-Borne Plant Pathogenic Organisms 3 Credits S** A study of the effects of climate, agronomic practices and microbiological associations upon the prevalence and pathogenic activity of soil-borne bacteria, fungi and nematodes. Three lectures per week. (WATSON)

**209 Research Methods in Plant Sciences 2 credits F & S**  
 a. Plant Pathology c. Plant Breeding  
 b. Horticulture d. Weed Control  
 A course designed to offer students an opportunity for individual or group training and experience in specialized areas of research under the direction of a staff member. No more than 4 credits will be allowed for this course. (STAFF)

② **210 Plant Virology 3 credits S** A study of the nature and properties of plant viruses as related to pathogenic activity. Laboratory exercises will be conducted to demonstrate the techniques involved in the study of viruses and virus diseases. One lecture and two two-hour laboratory periods per week. (GUTHRIE)

① **212 (Bot. 212) Advanced Mycology 4 credits S** See Botany 212 for course description.

② **213 Physiology of Disease 4 credits S** Physiological aspects of parasitism, pathogenesis, and host-parasite interactions. Three lectures and one two-hour laboratory per week. (HUBER)

**217 Advanced Crop Physiology 3 credits S** A course designed to offer students advanced study in crop physiology. Prerequisite: Consent of instructor. (RIDLEY)

**218 Advanced Genetics 3 credits S** A study of methods of genetic testing and analysis. Emphasis is upon review of the literature. Subject matter varies according to the needs and interests of those taking the course. (SLINKARD)

**221-222 Advanced Crop Production 1 to 3 credits** A course designed to offer graduate students specialized training in selected phases of crop production. (STAFF)

② **224 Cytogenetics 3 credits S** A study of chromosomal behavior, polyploidy, chromosomal aberrations, and effects of mutagens in relation to genetics. Two lectures and one two-hour laboratory period per week. Prerequisite: Pl. Sci. 101 or equivalent. (SLINKARD)

**228 (Bot. 228) Plant Growth Substances 3 credits S** See Botany 228 for course description.

**231-232 Advanced Weed Studies 1 to 3 credits** A course designed to offer graduate students specialized training in selected phases of weed investigations. (STAFF)

**234 Properties and Functions of Herbicides 2 credits S** A study of the physical and chemical properties of the mode of action of chemicals used in weed control and their effect on plant structures, internal mechanisms, processes and sites of action. Two lectures per week. Prerequisite: Pl.Sci. 138 or the consent of the instructor. (SEELY)

**280 (Ent. 280) Pesticide Toxicology 3 credits S** Modes of action of pesticidal chemicals and the effects of these compounds on living organisms. Prerequisite: Consent of either instructor. (HELTON, SMITH)

**300 Research and Thesis Credits to be arranged F & S (STAFF)**

## POLITICAL SCIENCE

(Political Science is one of the subject matter fields within the Department of Social Sciences.)

Professors Borning (Chairman), Hosack, Martin; Associate Professors Dobler, Duncombe; Assistant Professor Fan; Instructor Grimes.

#### PRIMARILY FOR UNDERGRADUATES

These courses require no prerequisite. Students may enroll for a second semester course without having had the first semester course.

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

- 1-2 American Government 3 credits F & S** Pol. Sci. 1 emphasizes basic concepts and major structural elements of the national government. Pol. Sci. 2 emphasizes policy issues and functions of American national government. (STAFF)
- 5 Elements of Political Science 3 credits F or S** Principles and nature of political science as a discipline. Attention is given to the comparative processes, ideas, and problems involved in government and politics in the modern world. An introductory foundation course for majors. (STAFF)
- 75 State Government 3 credits F** An analysis of American state government. Emphasis upon executive budget, administrative consolidation, relations of the state and the federal government, problems of the executive, legislative, and judicial branches, and functions of state government. (DUNCOMBE)
- 76 City and County Government 3 credits S** A study of the organization, functions and special problems of the local units of government in the United States. (DUNCOMBE)
- 85-86 Comparative Government 3 credits F-S** An introduction to the study of politics with emphasis on selected foreign governments. Pol.Sci. 85 examines systems of parliamentary democracy, with attention to the responsible ministry, executive-legislative dynamics, and recent political developments. Pol.Sci. 86 analyzes autocratic systems such as the USSR and Communist China, including their origins, role of the party, functions of government, and the status of the individual. (BORNING, FAN)

#### FOR ADVANCED UNDERGRADUATES AND GRADUATES

Ordinarily six credits in lower division courses in political science are required for registration in the following courses. Exceptions may be made with the consent of the instructor concerned.

- 126 Political Thought 3 credits F or S** A critical analysis of modern political ideas and their role in domestic and world politics. Emphasis is placed on major contemporary ideologies and currents of thought. (BORNING, FAN)
- 128 American Political Thought 3 credits F or S** Analysis of political philosophy in America as reflected in pertinent writings and movements throughout our history. Attention is given to ideas of dissent as well as to prevalent concepts of various eras. May be accelerated. (BORNING)
- 131 Political Parties 3 credits F or S** Public opinion and the political process. Party machines, the spoils system, nominating methods, conduct of elections. (MARTIN, GRIMES)
- 132 Legislation and Legislative Bodies 3 credits F or S** Practical workings of legislative bodies. Special attention will be given to such problems as representation, committee activity, the lobby and the influence of the executive. (GRIMES)
- 134 Basic Factors in American Politics 3 credits F or S** An analysis of interest groups, of their organizational patterns, and pressure group activities in their relation to our political system and to the public interest. (GRIMES)
- 135 Political Research Methods and Approaches 3 credits F or S** Current behavioral approaches to political phenomena, with attention to research design and statistical analysis using IBM equipment. Emphasis is placed on such areas as voting, legislative blocs, elites, roles, decision-making, and communications. (DUNCOMBE, FAN, GRIMES)
- 137 International Relations 3 credits F** A study of the basic principles of international politics. An analysis of such concepts as nationalism, imperialism, militarism, internationalism, and of the problems that result therefrom. (HOSACK, FAN)
- 138 Conduct of American Foreign Policy 3 credits S** Analysis of the processes by which our foreign policy is made and executed; the roles of pressure groups, Congress, the President, and the Department of State and its Foreign Service and their effect upon specific policies. (HOSACK, FAN)
- 140 Principles of International Law and Organization 3 credits S** A survey of the chief agencies of international cooperation, past and present, and of the sources and uses of international law. Special emphasis will be given to the evolution of the general principles of international law and to the development of the United Nations. (HOSACK)
- 141 World Politics 3 credits SS** Recent developments in international politics; the chief elements in the current foreign policies of the major world powers. (HOSACK)
- 143 Contemporary Far Eastern Politics 3 credits F or S** An introduction to the problems of the area, their sources and the proposed solutions, as presented by the Orientals, together with an analysis of the conflict of interest of the Powers in Eastern Asia. Special attention will be given to the situation of China and Japan. (HOSACK, FAN)

- 146 The Chinese Empire** 3 credits F or S A comparative study of the oldest continuous political entity existing today and of those aspects of traditional Chinese culture whose political connotations presumably contributed to this remarkable continuity. (HOSACK, FAN)
- 151 Introduction to Public Administration** 3 credits F A study of administrative institutions and relationships in the executive branch of government. Particular emphasis will be given to the dynamics of decision-making at the White House and departmental level and to the key role played by staff agencies in the national government. (DUNCOMBE)
- 152 Administrative Law** 3 credits F or S The regulations that control the administrative authorities of government. The rights, duties, and liabilities of public officers; relief against administrative action; jurisdiction of and judicial control of public administration. (DOBLER)
- 153 Public Management Techniques** 3 credits S A study of selected staff techniques important to persons entering many types of administrative work in governmental and other agencies. Special emphasis is given to personnel, management surveys, data processing, budgeting, purchasing, and public relations techniques. (DUNCOMBE)
- 154 Administrative Organization and Behavior** 3 credits S A study of the characteristics of individual decision-making, the behavior of small work groups, and organizational theory. Special emphasis will be given to leadership in administration. May be accelerated. (DUNCOMBE)
- 162 Government and Business** 3 credits F or S The power of government, both national and state, over taxation, bankruptcy, money, conservation, housing, social welfare, etc. Special emphasis is given to governmental promotion and regulation of agriculture, business, and labor. (MARTIN, DOBLER, GRIMES)
- 167 Constitutional Law** 3 credits F or S A study of the leading constitutional principles in their historic setting. Consideration will be given to federal and state relations, the power of Congress, due process, and civil liberties. (DOBLER)
- 183-184 Developing States** 3 credits F & S Comparative analysis of political institutions and processes in selected countries in the developing areas of the world. (STAFF)

#### PRIMARILY FOR GRADUATES

- 207-208 Seminar** 2 to 4 credits One offered each semester.
- Public Administration (One two-day field trip). (DUNCOMBE)
  - American Foreign Policy. (HOSACK, FAN)
  - Contemporary American Politics. (MARTIN, GRIMES)
  - Comparative Government. (HOSACK, BORNING, FAN)
  - Problems of Peace. (MARTIN, HOSACK, FAN)
  - Classics of Western Politics. (BORNING)
  - Problems in American Political Thought. (BORNING)
  - National Policy and Administration. (MARTIN, DUNCOMBE)
  - The Legislative Process. (GRIMES)
  - State Government and Administration. (MARTIN, DUNCOMBE)
  - Community Political Analysis. (DUNCOMBE)
  - Constitutional Law Problems. (DOBLER)
  - Administrative Law Problems. (DOBLER)
  - International Law. (HOSACK)
- 209-210 Directed Reading** 1 to 3 credits F & S
- American Government and Politics
  - Public Administration
  - Public Law
  - International Relations
  - Political Thought
  - Comparative Government
- Directed study and research in the literature of the several fields of political science. Maximum of 12 credits allowed. Prerequisite: Consent of the instructor. (STAFF)
- 228 Theory of Democracy** 3 credits F or S An intensive analysis of the liberal-democratic theoretical model, including a critical examination of relevant political literature. (BORNING)
- 231 American Political Institutions** 3 credits F or S The history of social and economic bases in the development of American political institutions and government. (MARTIN)
- 255 Comparative Public Administration** 3 credits F or S A study of the administrative process in foreign nations and its relation to the governmental, economic, and social institutions of these nations. The course will also emphasize the administrative aspects of the governmental relations of the United States with other nations and the art of overseasmanship. (DUNCOMBE, FAN)
- 285 The Practice of Government** 3 credits F or S A comparative analysis of the functions of government in varied governmental contexts. (HOSACK)

**290 Scope and Methods of Political Science** 3 credits F or S Relation of political science to other disciplines and a comparison of various systems of analysis. Scientific methods and traditional approaches are examined, and research strategies appropriate to particular political problems are formulated. Required of all candidates for a graduate degree in Political Science. (STAFF)

**300 Research and Thesis** Credits to be arranged F & S

## POULTRY SCIENCE

Professor Petersen (Head).

### PRIMARILY FOR UNDERGRADUATES

**52 Poultry Production Practices** 3 credits F Designed primarily for students in Agricultural Education and General Agriculture with training given in farm poultry production methods and practice judging in poultry breeds, egg production, poultry meat and egg quality. Two lectures and one two-hour laboratory period per week. (PETERSEN)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

② **101 Poultry Products Technology** 3 credits F Processing, grading, packing and storage of eggs and poultry with emphasis upon factors influencing quality and product utilization. Two lectures and one two-hour laboratory period per week. One one-day field trip. (PETERSEN)

**102 Commercial Poultry Production** 3 credits S Modern housing, equipment, labor saving and efficiency factors in flock management with emphasis upon production costs and returns. Two lectures and one two-hour laboratory period per week. One one-day field trip. (PETERSEN)

① **103 Poultry Feeds and Feeding** 2 credits S Practical aspects of poultry nutrition to poultry requirements. Two lectures per week. One one-day field trip. Prerequisite: A.S. 105 or approval of instructor. (PETERSEN)

② **105 Poultry Breeding** 2 credits F The inheritance of standard-bred and utility characteristics in poultry. The application of genetics in modern breeding systems and practices. Two lectures per week. (PETERSEN)

① **108 Incubation and Hatchery Management** 2 credits S Avian embryonic development including physiology, nutrition and morphology factors influencing hatchability. Modern incubation methods and hatchery management. Two lecture periods per week. One one-day field trip. (PETERSEN)

**121-122 Special Problems** Credits to be arranged F & S (STAFF)

Graduate Courses in Poultry Science are listed under GRADUATE COURSES IN THE ANIMAL SCIENCES page 176.

Graduate students receive the degree of Master of Science in Agriculture with a major in Poultry Science.

## PSYCHOLOGY

Professor Montgomery (Head); Professors Boyer (emeritus), Collier, Otness; Assistant Professors Burlingame, Whipple, Garmize, and Kjos.

### PRIMARILY FOR UNDERGRADUATES

**1 Introduction to Psychology** 3 credits F, S & SS An Introduction to representative areas of psychology. Fundamental principles are emphasized. This is a prerequisite to all other courses in Psychology. (STAFF)

**55-56 Developmental Psychology** 3 credits F, S & SS This sequence of courses studies the development of human behavior in the physical, intellectual, emotional and social areas. Psychology 55 is the study of behavior development from conception to pre-adolescence. Psychology 56 is concerned with behavior development from adolescence to maturity. Prerequisite: Psychology 1. (STAFF)

**75-76 General Experimental Psychology** 4 credits F & S Introduction to the basic experimental methods and procedures in Psychology and designed to provide the student with experience in conducting experiments in various fields of psychology. This is a basic laboratory course for major and minor students and those with more than a casual interest in psychology. Two lectures and two laboratory periods per week. Prerequisite: Psychology 1. (STAFF)

① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.



## FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 102 **The Exceptional Individual** 3 credits F, SS Study of individuals who deviate from average mentally, physically, socially and emotionally to such an extent that special treatment and services are needed. Problems of identification, diagnosis, treatment, training and employment are considered. Prerequisites: Psychology 1 and 55 or 56. (OTNESS)
- 105 **Comparative Psychology** 3 credits F The study of infra-human behavior, particularly vertebrates, and emphasizes experimental studies in such areas as motivation, learning, innate behavior, retention and problem solving. Prerequisites: Psychology 1 and an introductory course in biology or zoology.
- 111 **Abnormal Psychology** 3 credits F & S Study of the nature, causes, treatment and prevention of patterns of emotional disturbances and personality disorganization, including neuroses and psychoses. Two one-day field trips. Prerequisite: Psychology 1 (Psychology 55 or 56 desirable). (OTNESS)
- 115 **Principles and Practices in Guidance** 3 credits F, S & SS An introduction to the nature of the guidance process and the services provided in pupil personnel work. The role of the specialist and the responsibility of classroom teachers are emphasized. Prerequisites: 6 credits in Education or Psychology. (KJOS)
- 116 **Industrial Psychology** 3 credits S A study of the contributions of experimental, social, counseling and clinical psychology to the every day problems of organizations, with emphasis on industrial organizations. Prerequisite: Psychology 1. (MONTGOMERY)
- 117 **Introduction to Statistics for Psychology and Education** 3 credits F, SS Descriptive statistics used in studies of behavior, emphasizing graphic representation and interpretation, measures of central tendency and variability, and elementary correlation analysis, sampling theory and statistical inference. (MONTGOMERY)
- 118 **Intermediate Statistics for Psychology and Education** 3 credits S Introduction to theory and application of statistical methods in psychological and educational research; probability, sampling distributions, statistical inference, analysis of variance and covariance. Prerequisite: Psychology 117. (MONTGOMERY)
- 120 **Social Psychology** 3 credits S Study of the individual as he influences and is influenced by society. Topics include: attitudes, prejudice, propaganda, cultural differences, personality, leadership and crowd behavior. Prerequisite: Psychology 1. (OTNESS)
- 121 **Occupational Information** 2 credits F & SS The psychological, sociological and economic foundations of occupational choice and vocational adjustment. Two one-day field trips. Prerequisite: Psychology 1. (KJOS)
- 122 **Theory of Psychological Measurement** 3 credits S Theory of psychological tests and measurements of behavior under various conditions; statistical formulation of test development procedures, item analysis, determination of reliability, validity, norming; practice in item construction and test development. Prerequisites: Psychology 1 and 117. (STAFF)
- 141 **Physiological Psychology** 3 credits F The study of the physiological bases of animal and normal human behavior. Prerequisites: Psychology 1 and Biology 11 and 12. (STAFF)
- 144 **Sensation and Perception** 3 credits S Fundamental processes and variables involved in sensory experiences of animals and man. Prerequisites: Psychology 75 or 76. (BURLINGAME)
- 151 **Educational Psychology** 3 credits F, S & SS The application of psychological principles to the classroom situation. Prerequisites: Psychology 1 and 55 or 56. (WHIPPLE)
- 155 **Psychology of Motivation** 3 credits F A survey of biological and social variables influencing the activation, direction and self-maintenance of behavior. Prerequisite: Six hours of Psychology. (STAFF)
- 161 **Psychology of Personality** 3 credits F & S Theories of personality, basic concepts, techniques of measurement and experimental methods are critically explored; emphasis on the normal personality. Prerequisites: Psychology 1 and one additional course in Psychology. (STAFF)
- 180 **Mental Deficiency** 3 credits S, SS An extensive investigation into the history, nature, diagnosis, etiologies, clinical types and management of mentally deficient individuals. For upper division seniors, and graduate students planning professional careers in this or a closely related area. Prerequisites: Psychology 55, 102, 111 and permission of the instructor. (OTNESS)
- 190 **Psychology of Learning** 3 credits S A systematic survey of the experimental literature on the nature and conditions of behavior change. Prerequisites: Senior standing, 12 credits of psychology and permission of instructor. (MONTGOMERY)

- 198 **History and Systems of Psychology** 3 credits S Origin and development of psychology within philosophy and science. Development and elaboration of modern systems of psychology including functionalism, Gestalt psychology and behaviorism. Prerequisites: Senior standing and 15 credits in psychology or philosophy. (STAFF)
- 199 **Independent Study** 2 to 6 credits F, S & SS Directed reading, projects and experimental studies. Prerequisites: Senior standing, consent of instructor and department head.

#### PRIMARILY FOR GRADUATES

- 204 **Group Assessment Techniques** 4 credits F & SS Theories and group techniques of appraising individual characteristics, performance and behavior. Laboratory experience in the evaluation of group tests and the collection and interpretation of data. Three lectures and one laboratory period per week. Four one-day field trips. Prerequisites: Psychology 117, 122. (KJOS)
- 208 **Individual Intelligence Assessment** 4 credits F & S Instruction in relevant theory and supervised practice in the acquisition of adequate skills in the administration and interpretation of individual tests, such as Binet and Wechsler. Three lectures and one laboratory period per week. Prerequisites: Graduate acceptance for one of the programs for Guidance Counselors, School Psychologists, or Clinical Psychologists, and consent of instructor. (STAFF)
- 211 **Clinical Psychology** 3 credits F An introduction to the practical, theoretical, research and professional aspects of clinical psychology. The breadth of the area is emphasized as well as social-professional issues. Prerequisites: Graduate standing and 15 hours of psychology. (GARMIZE)
- 212 **Introduction to Projective Techniques** 3 credits S A survey of some of the more prominent devices. The theory of projective techniques is presented as well as administration, scoring and interpretation. Research in reliability and validity of projective techniques is emphasized. Prerequisites: Psychology 211 and consent of instructor. (GARMIZE)
- 223 **Mental Health** 3 credits F, S & SS A critical and historical review of current concepts of positive mental health. Applications are made to treatment, prevention, and growth toward individual maturity. Prerequisites: Psychology 1, 55 and/or 161 and permission of instructor. (COLLIER)
- 225 **Guidance and Counseling** 3 credits F The basic principles of guidance and counseling; theory, case studies, role playing, tape recordings. Prerequisites: Graduate acceptance for one of the programs for Guidance Counselors, School Psychologists, or Clinical Psychologists. (STAFF)
- 251 **Assessment of the Individual** 3 to 6 credits F & S An introduction to, and the use of methods of special and comprehensive assessment, applicable to assessment in schools, clinics, the military, and industry where the student may be required to describe behavior quantitatively, objectively, and integratively. Prerequisites: Graduate standing in one of the degree programs, Psychology 117, 161 and consent of the instructor. (STAFF)
- 261-261 **Seminar** 3 credits F, S & SS Critical analysis of selected areas in general Psychology.
- a. Group Dynamics
  - b. Growth and development
  - c. Educational Psychology
  - d. Research design
  - e. Current problems in learning
  - f. Philosophical backgrounds of counseling
  - g. Mental deficiency and related disorders
  - h. Advanced psychometric methods
  - i. Teaching of psychology
  - j. Personality dynamics
  - k. Advanced clinical psychology
  - l. Theory and research in psychotherapy
  - m. Adult adjustment
  - n. Gerontology
  - o. Differential psychology
- Maximum of 3 credits can be earned in each sub-division. Maximum of 12 credits may be earned in the course.
- 290 **Practicum in Counseling** 3 credits S Sequel to Psychology 251, designed to develop the skill in individual counseling. Prerequisites: Psychology 251 and permission of instructor. (STAFF)
- 291 **Internship** 3 to 9 credits F & S For those students who intend to qualify as school psychologists or who wish additional training in guidance and counseling. Not open to first year graduate students. Prerequisite: Permission of the instructor. (STAFF)

299 **Special Problems** 2 to 4 credits F, S & SS Students needing specific work or desiring work in a specific area may, upon consent of a staff member, engage in individual study. A maximum of six credits may be applied to any one degree. (STAFF)

300 **Research and Thesis Credits to be arranged** F & S

## RADIO-TV

(Radio-TV is one of the subject matter fields within the Department of Communications.)

Associate Professor Law (Chairman); Assistant Professor Haggart; Instructors Bonduant, Johnson, Byrd.

### PRIMARILY FOR UNDERGRADUATES

41 **Introduction to Radio-TV Broadcasting (51-52) (91-92)** 3 credits F & S A survey course covering the history, organization, operation, and regulation of radio and television stations and networks.

53 **Recording and Broadcasting Techniques** 3 credits F & S A study of the procedure of broadcasting and the problems of recording and transmitting audio and video. Consideration is given to the uses and limitations of amplifiers, microphones, recorders, and broadcasting consoles. Practical demonstration. Two lectures and one three-hour laboratory per week.

82 **Introduction to TV Production** 3 credits F & S Learning the basic tools and materials used in television, TV studio equipment, set design, picture composition, types and uses of lights. Practical experience will be realized in assisting in the production of University TV programs. Prerequisite: Radio-TV 53 or consent of instructor.

85 **Announcing I (Broadcast Speech)** 2 credits F Voice control, pronunciation, enunciation, articulation for good microphone technique. Drill work in timing, phasing, and board operation. One hour laboratory per week.

87 **Station Writing** 3 credits F Beginning stages of writing for radio and television, including script format and terminology and commercial writing. Work on KUID-FM required two hours a week.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

111-112 **Advanced Broadcasting Techniques and FCC Regulations** 2 credits F-S Operation and maintenance of broadcasting equipment as prescribed by the FCC and NAB codes and regulations. Prerequisite: Radio-TV 53 or consent of instructor.

122 **Educational Uses of Radio-Television** 2 credits S The broadcast media in educational, informational, and public relations applications. The course is designed for students majoring in fields other than Radio-TV, whose future vocation may require some familiarity with the newer media. It deals with the use of radio and television as a means of communicating ideas and as a source of information. Prerequisite: Junior standing.

187 **Advanced Station Writing** 3 credits S Writing complete scripts for programs usually presented by local radio and television station, continuity, writing, integrated formal openings and closings. Prerequisite: Radio-TV 87. (Work on KUID-FM-TV required.) Two half-day field trips.

189 **Professional Problems** 2 credits F & S Directed reading and study in the professional problems of Radio and TV. This may require field work or library research and may be done on an individual or group basis. One two-hour laboratory per week. Two half-day field trips. May be repeated for four credits.

191 **Announcing II (Advanced Announcing)** 2 credits S The study of the various types of announcing duties and the execution of each. Laboratory work required on KUID-FM-TV.

192 **Advanced TV Production** 3 credits S The planning and execution of complete TV programs, directing performers and techniques in the broadcast situation. Work on KUID-TV presentations required. Two hours of lectures and two hours of laboratory work required. Prerequisite: Radio-TV 82.

193 **Commercial Broadcasting** 3 credits F The place of sales in broadcasting, duties of station representatives, advertising agencies, station coverage, the rate card, contracts, sales promotion, and ratings. Prerequisites: Radio-TV 41 and 53, or consent of instructor.

- 194 **Radio-TV News** 3 credits F Designed to acquaint students with all aspects of Radio-TV news broadcasting including the techniques involved in editing, writing, directing, and producing the news program. The use of wire copy from news services, news policies, application of censorship codes, the handling of bulletin or flash news reports, and directing and producing on-the-scene eye witness news and special feature broadcasts. All written work is done on typewriters.
- 197 **Program Planning** 3 credits F A study of the structure and composition of the various types of radio and television format, the work of the program director, scheduling programs, source material, the mechanics of maintaining the board, and audience analysis, and its interpretation. Prerequisite: 10 hours of Radio-TV.
- 199 **Radio-TV Field Work** 2 credits F & S Directed practical experience for Radio-TV majors of senior standing.

## RELIGION COURSES

(For the plan of work see Religion on page 17) (For the courses offered, see the separate announcements issued by the Idaho School of Religion and the L.D.S. Institute)

## RUSSIAN

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Elementary Russian** 4 credits F-S Pronunciation, vocabulary study, reading practice, exercises in spoken Russian, functional grammar.
- 13-14 **Intermediate Russian** 4 credits F-S The aim of this course is the development of a sound reading knowledge of Russian, Systematic grammar review and practice in speaking and writing are included. Prerequisite: Russian 2 or the equivalent.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 **Advanced Russian** 3 credits F-S A language course flexible in content, designed to give students maximum practice in using contemporary Russian reading materials. Discussion, functional grammar, vocabulary study, and the technique of making accurate translations and precis of Soviet newspapers, magazines, and selected texts.
- 121 **Introduction to Russian Literature in Translation** 3 credits F A survey of the main currents of Russian literature, with emphasis on the classic poets and novelists of the nineteenth century, from Pushkin to Tolstoy. Knowledge of Russian is not required.
- 122 **Modern Russian Literature in Translation** 3 credits S The background of contemporary Russian life as reflected in fiction, drama, and poetry from the period of Gorky and Chekov to the present. Russian 121 is desirable, but is not a prerequisite. Knowledge of Russian is not required.

## SOCIAL SCIENCES

Professor Hosack (Head)

The Department of Social Sciences at the University of Idaho consists of four subject matter fields: History, Philosophy, Political Science, and Sociology-Anthropology. A student may major in any one of these four fields, Related majors are also offered in Economics, Geography, and Psychology. A major in Law is available under the combined six-year curriculum for the degrees of B.A. and J.D. There are special curricula under Sociology in Anthropology and under Political Science in Public Administration. See pages 71 to 90 for statement of the degree requirements and descriptions of the majors.

For course offerings see:

**ANTHROPOLOGY**  
**HISTORY**  
**PHILOSOPHY**

**POLITICAL SCIENCE**  
**SOCIAL SCIENCE**  
**SOCIOLOGY**

**SOCIAL SCIENCE**

Associate Professor Rolland

**PRIMARILY FOR UNDERGRADUATES**

**X85 Study Tour Abroad Credits to be arranged X** A study-tour conducted to observe on-the-scene selected aspects of the economic, political and social life of one or more foreign countries. Each student will pay his own expenses. One credit will be arranged for each week of study, provided that the maximum shall not exceed that earned by normal registration in Summer School. Only high school graduates may receive credit.

**FOR ADVANCED UNDERGRADUATES AND GRADUATES**

**175 Social Science for Teachers 2 credits F or S** Designed for prospective teachers of the social sciences. Bibliography, sources, and materials in the social sciences will be emphasized. This course is restricted to students majoring in social science or to those preparing to teach in the social sciences. The student should have completed most of his major before registering for this course. (ROLLAND)

**X185 Study Tour Abroad Credits to be arranged X** To be taken on the same terms as So. Sci. X85. Each student will select a specific topic for study before departure and will submit a written report based upon observation and documented research after completion of the tour. Open to students with Junior standing or with approval of the instructor.

**190 Community Development 2 to 4 credits SS** An intensive study of problems of community development. Emphasis will be given to the revenue, program, and community relations problems of school districts, municipalities, and other units of local government. (DUNCOMBE)

**191 Pro-Seminar 1 credit F & S** A critical analysis of current problems in the social sciences for students who plan to enter graduate training. (STAFF)

**197-198 Selected Readings in the Social Sciences 2 credits F & S** A reading course for advanced undergraduates. An examination and evaluation of selected writings which discuss significant ideas in the fields of the social sciences. Prerequisite: Permission of the chairman of the department. (STAFF)

**PRIMARILY FOR GRADUATES**

**235 Advanced Quantitative Analysis in Social Research 3 credits F or S** Application of advanced quantitative methods and techniques (e.g., correlation and regression analysis; multivariate analysis, stochastic process; game theory; etc.) to the study of social phenomena. Prerequisite: Any one of; Pol. Sci. 135, Bus. 83, Psych. 117 or 118, Ag.Econ. 207 or 208, or consent of the instructor.

**SOCIOLOGY**

(Sociology-Anthropology is one of the subject matter fields within the Department of Social Sciences.)

Professors Harmsworth (Chairman), Bowers; Instructors Montague, Guinn; Visiting Instructor Lloyd.

**PRIMARILY FOR UNDERGRADUATES**

These courses require no prerequisite. Students may enroll for a second semester course without having had the first semester course.

**1 Introduction to Sociology (51) 3 credits F & S** The basic concepts, principles and processes in sociology. An introduction to material relating to culture, social interaction, institutions, and social change. (GUINN)

**2 Social Problems (52) 3 credits F & S** Rapid social change resulting from natural catastrophe, mobility, invention, or scientific discovery in relation to the breakdown of control in existing economic, social, and political institutions; current concepts of social problems. (MONTAGUE)

**26 Marriage 3 credits F or S** Preparation for marriage, mate selection, courtship, marital adjustment, marital problems, education for marriage, marriage counseling. (HARMSWORTH, LLOYD)

**57 Introduction to Social Welfare (159) 3 credits F** Analysis of the forces which led to the development of the social welfare institution. An overview of the fields of social work.

**58 The Organization of Social Services (157) 3 credits S** Humanistic and legal foundations of social welfare services. Critical analysis of contemporary public social welfare policy and programs; the place of private social agencies. Prerequisite: Soc. 57.

## FOR ADVANCED UNDERGRADUATES AND GRADUATES

Ordinarily three credits in the lower division courses in sociology are required for registration in the following courses. Exceptions may be made in special cases with the consent of the instructor concerned.

- 121 **The Family** 3 credits F The historical and economic background of the modern family; the family as a social institution, its nature and functions; the family today; conditions affecting the family in America. May be accelerated. (HARMSWORTH)
- 122 **The Community** 3 credits F or S The structural and functional aspects of community institutions. Demographic, ecological factors and welfare organizations.
- 130 **Juvenile Delinquency** 3 credits F or S Study of the nature of juvenile delinquency; factors in its causation; treatment and rehabilitative programs. (GUINN)
- 131 **Social Institutions** 3 credits F or S The nature and function of social institutions; their emergence and development; the causes of cultural lag and change. The relationship of institutions to social values and social ends. (MONTAGUE)
- 132 **Criminology** 3 credits S The problems of crime and criminals; the making of the criminal; the history of punishments, modern penal institutions and methods; present tendencies in crime prevention. One-day field trip (optional at the discretion of the instructor). Expense to be borne by the student. (GUINN)
- 135 **Population and Migration** 3 credits F or S Problems involving composition, distribution, theories, and trends of populations; migrations as related to problem areas. (HARMSWORTH)
- 136 **The Sociology of Organizations** 3 credits F or S Analysis of common bureaucratic structures, processes, change and problems of social organizations.
- 138 **Introduction to Social Research** 3 credits F & S Principal methods of quantitative research used in the social sciences.
- 145 **Rural Sociology** 3 credits F or S Rural—urban relationships; the role of an agricultural class in industrial society. The number, origin, distribution, composition of the rural population and social characteristics. Forms of settlement, land division and land tenure. (HARMSWORTH)
- 146 **Urban Sociology** 3 credits F or S Population, spatial, and social patterns characteristic of modern urban communities. Trends and problems in urban communities. (HARMSWORTH)
- X156 **Social Welfare Resources and Organization** 3 credits X Problems of adjustment between social welfare needs and resources; understanding community social forces and interpretation of problems to community. Social welfare resources useful to teachers, nurses and other professionals and methods of organizing resources to meet needs.
- 160 **Methods and Techniques of Social Welfare** 3 credits F Introduction to the principles, techniques and ethics of social work; practice in interviewing, case recording, and writing the social history. One one-day field trip (option of instructor) at student expense. Prerequisite: Soc. 57.
- 161 **Special Study and Field Observation** 3 credits S Supervised study, observation and limited participation in selected social welfare settings. Length of field experience variable, and at students expense. Prerequisite: Soc. 57.
- 165 **Public Opinion** 3 credits F or S Propaganda and other agencies supplying the public with information; the part played by the individual; the formation of public opinion, the role and function of public opinion in America.
- 191 **Contemporary Sociology** 3 credits F Schools and trends of twentieth century sociological thought. (HARMSWORTH)
- 195 **Aging People in Contemporary Society** 2 to 4 credits SS Theories, research and methods relating to problems of older people. Two one-day field trips (option of instructor) at student expense. (HARMSWORTH)

## PRIMARILY FOR GRADUATES

- 207-208 **Seminar** 2 to 4 credits  
 a. Methods in Sociological Research. (HARMSWORTH)  
 b. Sociological Theory. (HARMSWORTH)  
 c. Contemporary Social Problems. (HARMSWORTH)
- 209-210 **Directed Reading** 1 to 3 credits F & S  
 a. Social Theory, b. Demography and Human Ecology, c. Specialized Fields.  
 Directed study and research in the literature of the field. Maximum of 9 credits for this and/or Anthr. 209-210. Prerequisite: Consent of the instructor. (STAFF)
- 300 **Research and Thesis** Credits to be arranged F & S

## SOILS

(Soils is one of the subject matter fields within the Department of Agricultural Biochemistry and Soils. See page 168.)

Associate Professors Fosberg, Harder and Lewis; Assistant Professor Naylor.

51 **General Soils 3 credits F & S** Physical, biological and chemical properties of soils and their relationship to plant growth. Three lectures per week. Concurrent registration in Soils 51 is required for all College of Agriculture students registered in Soils 51. (LEWIS)

52 **General Soils Laboratory 1 credit F & S** Laboratory training in determining chemical and physical properties of soils. One two-hour laboratory per week. Corequisite: Soils 51. (LEWIS, HARDER)

## FOR ADVANCED UNDERGRADUATES AND GRADUATES

108 (For. 108) **Forest Soils 2 credits S** See For. 108 for course description.

② 112 **Soil Chemistry 4 credits S** Chemistry of soil systems and methods of analysis. Two lectures and two three-hour laboratory periods per week. Prerequisite: Chem. 53 or 56. (NAYLOR)

115 **Selected Topics in Soil Chemistry 1 credit each F**  
 a. Soil Testing—The use of soil tests in evaluating the fertility status of soils. One lecture per week. Prerequisite: Chem. 12 or 14. (LEWIS)  
 b. Irrigation Water Chemistry—Water Chemistry and the chemical influence of water on soil. One lecture per week. Prerequisite: Chem. 12 or 14 and 56 or consent of instructor. (LEWIS)

125 (Bact. 125) **Soil Microbiology 3 credits F** See Bact. 125 for course description.

151 **Special Problems 1 to 2 credits F & S**  
 a. Soil Chemistry  
 b. Soil Fertility  
 c. Soil Morphology  
 d. Soil Physics  
 Individual study in soils. Each subtopic may be repeated for a maximum of 4 credits. A maximum of 8 credits may be earned in Soils 151. (STAFF)

153 **Pro-Seminar 1 credit F & S** Discussion of the literature and special topics in soils. (STAFF)

154 **Origin and Classification of Soils 3 credits S** Factors which influence soil development, the relationship of these factors and soil characteristics to problems of classification and land utilization of soils. Two lectures and one two-day field trip or two one-day field trips. Prerequisite: Soils 51. (FOSBERG)

157 **Soil Physics 3 credits F** Physical properties of soils: their relationship to moisture, aeration and temperature, with practical application to cultural practices and erosion problems. Two lectures and one three-hour laboratory per week. Prerequisite: Soils 51. (HARDER)

② 158 **Conservation Methods 3 credits S** Causes and control of erosion, the relationships of soil type, slope, climate and erosion to land capability, conservation practices and the development of conservation farm plans. Three lectures per week. Two half-day and one full-day field trips. Prerequisite: Soils 51. (HARDER)

① 160 **Soil Management and Fertility 3 credits S** Fundamental principles of soil maintenance including plant nutrients, their availability and relationship to plant growth and fertilizer practices. Three lectures per week. Prerequisite: Soils 51. (HARDER)

## PRIMARILY FOR GRADUATES

203 **Seminar 1 to 2 credits F & S** (STAFF)

205 (Ag. Biochem. 205) **Advanced Laboratory Techniques 3 credits F** See Ag. Biochem. 205 for course description.

② 209 (WSU 506) **Soil Organic Matter 2 credits F** Nature and significance of soil organic matter. Two lectures per week. Prerequisites: Chem. 56 and 75, Soils 112 and 125 or consent of instructor. A cooperative course offered by the University of Idaho; available to WSU graduate students. (NAYLOR)

① 211 **Advanced Soil Chemistry 3 credits S** Chemistry of soil system including the mineral and organic colloids, cation and anion exchange, and other physio-chemical reactions in soils. Three lectures per week. Prerequisites: Soils 112 and Chem. 102, or equivalent. (NAYLOR)

①—Offered in alternate years; given in 1967-68

②—Offered in alternate years; given in 1968-69

- ☐ 215 **Chemistry of Plant Nutrients** 3 credits F Chemistry of plant nutrients in the soil and relationship to uptake and use by plants. Three lectures per week. Prerequisites: Botany 101, Soils 51, Chem. 75 or equivalent. (LEWIS)
- 221 (For. 221) **Advanced Forest Soils** 3 credits F See For. 221 for course description.
- 227 (Bot. 227) **Mineral Nutrition** 3 credits F See Botany 227 for course description.
- 251 **Independent Study** 1 to 3 credits F & S  
 a. Soil Fertility  
 b. Soil Chemistry  
 c. Soil Genesis, Morphology and Classification  
 Advanced work is individually assigned and will require reading and research. The student may register for only one section per semester. A maximum of 6 credits may be earned. (STAFF)
- ☐ 254 **Advanced Soil Genesis and Classification** 3 credits S Relationship of morphological, chemical and mineralogical properties to soil development, classification and land use. Particular emphasis is placed on field problems in soil genesis. Two lectures and one three-hour field laboratory per week. One three-day field trip or three one-day field trips. Prerequisite: Soils 154 or consent of instructor. (FOSBERG)
- ☐ 257 (WSU 511) **Advanced Soil Physics** 3 credits S Physics and physical chemistry of the soil-water system. Two lectures and one three-hour laboratory period per week. Prerequisites: Course in soil physics and physical chemistry or consent of instructor. A cooperative course offered by Washington State University; available to UI graduate students. (GARDNER)
- 300 **Research and Thesis** Credits to be arranged F & S (STAFF)

## SPANISH

For general information concerning Foreign Languages see Page 224.

### PRIMARILY FOR UNDERGRADUATES

- 1-2 **Elementary Spanish** 4 credits F & S Pronunciation, vocabulary study, reading practice, exercises in spoken Spanish, functional grammar.
- 13-14 **Intermediate Spanish** 4 credits F-S The aim of this course is the development of a sound reading knowledge of Spanish. Systematic grammar review and practice in speaking and writing are included. Prerequisite: Span. 2 or the equivalent.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101-102 **Advanced Grammar and Composition** 3 credits F-S Composition, the fundamentals of style, and practice in the spoken language. Recommended for the prospective teacher of Spanish.
- 111-112 **Spanish Culture and Institutions** 3 credits F-S An area study course appropriately documenting the traditional aspects of Spanish civilization.
- 121-122 **Survey of Spanish Literature** 3 credits F-S Lectures, reading of selected texts, reports. Conducted so far as possible in Spanish.
- 135-136 **The Nineteenth Century** 3 credits F-S A study of the development of the Spanish lyric, novel, and drama of the nineteenth century.
- 141-142 **The Golden Age** 3 credits F-S A study of the development of the Spanish drama until the death of Calderon; the great types of the Spanish novel; the mystics; the rise and decadence of poetic taste in the sixteenth and seventeenth centuries.
- 147-148 **Contemporary Literature** 3 credits F-S Readings in the major contemporary authors. Lectures, reports, discussions.
- 151-152 **Spanish American Literature** 3 credits F-S Readings in the representative authors of the period, with special emphasis given the development of the romantic tradition.
- 155-156 **Contemporary Spanish American Literature** 3 credits F-S A study of the contemporary literary scene. Lectures, reading, reports, and discussions.
- 171-172 **Phonetics** 1 credit F-S Phonetic description and phonemic analysis of Spanish. Stress, its nature and place; intonation patterns in conversation, and reading of prose and poetry.

☐ Offered in alternate years; given in 1967-68.

☒ Offered in alternate years; given in 1968-69.



- 181-182 Free Composition and Conversation (101-102) 2 credits F-S** The course seeks to develop in the student the ability to express himself freely in Spanish, both in conversation and in written work.
- 191-192 Spanish for Teachers 2 credits F-S** A study of materials for the teaching of Spanish. Thorough review of such sections of grammar as the needs of the class require.
- 198-199 Special Problems 1 to 3 credits F-S** (a) Medieval through 16th Century, (b) 17th Century, (c) 18th Century, (d) 19th Century, (e) 20th Century. No more than one section will be offered each semester. Course content will be highly specialized and reflect current research activity of the staff. Number of credits for each offering will be listed in Time Schedule. No more than six credits in this sequence may be earned.
- PRIMARILY FOR GRADUATES**
- 201-202 Old Spanish 2 credits** The elements of historical Spanish grammar, with an intensive study of selected texts. Students electing this course should have a fluent reading knowledge of Spanish, French, and Latin; a knowledge of German is highly desirable.
- 261-262 Seminar in Spanish Literature 3 credits** (a) The Novel, (b) The Drama, (c) Poetry, (d) Literary Criticism. Only one literary type will be considered in any one semester.
- 300 Research and Thesis Maximum of 6 credits is allowed F or S**

## SPEECH

(Speech is one of the subject matter fields within the Department of Humanities) Professor Whitehead (Chairman); Assistant Professor, Sears; Instructors Miles, Hecht, Mendoza.

### PRIMARILY FOR UNDERGRADUATES

- 9 Intercollegiate Debating 1 credit F & S** A study of the principles of argumentation and debate. University debaters are chosen primarily from this course. May be repeated for a total of four credits.
- 11 Great Speakers on Great Issues 2 credits F & S** A survey of selected speakers who influenced the development of Western thought and history. Attention will be given to the historical and rhetorical significance of each speaker.
- 31-32 Fundamentals of Speech 2 credits F & S** An introduction to the skills and techniques of effective speaking with emphasis on preparation, delivery, and listening. Beginning course, Speech 31, is prerequisite to Speech 32 except by special permission.
- 62 Parliamentary Law and Procedure 2 credits S** A study of parliamentary law and procedure through organization of the class as a parliamentary body and practice of speech under parliamentary conditions.

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 151-152 Advanced Speaking 2 credits F-S** A study of oral style, the psychology of attention and suggestion, semantics, and other speech problems. Preparation and presentation of speeches.
- 161 Discussion and Conference Methods 2 credits F** A study of the responsibilities of chairmen and participants in discussion and conference. Opportunities are provided for participation in group discussion of current problems. Special attention is directed to evidence, fallacies, and types of reasoning.
- 162 Speech and Social Control 2 credits S** A study of the psychology of persuasion, propaganda, and other aspects of speech as a means of social control.
- 175 Speech for Teachers 2 credits SS** Practice in fundamentals of speech with emphasis on situations that confront the teacher in classroom work and extra-curricular activities. Satisfies the speech requirements in the College of Education.
- 185 Voice and Speech Improvement 2 credits F** The improvement of such vocal attributes as quality, force, time, and pitch. Articulation is studied through the medium of the international phonetic alphabet. American pronunciation is investigated.
- 186 Speech Correction 2 credits S** A study of the general functional cases, including delayed speech, halting speech, monotonous speech, nasality, lisping, voice defects. Special attention will be given to stuttering, the diagnosis of the case and the therapy. The English sounds will be studied as to their formation by the organs of articulation. Especially intended for teachers.

- 191 **Propaganda and Public Opinion** 2 credits F An analysis of the sources and psychology of propaganda and its relation to the formation of public opinion.
- 192 **American Public Address** 2 credits F A survey of selected American speakers from the colonial period to the present. Special attention will be given to the theories of rhetorical criticism.
- 194 **Introduction to Rhetorical Theory** 2 credits S An introduction to the development of modern rhetorical theory with emphasis upon the contributions of Aristotle, Cicero, Quintilian, Campbell, Blair, Whately, Adams, and select contemporary rhetoricians.

## VETERINARY SCIENCE

Professors Scrivner (Head), and Ardrey; Associate Professor Bailey.

### FOR ADVANCED UNDERGRADUATES

- 151 **Poultry Diseases** 2 credits F A study of the causes, transmission, symptoms, prevention and control of major poultry diseases. One lecture and one laboratory period per week. (SCRIVNER)
- 171 **Applied Anatomy and Physiology** 4 credits F A comparison of the structures and functions of the organ systems of domestic animals. Consideration of functional failures of these organ systems, wounds and their treatment, common farm operations, plant and mineral poisons. Three lectures and one two-hour laboratory period per week. Prerequisite: Junior standing. (BAILEY)
- 174 **Animal Diseases (Infectious)** 4 credits S A study of the causes, transmission, susceptibility, symptoms, diagnosis, prevention and control of major infectious diseases and parasites of domestic animals. Three lectures and one two-hour laboratory per week. Prerequisites: Bact. 51, and V.S. 171 or consent of instructor. (BAILEY)
- 177-178 **Special Problems** 1 to 3 credits F & S Problems in livestock and poultry diseases or animal physiology and anatomy. Credit to be arranged. (STAFF)

### PRIMARILY FOR GRADUATES

- 200 **Directed Studies of Livestock Diseases** 1 or 2 credits Prerequisite: Consent of instructor. (BAILEY)

## ZOOLOGY

(Zoology is one of the subject matter fields within the Department of Biological Sciences.)

Professor Schell (Chairman); Associate Professor Larrison; Assistant Professors Brown, Forbes, Ferguson, Rabe.

### PRIMARILY FOR UNDERGRADUATES

- 7 **Introductory Human Anatomy** 3 credits F An introduction to the structure of the human body. Two lectures and one three-hour laboratory per week. (BROWN)
- 8 **Introductory Human Physiology** 3 credits S A survey of the principles of human physiology. Two lectures and one three-hour laboratory period per week. Prerequisite: Zoology 7. (FERGUSON)
- 54 **Comparative Vertebrate Anatomy** 4 credits S Dissection and study of types of vertebrates, together with lectures and discussions on general vertebrate anatomy with special reference to the evolution of the various organ systems. Two lectures and two three-hour laboratory periods per week. Prerequisite: Biol. 11 and 12. (BROWN)

### FOR ADVANCED UNDERGRADUATES AND GRADUATES

- 101 **Human Genetics** 3 credits F A survey of inheritance in human populations. Three lectures each week. Prerequisite: Biol. 11. (FORBES)
- 105 **General Physiology** 4 credits F The physiology of the animal cells, tissues, and organ systems. Three lectures and one three-hour laboratory period a week. Prerequisite: Biol. 12 or equivalent and one semester of Organic Chemistry or consent of instructor. (FERGUSON)
- 106 **Mammalian Physiology** 4 credits S Physiology of the organs and organ systems of vertebrates with primary emphasis on the mammals. Three lectures and one three-hour laboratory period a week. Prerequisite: Zool. 105. (FERGUSON)

- 107 Vertebrate Evolution 3 credits F** A concise discussion of the mechanisms of evolution, followed by an examination of the history of the vertebrate animals. Three lectures a week. Prerequisite: Biol. 12 and 13 or consent of instructor. (LARRISON)
- 109 Vertebrate History and Organology 4 credits S** A study of the various tissues, followed by the study of the minute structure of the chief mammalian organs. Two lectures and two three-hour laboratory periods a week. Prerequisite: Zool. 54 or consent of the instructor. (BROWN)
- 110 Histological Technique 2 credits S** A laboratory course in the various techniques employed in histology, including methods of fixing, sectioning, staining, mounting, etc. Prerequisite: Biol. 11 and 12. (SCHELL)
- 111 (For. 111) Ichthyology 3 credits F** Taxonomy, anatomy, physiology, distribution and ecological relationships of fishes. Two lectures, one three-hour laboratory per week; occasional field-laboratories; two all-day field trips. Prerequisite: Biol. 11.
- 113 Comparative Vertebrate Embryology 4 credits F** Lectures on general topics; organogeny, ovulation, fertilization, cleavages, hormonal control, experimental methods, etc. Laboratory work includes a comparative study of frog, chick, and pig development. Two lectures and two three-hour laboratory periods a week. Prerequisite: Biol. 12 and consent of the instructor. (SCHELL)
- 116 Protozoology 3 credits F** An introduction to the study of protozoa; lectures on classification, morphology, physiology, and ecology. Laboratory includes protozoan collection, culture, and taxonomy. Two lectures and one three-hour laboratory period a week. Prerequisite: Biol. 12. (SCHELL)
- 118 Parasitology 3 credits S** A study of animal parasites with special emphasis on those of man. Laboratory includes identification of the important parasites of man; the collection and the preservation of the available local forms. Two lectures and one three-hour laboratory period a week. Prerequisite: Biol. 12 or permission of instructor. (SCHELL)
- 119-120 Independent Study 1 to 3 credits F-S**
- |  |                          |
|--|--------------------------|
| (a) Animal Ecology                     | (h) Ethology             |
| (b) Comparative Anatomy of Vertebrates | (i) Endocrinology        |
| (d) Embryology                         | (j) Invertebrate Zoology |
| (c) Cytology                           | (k) Mammalogy            |
| (e) Genetics                           | (l) Vertebrate Evolution |
| (f) Herpetology                        | (m) Ornithology          |
| (g) Histology                          | (n) Parasitology         |
|  | (o) Physiology           |
- Work is individually assigned and will require reading and/or research. The students may register for only one of the above sections per semester. Not over 6 credits may be earned in this course. Prerequisites: the appropriate basic course in the chosen field, a minimum grade point average of 3.0 in the major, and permission of the instructor. (STAFF)
- 126 (For. 116) Limnology 3 credits S** See Forestry 116 for course description.
- 129 Herpetology 3 credits S** A study of the evolution, taxonomy, natural history, and biology of the amphibians and reptiles. Two lectures and one three-hour laboratory period a week. Prerequisites: Biol. 11, and permission of the instructor.
- 130 Ornithology 3 credits S** A study of the origin, evolution, structure, habits, adaptations, distribution, identification, classification, and economic value of birds. Special attention given to the birds of Idaho and the Pacific Northwest. Two lectures and one three-hour laboratory period a week; two one-day field trips. Prerequisite: Biol. 12 and 13 or consent of instructor. (LARRISON)
- 131 Mammalogy 3 credits F** A study of the classification, distribution, ecology, food habits, and economic importance of mammals, with special attention being given to the native mammals of Idaho and the Pacific Northwest. Two lectures and one three-hour laboratory period a week. Prerequisite: Biol. 12 and 13 or consent of instructor. (LARRISON)
- 132 Animal Ecology 3 credits S** A study of animals in relation to their environment with emphasis on energy flow and material cycling, environmental influences, aquatic and terrestrial habitats, population dynamics and applied ecology. Three lectures. Four one-day field trips. Prerequisite: Biol. 12 and 13, or consent of instructor. (RABE)
- 153 Invertebrate Zoology 5 credits F** A study of fresh-water, marine, and terrestrial invertebrates with consideration of morphology, ecology, physiology, and evolution of these groups. Three lectures and two three-hour laboratory periods a week. One four-day field trip. Prerequisite: Biol. 12 or consent of instructor. Limited to 25 students. (RABE)

#### PRIMARILY FOR GRADUATES

- ☐ **210 Comparative Animal Physiology 3 credits F** A study of the ways in which various kinds of animals meet their functional requirements, and the bearing of

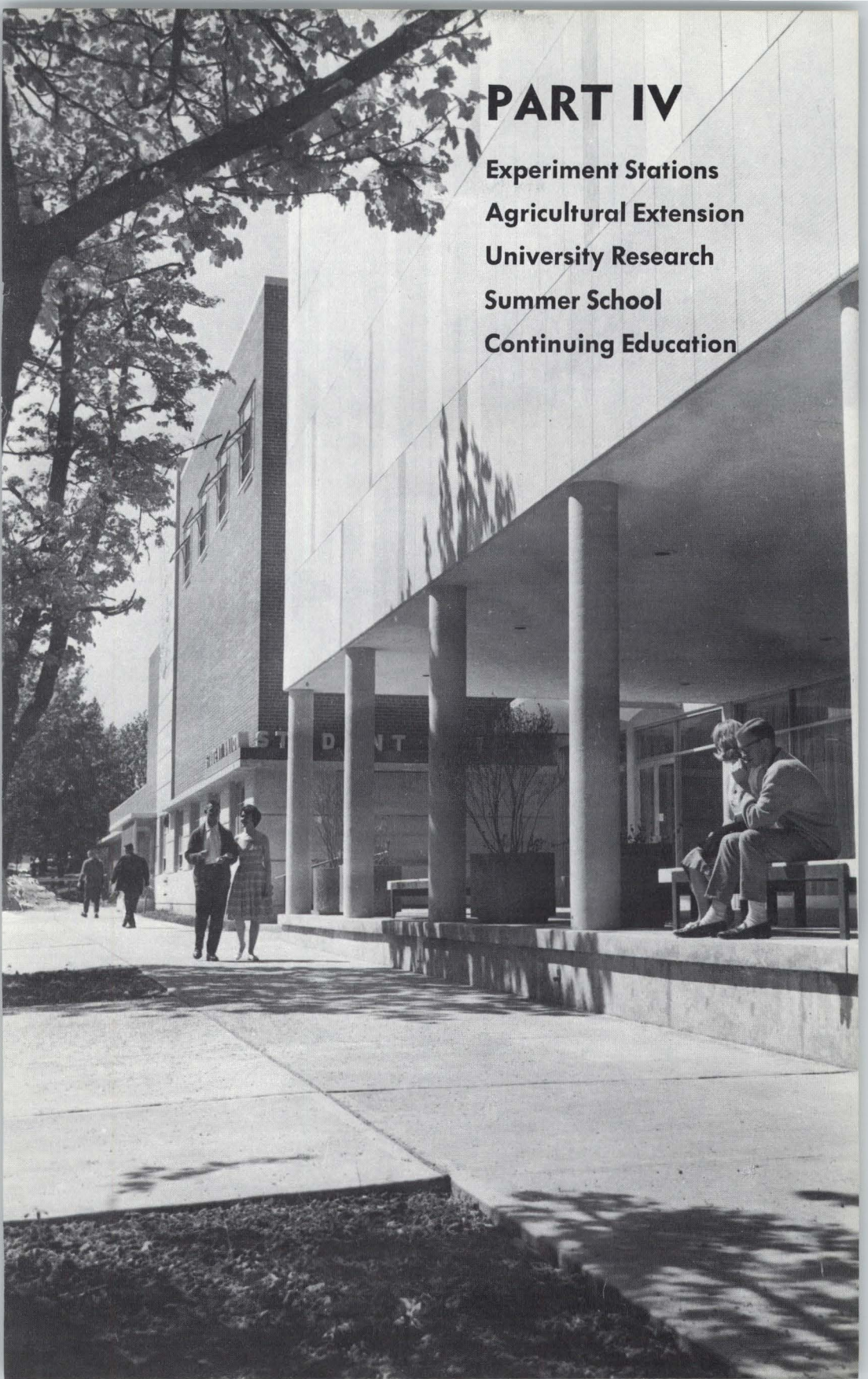
- these physiological characteristics on morphology, evolution, and ecology. Two lectures and one three-hour laboratory period a week. Prerequisites: Zool. 105 and permission of the instructor. (FERGUSON)
- ②211 **Advanced Topics in Physiology 2 credits F** Consideration of recent advances in theory and technology in selected areas of physiology. Two lectures a week. Prerequisite: Zool. 105 and permission of the instructor. (FERGUSON)
- 218 **Zoogeography 2 credits F** A study of the dynamics and causes of the distribution of animals in both time and space. Two lectures a week. Prerequisite: Permission of instructor.
- 219-220 **Independent Study 1 to 3 credits**
- |  |                          |
|--|--------------------------|
| (a) Animal Ecology                     | (h) Ethology             |
| (b) Comparative Anatomy of Vertebrates | (i) Vertebrate Evolution |
| (c) Cytology                           | (j) Invertebrate Zoology |
| (d) Embryology                         | (k) Mammalogy            |
| (e) Genetics                           | (l) Vertebrate Evolution |
| (f) Herpetology                        | (m) Ornithology          |
| (g) Histology                          | (n) Parasitology         |
|  | (o) Physiology           |
- Advanced work is individually assigned and will require reading and/or research. The student may register for only one of the above sections per semester. Not over 6 credits may be earned in this course. Prerequisite: The appropriate basic course in the chosen field, a minimum grade point average of 3.0 in the undergraduate major, and permission of the instructor. (STAFF)
- ①226 **Hydrobiology 4 credits F** A study of freshwater ecology with emphasis on water chemistry, primary and secondary production and micro-invertebrates and including investigations of nearby lotic and lentic environments. Three lectures and one three-hour laboratory or field trip a week. Prerequisite: Consent of the instructor. (RABE)
- ①230 **Problems in Contemporary Ornithology 2 credits S** Critical discussion of current problems and research trends in ornithology, based on lectures and selected reading. One two-day field trip. Prerequisite: Permission of instructor. (LARRISON)
- ②231 **Problems in contemporary Mammalogy 2 credits S** Critical discussions of current problems and research trends in mammalogy, based on lectures and selected readings. One two-day field trip. Prerequisite: Permission of instructor. (LARRISON)
- ② 232 **Problems in Contemporary Animal Ecology 2 credits F** Critical discussions of current problems and research trends in animal ecology, based on lectures and selected readings. Prerequisite: Permission of the instructor.
- ①234 **Ethology 2 credits F** Study of the function, biological significance causation and evolution of species-typical behavior in wild animals. One two-day field trip. Prerequisite: Permission of the instructor. (LARRISON)
- N239 **Natural History of Invertebrate Animals 3 credits SS** Significance of the environment in the lives and welfare of animals. Critical discussion of ecologic factors affecting populations and communities. Relation of vegetation and other environmental items to vertebrate animals as demonstrated in field studies in the Moscow area and nearby Palouse mountain range. Lectures, laboratory, and field trips.
- N240 **Economic Zoology 2 credits SS** A review of the economic relations, both positive and negative, of animals to man. Means of determining economic values are considered as well as the theory of control. Examination of the esthetic and recreational uses of animals. Designed to give the student a review of the place of animals in man's modern economy and appreciation. Lectures.
- N250 **Biology of Cold Blooded Vertebrates 3 credits SS** Principles of systematics and evolution of the fishes, amphibians, and reptiles. Lectures, laboratory, and field trips.
- 254 **Vertebrate Morphology 3 credits F** A consideration of concepts and procedures in the field of vertebrate morphology with emphasis on recent work and possibilities for future research. Topics will be drawn from the literature of gross, microscopic, and developmental anatomy. Prerequisite: Permission of instructor. (BROWN)
- 261-262 **Seminar 1 credit F & S** Reports on advanced literature in the various phases of Zoology. (STAFF)
- 300 **Research and Thesis Credits to be arranged F & S**

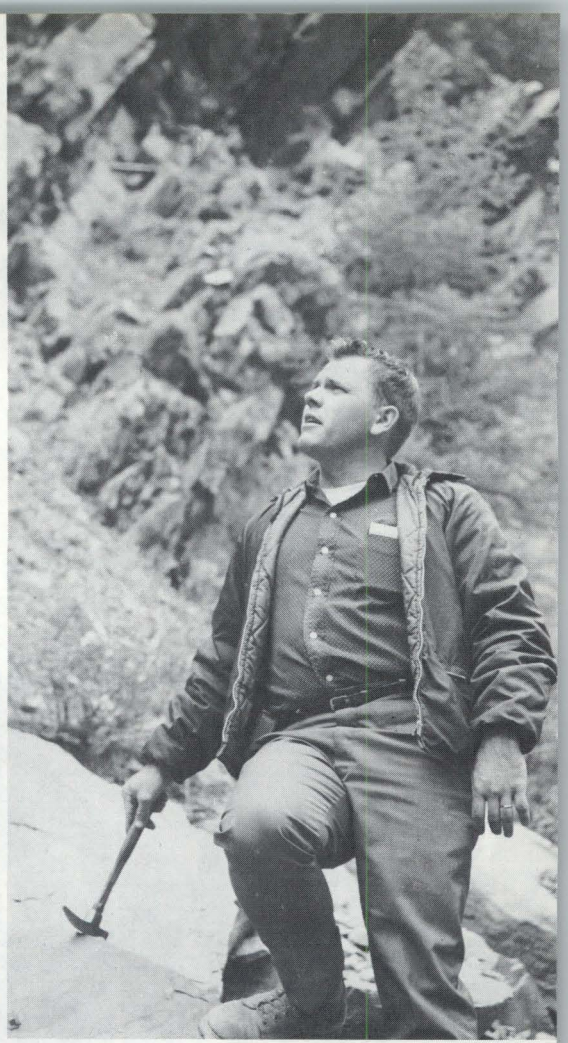
① Offered in alternate years; given in 1967-68.

② Offered in alternate years; given in 1968-69.

# PART IV

**Experiment Stations**  
**Agricultural Extension**  
**University Research**  
**Summer School**  
**Continuing Education**





**THE EXPERIMENT STATIONS**  
**AGRICULTURAL EXTENSION**  
**UNIVERSITY RESEARCH**  
**DIVISION OF ADULT EDUCATION**

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**AGRICULTURAL EXPERIMENT STATION**

JAMES E. KRAUS, Ph.D. .... *Director*  
RONALD D. ENSIGN, Ph.D. .... *Associate Director*

In compliance with an enabling act of Congress approved March 2, 1887, the Idaho Agricultural Experiment Station became an integral part of the State University at the time of its organization. The act, commonly known as the Hatch Act, defines the scope and activities of state experiment stations as follows:

That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantage of rotative cropping as pursued in a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of different kinds of foods for domestic animals; the scientific and economic questions in the production of butter and cheese; and such researches or experiments bearing directly on the agricultural industry in the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories.

The Hatch Act of 1887 provided for the establishment of an Agricultural Experiment Station at each of the land-grant colleges and the contribution of federal funds annually to the States to partially support research programs carried on by these stations. Several supplementary acts have been enacted since the Hatch Act. The 84th Congress, on August 11, 1956, passed H.R. Bill 5562 which consolidated the Hatch Act of 1887 and other supplementary laws providing for grants to the states and Puerto Rico for the support of Agricultural Experiment Stations. This consolidation allows much simplification of accounting for expenditures of federal funds. Five separate accounts were combined into one.

The Hatch Act Amended provides for the "continuation of the Agricultural research at State Agricultural Experiment Stations which have been supported by the Hatch Act of 1887, the Adams Act of 1906, the Purnell Act of 1925, the Bankhead Jones Act of 1935, and Title I, Section 9 of the Marketing Act of August, 1946, and acts amendatory and supplementary thereto, and to promote the efficiency of such research by a codification and simplification of such laws."

The Hatch Act Amended does not change the intent of Congress as was set forth in the original Hatch Act and succeeding acts. The allocations of federal funds are to continue on the basis of previous acts which include matching requirements and the 20 per cent marketing research requirement of funds appropriated pursuant to Section 9 of the Bankhead Jones Act.

Funds received from the Hatch Act are supplemented by state appropriations for the investigation of special problems and for the maintenance of branch stations, where some of the work can be most advantageously carried on.

**Organization and Work.**—The organization of the Agricultural Experiment Station is practically the same as that which prevails in the College of Agriculture. Under the general supervision of a Director, research is carried on by departments, of which there are now 12, viz: Agricultural Biochemistry and Soils, Agricultural Economics, Agricultural Engineering, Agricultural Information, Animal Science, Bacteriology, Dairy Science, Entomology, Home Economics Research, Plant Science, Poultry Science, and Veterinary Science. Each department has a broad conception of its duties and influences and is pushing actively the work it has inaugurated for the ultimate benefit of the agricultural industry it represents.

Many important lines of investigation are in progress. These include a wide range of research projects on production, marketing and utilization of agricultural products. Approximately 200 separate research projects are being actively pursued at the present time. The agricultural research program of the University is a dynamic program, and changes from year to year. As research is completed, the results are published and disseminated for public use, and new lines of investigation are begun. This research has a two-fold purpose; first, to find practical answers to problems which affect farmers or agricultural industry day-to-day operations and, second, to determine basic facts and new knowledge which may serve as the basis for answering problems which may arise in the future.

The Director of the Experiment Station is responsible for the administration and operation of the State Seed Laboratory in Boise.

**Laboratory and Other Facilities.** — The Departments of Bacteriology, Agricultural Biochemistry and Soils, Animal Science, Plant Science, Veterinary Science, Entomology, and Dairy Science have well equipped research laboratories in Life Sciences Building, Agricultural Science Building, Entomology Building, Dairy Sciences Building, and the Agricultural Education Crops and Soils Building. Agricultural Engineering laboratories are located in the Agricultural Engineering Building. Greenhouse facilities are provided for such lines of investigation as require them. The college farm of 1145 acres supports splendid herds of beef and dairy cattle, hogs and sheep, from which individual animals are selected for experimental feeding purposes. This farm also provides experimental fields for the use of the Departments of Plant Science, Agricultural Biochemistry and Soils, and range and breeding pens for the Department of Poultry Science.

Farming conditions within the State are so varied that it is necessary to conduct many lines of investigation away from the central station. The branch experiment stations are conveniently located for this purpose. On the Sandpoint station, experiments designed to point the way to the profitable utilization of the cut-over and burned-over lands are in progress. The station at Aberdeen is used for experiments in crop production under irrigation. A comprehensive program of potato and cereal research is included. The Caldwell Branch Station supports a dairy herd and is used for investigations in animal feeding and diversified farming. A feeding plant provides for 140 head of beef cattle and 365 head of sheep and 85 dairy stock. There is a well equipped animal disease laboratory at the Caldwell station and facilities to handle 350 sheep and 90 beef cattle for research purposes. At the branch station at Tetonia experiments are conducted in the growing of grains, grasses and potatoes, and tests of cultural practices which give promise of adaptability to elevations of more than 6,000 feet. The Tetonia Branch Station is the key station for production of foundation seed stocks of the cereals, potatoes and legumes. The Parma Branch Experiment Station is primarily a horticultural station at which extensive work is conducted on fruits, vegetables, vegetable seed crops and fresh market vegetables. Land was purchased for a Branch station at Twin Falls in 1950. The primary purpose of this station is for



research on all phase of bean production. A fruit and vegetable field station is maintained at Lewiston. Additional points of contact with agricultural problems are found on many farms of the State where cooperative work is carried on during the summe. The splendid public spirit of citizens in the several localities has made possible the work now in progress on these farms. In the work at Aberdeen, Caldwell, Parma, Twin Falls and at Tetonía, the United States Department of Agriculture, through its Agricultural Research Service and Soil Conservation Service, is cooperating. The Experiment Station actively cooperates with the U.S. Sheep Experiment Station at Dubois, Idaho. The University of Idaho owns and maintains approximately 7,000 head of sheep at that Station. University personnel headquartered at the Dubois Station work jointly with federal personnel.

**Publications.**—To disseminate research results and helpful information to the farmers of the State, the University of Idaho Agricultural Experiment Station issues a large number of publications each year. Each type has its specific mission. Research bulletins add to the world's permanent store of knowledge the new information coming from the Idaho studies. Experiment Station bulletins are of a more popular nature, aimed at guiding individuals engaged in the State's agriculture in taking advantage of the experimental results. Research Progress Reports, Information Leaflets and the quarterly publication, Idaho Agricultural Science, keep the state constantly informed on the broad scope of the research program in the College of Agriculture. County agent offices throughout the state maintain a complete file of Idaho agricultural publications, as well as those available from the United States Department of Agriculture. Although all agricultural research is conducted primarily for the benefit of those engaged in this basic industry, students in the College of Agriculture also are aided. For the most part, the men who conduct the agricultural research also teach classes. Thus the students receive in their normal classwork the latest information on research appropriate to their field of specialization.

## AGRICULTURAL AND HOME ECONOMICS EXTENSION

JAMES E. KRAUS, Ph.D. ....	<i>Director</i>
C. O. YOUNGSTROM, M.S. ....	<i>Associate Director</i>
D. E. WARREN, B.S. ....	<i>State 4-H Club Leader</i>
DOROTHY N. STEPHENS, M.S. ....	<i>State Home Economics Leader</i>

For many years the College of Agriculture and the University have rendered service to the farmers of the State through farmers' institutes, the publishing of bulletins and circulars, judging at fairs, answering letters of inquiry upon topics of interest to the farmers, and through special meetings held in all parts of the State.

Extension work, as it is known today, is an outgrowth of the Smith-Lever Act of Congress, approved May 8, 1914. With the aid of federal funds supplied by the terms of this Act and subsequent acts and special appropriations of the State, the Extension Service has contributed in a large measure to the development of an efficient and progressive agriculture.

General administration of extension work in Idaho is in the charge of the Director of Extension. The offices of the Director and other leaders are at Moscow. Offices of Associate Director, field specialists and district agents are at Boise, Pocatello, and Moscow. General supervision of the 42 county offices is under four District Extension Agent Supervisors. The State 4-H Club Leader directs the club work of the State, which has an enrollment of approximately 19,000 boys and girls. Field specialists carry on carefully outlined projects of work largely through the county agents, in plant science,

agricultural engineering, entomology, animal science, dairy science, improvement of soils, poultry science, pure seed production, forestry, agricultural economics, marketing, potato service, conservation, and various phases of homemaking.

Members of the extension staff are the field representatives of the University of Idaho. They are constantly working in the rural communities, assisting in every possible way in agricultural development and home improvement. Through the Agricultural Extension Service the work of the College of Agriculture of the University of Idaho has become statewide, and this service is rendered by the institution not only to those near at hand, but also to those of the State farthest removed from the campus.

## ENGINEERING EXPERIMENT STATION

H. SIDWELL SMITH, Ph.D. P.E. ..... *Director*  
 R. E. WARNER, Ph.D. (Ch.E.), P.E. .... *Associate Editor*

Although the Engineering Experiment Station was not formally organized by the Board of Regents until June, 1928, investigational work has been carried on in the materials testing and other laboratories since 1904. During that year and the year following, two bulletins were published, each dealing with the road-making properties of the trap rocks of the Palouse region. To date twelve bulletins and thirty reprints have been published in printed form and results of numerous studies appear in mimeographed form.

**Object and Organization.**—The station was established to do research work in connection with engineering problems of importance to industries, municipalities, public utilities, state departments, and engineers of Idaho; to stimulate research activity in the faculty and among the students of the College of Engineering; and to publish the results of investigations and compilation of data of value to the citizens of the State.

The staff of the station is composed of the president of the University, the director and various members of the faculty of the College of Engineering. The laboratories of the departments of civil, mechanical, electrical, chemical, and agricultural engineering are employed in the investigations conducted by the station.

## FOREST, WILDLIFE AND RANGE EXPERIMENT STATION

ERNEST WOHLLETZ, M.S. .... *Director*  
 EDWIN W. TISDALE, Ph.D. .... *Associate Director*  
 PAUL D. DALKE, Ph.D. .... *Leader, Cooperative Wildlife Research Unit*  
 DONALD W. CHAPMAN, Ph.D. .... *Leader, Cooperative Fisheries Unit*

The research program of the College of Forestry, Wildlife and Range Sciences, is centered in this Experiment Station which was established through authorization granted by the State Legislature in 1939.

**Purpose.**—The Experiment Station is to institute and conduct investigations into problems of forest, range, wildlife and fishery management and wood products technology within the State and to disseminate to the public information so obtained. The Station is to cooperate fully with all private and State and Federal agencies. Authority exists for the establishment of experimental sub-stations under approval of the Board of Regents.

**Organization and Work.**—The Experiment Station staff consists of the President of the University, the Director, Associate Director, full time members of the research staff and other faculty members and graduate fellows of the College on a part-time basis. The research program includes projects in all of the resource management and utilization areas mentioned above. This research work is well distributed geographically, with one or more projects in every major region of the State.

**Facilities.**—The laboratories and re arch equipment of the College are available for the work of the Station. Additional facilities of other University Departments are available on a cooperative basis. The 7,200 acre University Experimental Forest, The Clarke-McNary Nursery and the Shattuck Arboretum provide additional facilities on or near the campus. Other facilities are available through cooperation with various individuals and agencies in the State, particularly the U.S. Forest Service, Bureau of Land Management and Idaho Department of Fish and Game.

**Idaho Cooperative Wildlife and Fisheries Units.**—These units exist through cooperative agreements between the University, the State Department of Fish and Game, the U.S. Bureau of Sport Fisheries and Wildlife and the Wildlife Management Institute. Under these arrangements the federal government assigns the Unit Leaders to the University. Through the Units; funds are provided for a number of Research Fellowships for study of wildlife and fishery problems.

**Publications.**—The research results of the station are made available through the medium of Station notes, papers and bulletins, and by articles in technical and popular journals and magazines.

## IDAHO BUREAU OF MINES AND GEOLOGY

R. R. REID, B.S., M.S., Ph.D. .... *Director*

The state statutes under which the Idaho Bureau of Mines and Geology is established and operated specify that the Bureau's office and headquarters shall be at the University of Idaho and that the Dean of the College of Mines is Director of the Bureau. The Bureau functions primarily as a research and service organization in fields pertaining to the mineral industry of the State. Cooperative relations are maintained with federal agencies working in this

area, particularly the U.S. Bureau of Mines and the U.S. Geological Survey.

Geological and mineral engineering field studies of a reconnaissance nature as well as those designed to obtain detailed information of particular areas and commodities are conducted throughout the state. Reports are issued incorporating the results of such investigations.

The Bureau maintains laboratories in the College of Mines building where research designed to find better or more economical methods for processing ores and mineral products is conducted. Microscopes, black lights, Geiger counters and similar instruments required for mineral identification are used. In the mineral dressing laboratory, crushers, grinding mills, flotation cells, classifiers and various gravity concentration units are used in making metallurgical tests on ores.

## BUREAU OF BUSINESS AND ECONOMIC RESEARCH

DAVID D. KENDRICK, Ph.D. .... *Director*

NORMAN NYBROTEN, Ph.D. .... *Associate Director*

As an integral part of the University, the Bureau of Business and Economic Research takes responsibilities in the general area of business and

economics. The Bureau's work is primarily in applied research of immediate interest to the State's business and economy. Some of the work of the Bureau could be classified as professional service aimed at developing the State's resources and providing some of the conditions for engaging University staff and students on the State's problems and orienting them to the economic climate.

The Bureau maintains a minimum full-time staff but has a responsive flexibility which can be geared to projects undertaken. When problems submitted to the Bureau result in broad projects requiring various research specialists they can usually be borrowed from other divisions of the University. In some instances this is done through inter-divisional co-operation. The availability of suitable personnel is, of course, one of the principal factors in determining whether specific work will be undertaken. The Bureau is organized on the basis of projects and work underway rather than by departments.

Reports of the Bureau are issued occasionally on selected subjects as conditions warrant. Publications are mainly reports of research done. There are two series of publications—the **monograph** and the **research report**. The subject matter varies. To date the principal areas have been highway economics, credit and finance, Indian affairs, taxation, employment, and general statistics.

## BUREAU OF PUBLIC AFFAIRS RESEARCH

BOYD A. MARTIN, B.S., A.M., Ph.D. .... *Director*

HERBERT S. DUNCOMBE, B.A., M.A., Ph.D. .... *Acting Associate Director*

The Bureau of Public Affairs Research was established in 1959 as a unit within the Department of Social Sciences in the College of Letters and Science to conduct advanced research studies in public affairs and administration. It has produced a series of research monographs and a separate series of research memorandum. These studies have served to provide state legislators, city councilmen, and county officials with up-to-date factual information on subjects such as legislative staff assistance, municipal salaries, municipal finance, and the responsibilities of county officials. The Bureau answers requests from official groups and others in Idaho for information or brief studies and works with official groups to sponsor institutes for local officials. The Bureau maintains a small library of publications from Idaho and other States which it maintains through exchange of publications with other agencies.

In addition to its regular appropriations for its activities, some of the projects of the Bureau are financed in part from funds of the Research Council. The Bureau normally employs an Associate Director part time during the summer and employs a Research Fellow and part-time secretary as well as other consultants or research assistants who are employed as needed.

## WATER RESOURCES RESEARCH INSTITUTE

*The Advisory Committee:*

E. W. HARTUNG, *Chairman*

J. E. KRAUS

E. WOHLTZ

H. S. SMITH

R. R. REID

*Policy and Coordinating Committee*C. C. WARNICK, *Director*

G. L. COREY	H. R. ALDEN
C. MACPHEE	G. C. LEWIS
T. R. WALENTA	W. E. FOLZ
P. MANN	F. W. RABE
D. C. LARSON	R. E. WILLIAMS
D. W. FITZSIMMONS	G. H. BELT

This Institute is the result of a committee appointed by former President D. R. Theophilus on June 5, 1961, to study and develop a coordinated plan for water resources policies and programs within the University with regard to research, teaching and service. The committee was also assigned to study ways of implementing the plan by securing public, private and group participation within the State of Idaho or outside agencies if deemed advisable.

Official action establishing the Institute was taken by the Board of Regents on October 24, 1963.

The operation of the Institute is principally an effort of inter-disciplinary action and as such has the following objectives:

1. To encourage fundamental and basic research in areas related to water.
2. To increase, improve and coordinate the efforts of the various University departments concerned with water resources research by defining problem areas, encouraging team efforts between different disciplines, and assisting in the planning and implementation of interdisciplinary research in cooperation with federal, state and private agencies.
3. To strengthen and coordinate undergraduate and graduate programs and course offerings so that the University can supply well-trained teachers and leaders capable of coping with the complex water problems at the local, state, regional and national levels.
4. To gather, disseminate and coordinate ideas and research findings between the University and various other groups and agencies interested in water resources. This is to include acquiring and maintaining a library which will be a central source of water information to all concerned.

The Institute was funded in January, 1965, to function with other like institutes under the federal Water Resources Research Act of 1964 (Public Law 379-88). It was established as one of the first fourteen such institutes in the nation and as such has a mission to conduct competent research in relation to water resources and to train scientists and engineers through such research.

## RESEARCH COUNCIL AND RESEARCH FOUNDATION

The Research Council was established to foster research in all legitimate ways, encourage and assist research workers, coordinate the various research programs being carried on by the University, and administer certain research funds. The University of Idaho Research Foundation, Inc., is a separate legal entity which implements the provisions of the University Patent Policy. Its purpose is to protect the interests of the inventor, the public and the University, and handle inventions growing out of University research programs.

The Special Research and the General Research funds are administered by the Research Council. The Special Research program provides for conducting fundamental, exploratory and applied research on problems related to the development of Idaho, the efficient utilization of its resources, and the growth of its economy. General Research funds are available for fundamen-

tal research in those fields not served by experiment stations or comparable research units.

The University Research Advisory Council is composed of representative Idaho citizens whose guidance and advice assures Idaho a research program geared closely to the needs of the State. The membership of the Advisory Council and the directors of the Research Foundation are listed in Part VI of this catalog.

## BUREAU OF EDUCATIONAL RESEARCH AND SERVICE

EVERETT V. SAMUELSON, Ed.D. .... *Director*

EDWARD L. KELLEY, Ed.D. .... *Associate Director*

The purpose of the Bureau of Educational Research and Service, College of Education, is multi-dimensional. First, it is to aid in the development of a precise and empirically verified body of knowledge uniquely related to education as a discipline, that is, to the teacher-learner situation. To this end, both theoretical and applied research is carried on within the framework of the Bureau of Educational Research and Service. Included as a basic part of this research function is the relating of existing research findings to problems pertaining to the development of educational models and to the structure of teaching. Second, it is to conduct descriptive studies relating to such things as school administration, curriculum, personnel practices, student accomplishment, and educational innovations. The focus of such studies is on the compilation of accurate and useful information about some aspect of public education, particularly within the State of Idaho. Evaluation and implementation of research findings is also included in this function of the Bureau. A third purpose is to cooperate with faculty members, with existing educational agencies, and with local school districts in conducting cooperative research projects and activities. Thus, the Bureau provides an organization framework for the study and improvement of public education, particularly within the State of Idaho.

The Associate Director of the Bureau of Educational Research and Service serves as the Editor of the "College of Education Record," a quarterly publication of the College of Education. This publication is currently sent to approximately one thousand libraries throughout the nation.

The rapid expansion of knowledge, the involvement of the federal government in public education, and the increased activities of private foundations made it imperative that a Bureau of Educational Research and Service be organized. Through the work of this Bureau, the College of Education and the University of Idaho can more effectively serve the schools of the state and of the nation.

## DIVISION OF SUMMER SCHOOL AND CONTINUING EDUCATION

PAUL KAUS, Ed.D. .... *Director and Coordinator*

Service by this Division includes directing the Summer School Program, administering the undergraduate NRTS and Real Estate Certificate programs, and coordinating for the University of Idaho programs administered by Idaho Continuing Education.

### SUMMER SCHOOL

A Summer School of eight weeks offering numerous undergraduate and graduate courses plus many short courses, seminars, and workshops, is held each summer on the University campus at Moscow. Courses are offered in

the Colleges of Letters and Science, Agriculture, Engineering, Mines, Forestry, Wildlife and Range Sciences, Education, and Business Administration. Admission to the Summer School is on the same basis as during the regular academic year. Regular registration is held the first day of Summer School.

Included in the program are National Defense Education institutes, National Science Foundation institutes, the College of Mines Summer Camp, the College of Forestry Summer Camp, student teaching, and many workshops. A full recreation program is scheduled as well as the Music Festival, Summer Theatre, Traveling Workshop in Painting, Journalism Workshop, High School Music Camp, Social Science Forum, and programs for school personnel.

A Summer School Bulletin may be obtained by writing Paul Kaus, Director, Summer School, University of Idaho.

### CONTINUING EDUCATION

**The National Reactor Testing Station Adult Education Center**—The undergraduate education program at the National Reactor Testing Station at Idaho Falls is administered by the division of Continuing Education at the University of Idaho. The program offers resident credit. Enrollment is limited to contractor employees in the National Reactor Testing Station. Courses are offered each semester. No summer session is scheduled. A graduate program is also offered and is administered by the University of Idaho Graduate School. Further information may be obtained from W. D. Miller, NRTS Education Program, P.O. Box 1845, Idaho Falls, Idaho.

**Real Estate**—The Real Estate Certificate program is operated cooperatively with the College of Business Administration, Idaho Real Estate Brokers Board, and the Idaho Association of Realtors. It is a non-credit program which leads toward a fundamentals or advanced Certificate. At the present time, five courses are offered in the fundamentals programs. There are Essentials of Real Estate Practice, Real Estate Law, Real Estate Appraisal, Real Estate Finance, and Real Estate Advertising and Salesmanship. Plans are now underway for full development of the advanced program. At present, two advanced courses are available. They are Advanced Appraisal, and Finance and Taxation. Courses in the fundamental program are also available by correspondence.

Courses are offered in various Idaho communities where it is determined that there are sufficient interested students, a qualified instructor and adequate facilities. Instructors are employed subject to the approval of the College of Business Administration. Records are maintained and funds administered by the Division of Continuing Education on the University of Idaho campus.

**Extension Courses**—The purpose of the Extension Course program is to enable adults throughout the state to strengthen their professional qualifications and continue their general education. The program is administered by Idaho Continuing Education through three regional offices. Selection of courses to be offered, initial contact of potential instructors, the administration of funds, and arrangements for facilities are handled by Idaho Continuing Education.

In programs where it is proposed that the University of Idaho grant college credit, both the instructor and the course must be approved by the University of Idaho. Before the University of Idaho can accept credit registrations, the student must provide application and registration information and otherwise meet the requirements for admission to the University. The entrance requirements for credit extension courses are generally the same as that on campus (See admission's section in this catalog). In some courses, non-high school graduates over 21 years of age may be allowed to enroll on a non-credit basis.

Students are not permitted to carry extension work while enrolled in residence at the University of Idaho. This rule may be waived by written approval of the student's academic dean. The amount of credit the student may apply toward a bachelor's or master's degree is limited (see General University Requirements for Degrees and Graduate School).

**Adult Education Centers.**—University of Idaho grants resident credit for approved Adult Education Centers administered by Idaho Continuing Education. At the present time, this is restricted to the Boise Adult Education Center, which operates a year round program and the Coeur d'Alene Adult Education Center, which operates summers only. These centers are administered by regional directors of Idaho Continuing Education. The selection of courses, administration of funds, and arrangements for facilities are handled by Idaho Continuing Education.

Each instructor and course must be approved by University of Idaho officials before the course may be offered and before credit can be granted. Students enrolling for credit must meet full requirements for admission to the University of Idaho. This requires not only application, but also transcripts from institutions previously attended.

A candidate for a degree may complete 16 semester credits of the 32 semester credits of residence work required in his senior year, through study at an Adult Education Center. The last 16 semester credits must be completed on the University of Idaho campus in Moscow, either by attendance for one semester or two summers. If this work is done in two summers, the candidate may take extra credits, over and above the number required for his degree, through correspondence courses, extension courses, adult education center courses, or attendance at another fully accredited institution during the period between the two summers.

**Correspondence Study**—The University of Idaho grants credit for the Correspondence Study program administered by Idaho Continuing Education. Before the University grants credit, the courses and grader must be approved by University officials. The correspondence courses which are offered are especially helpful to those preparing for various vocational fields, teachers who wish to earn or renew a teaching certificate, those in the military service and others wishing to improve their educational and cultural background.

Each course represents an amount of work equivalent to that done by students in similar courses on the campus. Anyone who feels he is qualified by education, training, or experience is eligible to enroll. Students who expect to apply the credit toward a degree must satisfy all entrance requirements. The amount of correspondence credit applicable towards a degree is limited (see University Requirements for Degree).

Both college and high school courses are offered for credit. Non-credit courses include real estate certificate courses and a course in naturalization for aliens.

Students are not permitted to carry correspondence work while in residence at the University of Idaho. This rule may be waived only by the written approval of the student's academic dean.

**Civil Defense Program.**—The University of Idaho cooperates with the Idaho Continuing Education in the University Extension Civil Defense Program. Headquarters for the program are located on the University campus. Under a contract with the Federal Office of Civil Defense, short courses and conferences are presented throughout the state to acquaint local government officials and community leaders with Civil Defense responsibilities.





## **PART V**

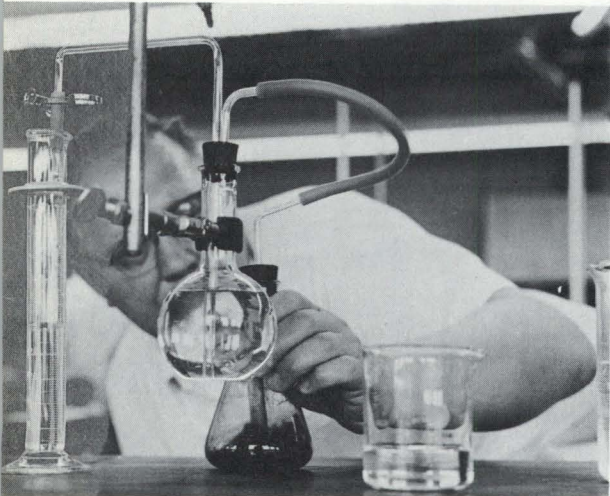
**Administrative Officers and Faculty  
of the University  
Statistics**

# ARTS

Activities of Officers and Faculty

Department

1962



# ADMINISTRATION OFFICERS AND FACULTY OF THE UNIVERSITY

## STATISTICS

### BOARD OF REGENTS AND STATE BOARD OF EDUCATION

Philip A. Dufford, <i>President</i> .....	Boise
Term Expires 1969	
Eldon W. Smith, <i>Vice President</i> .....	Rexburg
Term Expires 1970	
Mrs. John G. Walters, <i>Secretary</i> .....	Boise
Term Expires 1970	
Elvon Hampton .....	Genesee
Term Expires 1971	
Edmund A. Bogert, Jr. ....	Pocatello
Term Expires 1972	
Joseph D. McCollum .....	Twin Falls
Term Expires 1973	
John J. Peacock .....	Kellogg
Term Expires 1968	
Gilbert J. Carbone, Executive Director for Higher Education .....	Boise
D. F. Engelking, Executive Secretary State Board of Education .....	Boise

### EXECUTIVE COMMITTEE FOR THE UNIVERSITY OF IDAHO

	Philip A. Dufford, Chairman
Eldon Smith	Mrs. John G. Walters
Elvon W. Hampton	John J. Peacock

### ADMINISTRATIVE OFFICERS

Ernest W. Hartung, Ph.D. ....	<i>President of the University</i>
H. Walter Steffens, Ph.D. ....	<i>Vice President for Academic Affairs</i>
Kenneth Andrew Dick, M.B.A., C.P.A. ....	<i>Vice President for Financial Affairs &amp; Bursar</i>
Boyd Archer Martin, Ph.D. ....	<i>Dean of the College of Letters and Science and Director of Bureau of Public Affairs Research</i>
James E. Kraus, Ph.D. ....	<i>Dean of the College of Agriculture Director of the Agricultural Experiment Station and Director of the Agricultural Extension Service</i>
*Allen S. Janssen, M.S. (C.E.), P.E. ....	<i>Dean of the College of Engineering and Director of the Engineering Experiment Station</i>
**George M. Bell, J.D. ....	<i>Acting Dean of the College of Law</i>
Rolland R. Reid, Ph.D. ....	<i>Dean of the College of Mines, and Director of Idaho Bureau of Mines and Geology</i>
Ernest Wohletz, M.S. ....	<i>Dean of the College of Forestry, Wildlife, and Range Sciences and Director, Forest, Wildlife, and Range Experiment Station</i>
Everett V. Samuelson, Ed.D. ....	<i>Dean of the College of Education</i>
David D. Kendrick, Ph.D. ....	<i>Dean of the College of Business Administration and Director of Bureau of Business and Economic Research</i>
Melbourne L. Jackson, Ph.D. ....	<i>Dean of the Graduate School</i>
Charles O. Decker, M.A. ....	<i>Dean of Students</i>
Marjorie M. Neely, M.S. ....	<i>Dean of Women</i>
Joseph W. Watts, B.S. ....	<i>Business Manager</i>
F. Lee O'Neill, M.Ed. ....	<i>Registrar</i>
Lee Franklin Zimmerman, M.A. ....	<i>Librarian</i>
Raphael S. Gibbs, B.A. ....	<i>University Editor and Director of Information</i>
Paul Kaus, Ed.D. ....	<i>Director of Adult Education and Summer School</i>
Frank Young, M.S. ....	<i>Director of Admissions</i>
Robert N. Van Wagoner, M.B.A. ....	<i>Director of Institutional Research</i>

\*H. Sidwell Smith, Ph.D., Dean of the College of Engineering and Director of the Engineering Experiment Station, Professor of Civil Engineering effective July 1, 1967

\*\*Albert R. Menard, Jr., LL.B., Dean of the College of Law effective July 1, 1967

## GENERAL FACULTY

## FACULTY COUNCIL

The Faculty Council is the representative body of the General Faculty. Members of the Council were elected from the faculties of the Colleges shown in parenthesis.

## TERM EXPIRING 1968

Bert C. Cross, M.S. .... *Associate Professor and Chairman, Journalism* (Letters and Science)  
 Clifford I. Dobler, M. A. (Pol. Sci.) .... *Associate Professor, Political Science* (Letters and Science)  
 Arthur R. Gittins, Ph. D. .... *Associate Professor, Entomology* (Agriculture)  
 Thomas R. Walenta, J.D.S. (Chairman of the Council) ..... *Professor of Law* (Law)

## TERM EXPIRING 1969

Edith Betts, M.S. .... *Associate Professor, Physical Education—Women* (Education)  
 Gordon R. Bopp, Ph. D. .... *Associate Professor, Chemical Engineering* (Engineering)  
 R. Bruce Bray, M.Mus. .... *Associate Professor, Music* (Letters and Science)  
 Donald W. Seelye, A.B. (Econ.) .... *Associate Professor, Economics* (Business Administration)

## TERM EXPIRING 1970

George L. Bloomsburg, Ph.D. .... *Associate Professor, Agricultural Engineering* (Engineering)  
 Ross E. Christian, Ph.D. .... *Professor, Animal Science* (Agriculture)  
 Carlton L. Iiams, Ph.D. .... *Associate Professor and Chairman, Foreign Languages*  
 (Letters and Science)  
 Frederick D. Johnson, M.S. .... *Assistant Professor, Forestry* (Forestry)  
 Charles J. Smiley, Ph.D. .... *Associate Professor, Geology* (Mines)

### PROFESSORS, ASSOCIATE PROFESSORS, AND ASSISTANT PROFESSORS

(Year after each listing denotes year individual entered service at the University of Idaho.)

- Abbasi, Ali D., M. S. (Ch.E.), *Assistant Professor, Mechanical Engineering*  
 B.S. (Ch.E.) University of Iowa; M.S. (Ch.E.), University of Idaho. 1957
- Alden, Howard R., M.S. (Botany), *Assistant Professor, Forestry*  
 B.S. (Ed.), M.S. (Botany), University of Maine. 1963
- Aller, Alvin R., Ph.D., *Assistant Professor, Botany*  
 B.S., Bethany College; M.S., Kansas State University; Ph.D., Oregon State Univ. 1959
- Aller, Florence Dorothy, Ed.D., *Associate Professor, Home Economics*  
 A.B., Bethany-Peniel College, M.S., Oregon State University; Ed.D., University of Idaho. 1962
- Amos, Harold C., M.S. (M.E.), *Assistant Professor, Mechanical Engineering*  
 B.S. (M.E.), University of Nebraska; M.S., (M.E.), University of Idaho. 1954
- Anderson, Guy R., Ph.D., *Associate Professor, Bacteriology, and Associate Bacteriologist*  
 B.S., M.S., University of Idaho; Ph.D., Washington State University. 1946
- Anderson, Ruth, M.S., (Ed.), *Associate Professor, Office Administration*  
 B.A., M.S., University of Idaho. 1946
- Anderson, Thomas K., B.S., (Physics), *Assistant Professor, Naval Science, Lieutenant*  
 B.S., Davidson College. 1965
- Anderson, Thomas L., M.S. (C.E.), *Associate Professor, Civil Engineering*  
 B.S., M.S., (C.E.), University of Idaho. 1962
- Anthis, William, M.S., (E.E.), *Assistant Professor, Electrical Engineering*  
 B.S. (E.E.), University of Maryland; M.S., University of Idaho. 1962
- Ardrey, William B., Ph.D., *Professor and Pathologist, Veterinary Science*  
 B.S., Monmouth College; M.S., Ph.D., Michigan State University. 1939
- Avery, Jasper R., M.S. (M.E.), *Assistant Professor, Mechanical Engineering*  
 B.S. (M.E.), M.S. (M.E.), University of Idaho. 1959
- Bailey, James W., D.V.M., *Associate Professor, Veterinary Science and Associate Veterinarian*  
 B.Ed., Western Illinois State Teachers College; D.V.M., Texas A. and M. 1953
- \*Baily, Everett M., M.S. (E.E.), *Assistant Professor, Electrical Engineering*  
 B.S. (E.E.); M.S. (E.E.), University of Idaho. 1961
- Baker, George Orien, M.S., *Professor, Biochemistry and Soils Specialist, Emeritus*  
 B.S., M.S., Washington State University. 1935
- Baker, John P., Ph.D., *Associate Professor, Animal Science, and Associate Animal Scientist*  
 B.S., M.S., Texas A. and M.; Ph.D., University of Illinois. 1960
- Baker, William H., Ph.D., *Professor and Chairman, Botany; Head, Department of Biological Sciences*  
 B.S., M.S., Ph.D., Oregon State University. 1948
- Banks, Willilam C., M.A., *Professor, English*  
 B.A., M.A., University of Washington, 1927

\*On leave, 1967-68

- Barnes, William P., M.S. (M.E.), P.E., *Professor, Mechanical Engineering*  
B.S. (M.E.), University of Idaho; M.S. (M.E.), Yale University. 1957
- Barnhart, John L., Ph.D., *Associate Professor, Dairy Science, and Associate Dairy Scientist*  
B.S., Pennsylvania State University; M.S., West Virginia University; Ph.D., Pennsylvania State University. 1934. 1956
- Barr, William F., Ph.D., *Professor, Entomology, and Entomologist*  
B.S., M.S., Ph.D., University of California. 1947
- Bartell, Charles G., M.S. (Arch.), *Associate Professor, Architecture*  
B. Arch., University of Washington; M.S. (Arch.), Columbia University. 1950
- Bauer, LeRoy O., M.M., *Professor, Music*  
B.S. (Mus.Ed.), University of Wisconsin; M.M., Northwestern University. 1956
- Beattie, Lynn A., Ph.D., *Professor, Electrical Engineering*  
B.S. (E.E.), B.S. (Math.), M.S. (E.E.), A.M. (Math.), Ph.D., University of Michigan. 1957
- Beattie, Mabel W., M.A., *Professor, Languages*  
B.A., University of Idaho; M.A., Radcliffe College. 1925
- Beck, Sidney M., Ph.D., *Associate Professor, Bacteriology, and Associate Bacteriologist*  
A.B., M.A., Brigham Young University; Ph.D., Pennsylvania State University. 1951
- Bell, George M., J.D., *Professor, Law, and Acting Dean*  
B.S., Utah State University; J.D., George Washington University. 1949
- Bell, Roy A., M.S., *Associate Professor, Photography*  
B.A., M.A., University of Idaho. 1950
- Bell, T. Donald, Ph.D., *Professor and Head Department of Animal Science, and Animal Scientist*  
B.S. (Agr.), M.S., (Agr.), University of Idaho; Ph.D. (Genetics), University of Wisconsin. 1957
- Bell, Thomas O., Ed.D., *Director, School Survey Project*  
B.A., M.A., Idaho State University; Ed.D., Utah State University. 1966
- Bellinger, Gladys I., Ph.D., *Professor and Head, Department of Home Economics*  
B.S. (Ed.), Kansas State Teachers College; M.S., Ph.D., Cornell University. 1960
- Belt, George Harley, Jr., M.F., *Assistant Professor, Forestry*  
B.S., N.C. State College; M.F., Yale University; D.F., Duke University. 1965
- Bergeson, Donald E., B.S., *Assistant Professor, Art and Architecture*  
B.S., University of Colorado. 1966
- Berman, Herbert A., LL.B., *Professor of Law*  
A.B., LL.B., Harvard University. 1952
- Berry, Ray M., Ed.D., *Professor, Education, Emeritus*  
A.B., Illinois College; M.A., Teachers College, Columbia University; Ed.D., Stanford University. 1946
- Betts, Edith, M.S., *Associate Professor, Physical Education (Women)*  
B.S., University of Wisconsin; M.S., Smith College. 1951
- Bevan, Roland C., Ph.D., *Associate Professor, Agricultural Economics, and Associate Agricultural Economist*  
B.S. (Agr.), M.S. (Ag. Econ.), University of Minnesota; Ph.D., University of Illinois. 1946
- Biggam, William R., Ed.D., *Professor, Industrial Arts Education*  
B.S., M.A., University of Minnesota; Ed.D., Bradley University. 1959
- Billingsley, William A., M.M., *Professor, Music*  
B.M. (Mus. Ed.), M.Mus., Drake University. 1954
- Bishop, Guy William, Ph.D. *Associate Professor, Entomology and Associate Entomologist*  
B.S., M.S., Oregon State College; Ph.D., Washington State University. 1957
- Bjorn, Theodore C., Ph.D., *Visiting Associate Professor, part-time, Law*  
B.S., Utah State University; M.S., University of Idaho; Ph.D., Utah State University. 1966
- Blanton, Paul Leslie, M.Arch., *Associate Professor, Architecture*  
B.S. (Arch.), University of Idaho; M. (Arch), University of California. 1958
- Bloomsburg, George L., Ph.D., P.E., *Associate Professor, Agricultural Engineering, and Associate Agricultural Engineer*  
B.S. (Ag.E.), M.S. (Ag.E.), University of Idaho; Ph.D., Colorado State University. 1961
- Boas, Ruth H., M.A., *Assistant Professor, English*  
B.A., M.A., University of Idaho. 1958
- Bobisud, Larry E., Ph.D., *Assistant Professor, Mathematics*  
B.S., College of Idaho; M.S., University of New Mexico; Ph.D., University of New Mexico. 1967
- Boone, Lalia P., Ph.D., *Professor, English*  
A.M.A.A. Westminster College; B.A., East Texas State; M.A., University of Oklahoma, Ph.D., University of Florida. 1965
- Bopp, Gordon R., Ph.D., *Associate Professor, Chemical Engineering*  
B.S. (Chem. Engr.), M.S. (Chem.Engr.), University of Colorado; Ph.D., Stanford University. 1963
- Borning, Bernard C., Ph.D., *Professor and Chairman, Department of Political Science*  
B.A., Ph.D., University of Minnesota. 1949
- Botsford, James L., Ph.D., *Associate Professor, Mathematics*  
A.B., University of Washington; Ph.D., California Institute of Technology. 1949
- Bowers, Alfred W., Ph.D., *Professor, Anthropology and Sociology*  
B.S., Beloit College; M.S., Ph.D., University of Chicago. 1949

- Boyer, W. H., Ph.D., *Professor and Head, Department of Psychology, Emeritus*  
B.S., M.S., University of Idaho; Ph.D., George Peabody College. 1930
- Bradberry, Brent A., Lt. (jg) USN, B.A., *Assistant Professor, Naval Science*  
B.A. (Math), Pepperdine College. 1964
- Bray, R. Bruce, M.Mus., *Associate Professor of Music*  
B.A., M.Mus., University of Oregon. Certificate, University of Strasbourg. 1961
- Brenner, Gerry, M.A., *Assistant Professor, English*  
B.A., M.A., University of Washington. 1965
- Brockelbank, William J., *Docteur en Droit, Professor, Law, Emeritus*  
B.A., Haverford College; LL.B., Harvard University; LL.M., University of Montpellier;  
Docteur en Droit, University of Paris. 1943
- Brockway, Charles E., M.S., *Assistant Research Professor, Agricultural Engineering*  
B.S. (C.E.), University of Idaho; M.S. (C.E.), California Institute of Technology. 1965
- Brown, Robert H., M.S., *Assistant Professor, Biological Sciences*  
B.S., M.S., University of Arizona. 1965
- Brusven, Merlyn A., Ph.D., *Assistant Professor and Assistant Entomologist, Entomology*  
B.S., M.S., North Dakota State University; Ph.D., Kansas State University. 1965
- Bull, Richard C., Ph.D., *Assistant Professor, Department of Animal Science and Assistant Animal Scientist*  
B.S., M.S., Colorado State University; Ph.D., Oregon State University. 1967
- Burcaw, G. Ellis, B.A., *Director, University of Idaho Museum, and Assistant Professor, Museology*  
B.A., Maryville College. 1966
- Burlingame, E. Mildred, Ph.D., *Associate Professor, Psychology*  
A.B., M.A., Stanford University; Ph.D., University of Minnesota. 1942
- Byers, Roland O., M.S., *Professor and Chairman, Engineering Drawing*  
B.S., M.S., Ohio University. 1954
- Cady, Louis C., Ph.D., *Dean of Graduate School, Emeritus*  
B.S. (Ch.E.), M.S., University of Idaho; Ph.D., University of Wisconsin. 1922
- \*Caldwell, Harry H., Ph.D., *Professor and Chairman, Geography*  
A.B., Clark University; M.A., University of Nebraska; Ph.D., Clark University. 1948
- Calkins, Harmon E., Ph.D., *Associate Professor, Bacteriology, and Associate Bacteriologist*  
A.B., Transylvania College; M.S., University of Kentucky; Ph.D., University of Pennsylvania. 1964
- Calvert, James E., Jr., Ph.D., *Assistant Professor, Mathematics*  
A.B., University of California; M.A., University of California; Ph.D., University of California. 1967
- Campbell, Howard E., Ph.D., *Professor and Head, Department of Mathematics*  
B.S. (E.E.), M.S. (Math.), Ph.D. (Math), University of Wisconsin. 1963
- Carpenter, Gene Paul, Ph.D., *Assistant Entomologist, Entomology*  
B.S., Oklahoma State University; M.S., Ph.D., Oregon State University. 1966
- Case, William N., B.S., *Professor, Naval Science, Colonel*  
B.S., University of Maryland. 1966
- Carter, Louise S., M.A., *Dean of Women, Emeritus*  
B.A., University of Washington; M.A., Columbia University, 1923
- Chan., Samuel S.M., M.S., *Assistant Professor, Mining Engineering and Metallurgy*  
B.S. (Mining and Met.), Cheung Kung University, China; M.S. (ME) and M.S. (Geology), Missouri School of Mines and Metallurgy. 1962
- Chapman, Donald W., Ph.D., *Professor, Fishery Management, and Leader Idaho Cooperative Fishery Unit*  
B.S., M.S., Ph.D., Oregon State University. 1964
- Chavez, Edmund M., M.F.A., *Associate Professor, Dramatics*  
B.A., Southwest Texas State College; M.F.A., University of Texas. 1951
- Cherrington, Virgil A., Ph.D., *Professor and Head, Department of Bacteriology and Bacteriologist*  
B.S., Iowa State University; M.S., University of Idaho; Ph.D., Iowa State University. 1928
- Christenson, Charles O., Ph.D., *Assistant Professor, Mathematics*  
B.A., M.A., University of Kansas; Ph.D., New Mexico State University. 1964
- Christian, Ross E., Ph.D., *Professor, Animal Science and Associate Animal Scientist*  
B.S., Pennsylvania State University; M.S., Ph.D., University of Wisconsin. 1956
- Christianson, Oscar O., M.D., *Associate Professor, (St. Lukes Hospital), Spokane, Wash.*  
A.B., St. Olaf College; M.D., Rush Medical College. 1949
- Chrysler, Russell Loren, Ph.D., *Professor, Marketing*  
B.B.A., M.A., University of Minnesota; Ph.D., Northwestern University. 1959
- Chugg, Jack C., M.S., *Associate Soil Scientist, Soil Classification*  
B.S., M.S., University of Idaho. 1966
- Clark, Robert W., C.P.A., M.S. (Bus.), *Associate Professor, Accounting*  
B.S. (Bus.Ad.); M.S. (Bus.), University of Idaho. 1956
- Clifton, Donald F., Ph.D., *Associate Professor, Metallurgy*  
B.S., Michigan College of Mining and Technology; Ph.D., University of Utah. 1957
- Collette, Jean, M.A., *Professor and Chairman, Department of Dramatics*  
B.A., M.A., University of Idaho. 1931

\* On leave 1966-67

- Cone, William H., Ph.D., *Professor, Chemistry, Emeritus*  
B.S., M.S., University of Idaho; Ph.D., University of Washington. 1924
- Collier, Rex M., Ph.D., *Professor, Psychology*  
B.A., State University of Iowa; M.A., Ph.D., Northwestern University. 1966
- Conitz, Merrill W., M.S. (C.E.), P.E., *Associate Professor Civil Engineering*  
B.S. (C.E.), North Dakota State College; M.S. (C.E.), University of Idaho. 1953
- Cooley, James H., Ph.D., *Associate Professor, Chemistry*  
A.B., M.S., Middlebury College; Ph.D., University of Minnesota. 1957
- Cooper, Albert C., B.S., *Assistant Professor, Military Science, Captain*  
B.S., California State Polytechnic College. 1964
- Cooper, John E., B.A., *Assistant Professor, Economics*  
B.A., Washington State University. 1965
- Corey, Gilbert L., Ph.D., P.E., *Professor, Agricultural Engineer, and Head, Agricultural Engineering Department (Irrigationist)*  
B.S., M.S., Ph.D., Colorado State University. 1949
- Crockett, Jerry J., Ph.D., *Professor of Botany and Associate Dean of Letters & Sciences*  
B.S., NW Oklahoma State College; M.S., Fort Hays Kansas State College; Ph.D., University of Oklahoma. 1967
- Cross, Bert Crozier, M.S., *Associate Professor and Chairman, Department of Journalism*  
B.A., University of Washington; M.S., University of Oregon. 1962
- Crowley, H. Ward, Ph.D., *Associate Professor and Director, Computing Center*  
B.A., M.A., Washington State University; Sc.M., Brown University; Ph.D., Washington State University. 1956
- Currie, Robert J., Ed.D., *Associate Professor of Special Education, Chairman, Special Education*  
A.B., Stanford University; M.S., University of Southern California; Ed.D., University of Southern California. 1967
- Cushman, John H., M.A., *Professor, English, Emeritus*  
B.A., Brown University; M.A., Harvard University. 1919
- Dacres, Geraldine F., B.S., *Assistant Professor, Office Administration*  
B.S., University of Idaho. 1959
- Dalke, Paul D., Ph.D., *Professor, Wildlife Management, and Leader, Idaho Cooperative Wildlife Research Unit*  
B.S.F., M.S.F., Ph.D., University of Michigan. 1947
- Day, Richard L., Ph.D., *Associate Professor, Geography*  
A.B., M.A., Clark University; Ph.D., University of Illinois. 1961
- Deem, Richard G., B.S., *Assistant Professor, Navy ROTC, Major*  
B.S., Marquette University. 1965
- Deters, Merrill E., Ph.D., *Professor, Forestry*  
B.S., (For.), M.S., Ph.D., University of Minnesota. 1940
- Dick, Kenneth A., M.B.A., C.P.A., *Vice President for Financial Affairs*  
B.S. (Bus.), M.S., (Bus.), University of Idaho; M.B.A., Stanford University. 1931
- Dierker, Paul F., Ph.D., *Assistant Professor, Mathematics*  
B.S., University of Dayton; M.S., Ph.D., Michigan State University. 1966
- Dixon, John E., M.S. (Agr. Engr.), P.E., *Associate Professor, Agricultural Engineering and Associate Agricultural Engineer*  
B.S. (Agr. Engr.), B.S. (Agr.), Oregon State University; M.S. (Agr. Engr.), University of Idaho. 1954
- Dobler, Clifford I., M.A. (Pol. Sci.), *Associate Professor, Political Science*  
B.S. (Bus.), M.A. (Pol. Sci.), LL.B., University of Idaho. 1941
- Dotts, Charles Stewart, LL.B., *Associate Professor, Architecture*  
M. (Arch.), University of Illinois; B.S., LL.B., A.B., University of Kansas. 1962
- Duncanson, Donald L., Ph.D., *Professor, Education*  
B.S., Wisconsin State Teachers College; M.A., Ph.D., University of Minnesota. 1965
- Duncombe, Herbert S., Ph.D., *Associate Professor, Political Science*  
B.A., Yale University; M.A., Syracuse University; Ph.D., University of Washington. 1962
- \*Dunn, Alfred C., M.F.A., *Professor, Art*  
B.A., University of Idaho; M.F.A., California College of Arts and Crafts. 1941
- Dunn, Irving J., Ph.D., *Assistant Professor, Chemical Engineering*  
B.S. (Ch.E.), University of Washington; Ph.D., Princeton University. 1964
- DuSault, Donald Dudley, M.S., *Registrar, Emeritus*  
B.S., M.S., University of Idaho. 1923
- Edwards, Louis L., Jr., Ph.D., *Associate Professor, Chemical Engineering*  
B.S. (Ch.E.) Rensselaer Polytechnic Institute; M.S., (Ch.E.), University of Delaware; Ph.D., University of Idaho. 1961
- Erickson, Lambert C., Ph.D., *Professor, and Agronomist*  
B.S., Ph.D., University of Minnesota; M.S., University of Wyoming. 1945
- Ertel, Kenneth Arthur, M.Ed., *Associate Professor, Business Education*  
B.S., University of Minnesota; M.Ed., Eastern Washington College of Education. 1962
- Everson, Dale Oscar, Ph.D., *Professor and Associate Experiment Station Statistician*  
B.S., M.S., University of Idaho; Ph.D., Iowa State University. 1962

\*On leave 1966-67

- Fahrenwald, Arthur W., E. M., *Research Professor, Metallurgy; Dean Emeritus, College of Mines*  
B.S. (Met.E.), South Dakota School of Mines; E. M., New Mexico School of Mines, 1919
- Fan, Kuang-Haun, Ph.D., *Assistant Professor, Political Science*  
B.A., Bethel College; M.A., Brooklyn College; Ph.D., New York University, 1963
- Farley, Melvin W., Ph.D., *Professor, Education, and Director of Student Teaching*  
A.B., Westmar College; A.M., University of South Dakota; Ph.D., University of Nebraska, 1953
- Farmer, Ralph H., A. B., *Dean Emeritus, College of Business Administration*  
A.B., Oberlin College. 1927
- Featherstone, Marion, M.S., (Ed.) *Associate Professor, Home Economics*  
B.S., (Ed.) University of Idaho; M.S. (Ed.), University of Southern California. 1931-1946  
1948
- Fenwick, Harry S., Ph. D., *Associate Professor, Production, Management and Conservation, and Extension and Associate Plant Pathologist*  
B.S., M.S., Montana State College; Ph.D., Oregon State College. 1956
- Ferguson, J. Homer, Ph.D., *Assistant Professor, Zoology*  
B.S., Sul Ross State College; Ph.D., University of Arizona. 1964
- Finley, Arthur M., Ph.D., *Professor and Head, Department of Plant Sciences, and Plant Pathologist*  
B.S., (Ag.), M.A., Ph.D., University of Missouri. 1950
- Fitzsimmons, Delbert W., M.S., (Ag.E.), *Assistant Professor, Agricultural Engineering, and Assistant Agricultural Engineering Technologist*  
B.S., M.S. (Ag.E.), University of Idaho. 1959
- Fletcher, Max E., Ph.D., *Professor, Economics*  
B.A., University of Washington; M. A., University of Idaho; Ph.D., University of Wisconsin. 1958
- Folz, William E., Ph.D., *Professor and Head, Department of Agricultural Economics, and Agricultural Economist*  
B.S., Evansville College; M.S., Ph.D., University of Illinois, 1935
- Fong, Joseph Y.K., B.S., *Assistant Professor, Military Science, Major*  
B.S., University of Hawaii. 1966
- Forbes, Oliver Clifford, Ph.D., *Associate Professor, Zoology*  
A. B., Humboldt State College; M.A., Ph.D., University of California. 1957
- Fosberg, Maynard A., Ph.D., *Associate Professor, Ag Biochemistry and Soils, and Associate Soil Scientist*  
B.S., M.S., Ph.D., University of Wisconsin. 1949
- Foster, Zeph H., M.S. Ed., *Assistant Professor of Education and Resident Supervisor of Student Teaching*  
B.A., Walla Walla College; M.S.Ed., University of Idaho. 1961
- Fowler, Phillip M., B.A., *Assistant Professor, Geography*  
B.A., State University of Iowa. 1965
- Foy J. Vail, Ph.D., *Associate Professor, English*  
B.A., M.A., Ph.D., Cornell University. 1952
- Frank, Floyd W., Ph.D., *Professor and Head of Veterinary Science*  
B.S., D.V.M., Ph.D., Washington State University. 1955
- Freeman, Peter K., Ph.D., *Professor, Chemistry*  
B.S., University of California; Ph.D., University of Colorado. 1959
- Frykman, Marian I., M.A., *Associate Professor, Music*  
B.S. (Mus. Ed.), M.A., University of Minnesota. 1947
- Furgason, Robert R., Ph.D., *Professor and Head, Department of Chemical Engineering*  
B.S., (Ch.E.), M.S. (Ch.E.), University of Idaho; Ph.D., Northwestern University. 1956
- Garmize, Lewis M., Ph.D., *Assistant Professor, Psychology*  
B.A., M.S., Ph.D., Washington State University. 1966
- Garrard, Verl G. M.S., *Assistant Professor, Chemistry, and Director of Visiting Scientists IAS Program*  
B.S. (Ch.E.), M.S., University of Idaho. 1946
- Gauss, Henry G., M.E., P.E., *Research Professor, Civil Engineering, Emeritus*  
B.S. (M.E.), M.E., Washington University. 1925
- Gibbs, Raphael S., B.A., *Professor, Director of Information and Editor of Publications*  
B.A., University of Idaho. 1934-1936; 1946
- Gibert, Catherine Crates, M.A., *Visiting Professor of Languages, Emeritus*  
B.A., Ohio Wesleyan University; M.A., Ohio State University. 1961
- Giles, Eugene, Ph.D., *Professor, Psychology, Emeritus*  
B.A., M.A., Washington State University; Ph.D., University of Washington. 1948
- Giles, Robert H., Jr., Ph.D., *Assistant Professor, Forestry*  
B.S., M.S., Virginia Polytechnic Institute; Ph.D., Ohio State University. 1963
- Gittins, Arthur R., Ph.D., *Associate Professor, Entomology, and Associate Entomologist*  
B.S., University of Alberta; M.S., University of Idaho; Ph.D., Montana State College. 1955
- Golis, Eugene F., M.B.A., *Assistant Professor, Economics and Management*  
A.B. (Geol.), University of Vermont; M.B.A. (Management) University of Denver. 1963



- Gonzales, Silvino F., Preparacion Doctorado en Filologia, *Assistant Professor, Foreign Languages* Bachiller Universitario, Instituto Nacional de Ensenanza Media; Maestro Nacional, Escuela Normal; Licenciado en Filosofia y Letras, Universidad de Madrid; Certificado de Asistencia en Lengua y Lit. Francesas, Universidad de Grenoble; Diploma, Linguistica-Fonolog, Preparacion Doctorado en Filologia, Universidad de Cuenca, 1966
- Grahn, Edgar H., Ph.D., *Professor Chemistry, Executive Secretary of Research Council, and Assistant Dean of Graduate School* B.S., College of Puget Sound; M.S., University of Idaho; Ph.D., University of Illinois. 1941-1943; 1946
- Grahn, Elna H., M.S., *Assistant Professor, Mathematics* B.S., M.S., University of Wisconsin. 1947
- Grant, Stanley C., M.A., *Assistant Professor, Aerospace Studies, Captain* B.A., Coe College; M.A., University of Wyoming. 1966
- Graue, Erwin, Ph.D., *Professor, Economics, Emeritus* B.S., Ph.D., Cornell University. 1928
- Gray, Earl E., M. (E.E.), *Associate Professor, Electrical Engineering* B.S., (E.E.), M.(E.E.), Colorado State University. 1962
- Green, John A., Ed. D., *Professor, Education* B.A., Colorado State College of Education M.Ed., Ed.D., University of Colorado. 1952
- Green, Leon G., Ed.D., *Professor and Head, Department of Physical Education* B.S., M.S.(Ed.), University of Idaho; Ed.D., New York University. 1940
- Green, William Lynn, B.S., *Assistant Professor, Air Science, Captain* B.S., Southern Illinois University. 1962
- Green, William R. Jr., M.S., *Assistant Professor Mining Engineering* B.S., University of Idaho; M.S., University of Nevada. 1965
- Greever, William S., Ph.D., *Professor and Chairman, Department of History* A.B., Pomona College; A.M., Ph.D., Harvard University. 1949
- Grieb, Merland W., Ph.D., *Assistant Professor, Chemistry* B.S., M.S., University of Idaho; Ph.D., University of Illinois. 1956
- Gueroult, Raymonde, Ph.D., *Visiting Assistant Professor of Foreign Languages* License O'auglias, Sorbonne; Professorat, France. 1966
- Gustafson, Donald A., Ph.D., *Professor, Chemistry* B.S., Ph.D., University of Washington. 1944
- Guthrie, James W., Ph.D., *Associate Professor, Plant Sciences, and Associate Plant Pathologist* B.S., M.S., Utah State University; Ph.D., University of Wisconsin. 1952
- Hagen, Jack I., M.S., *Associate Professor, Electrical Engineering* B.S., M.S., Oregon State University. 1965
- Haggart, Peter Alexander, M.S., *Assistant Professor, Communications* B.A., University of South Dakota; M.S., University of Kansas. 1963
- Hall, Forrest H., M.S. (C.E.), *Professor, Civil Engineering, and Acting Head* B.S., (Civil & Irrig.S.), Colorado State University; M.S. (C.E.) California Institute of Technology. 1946
- Hall, William B., Ph.D., *Associate Professor, Geology* A.B., Princeton University; M.S., University of Cincinnati; Ph.D., University of Wyoming. 1965
- Hanson, Henry Christian, Ph.D., *Assistant Professor, Dairy Science, Emeritus* B.S. (Ag.), M.S. (Ag.), University of Idaho; Ph. D., Iowa State University. 1925
- Harder, Roger W., M.S., *Associate Professor, Agricultural Biochemistry and Soils, and Associate Soil Scientist* B.A., M.S., University of Wisconsin. 1947
- Harmsworth, Harry C., Ph.D., *Professor and Chairman, Department of Sociology* A.B., M.S., Colorado State College of Education; Ph.D., University of Southern California. 1944
- Harris, Robert Dalton, Ph.D., *Assistant Professor, History* B.A., Whitman College; M.A., Ph.D., University of California. 1959
- Harrison, Henry L., B.A., *Assistant Professor, Military Science, Major* B.A., University of Arizona. 1964
- Hartung, Ernest W., Ph.D., *President* A.B., Dartmouth College; A.M., Harvard University; Ph.D., Harvard University; LL.D., University of Rhode Island; LL.D., College of Idaho, 1966
- Hathaway, Cecil W., M.E. (Transportation Engr.), P.E., *Associate Professor, Civil Engineering* B.S. (C.E.), University of Idaho; M.E., (Trans. Engr.), University of California. 1955-1956. 1960
- Hattrup, Hubert E., E.E., P.E., *Professor, Electrical Engineering* B.S. (E.E.), E.E., University of Idaho. 1941
- Hause, E. Malcolm, Ph.D., *Professor, History and Political Science, Emeritus* B.A., Union College; M.A., University of Nebraska; Ph.D., Northwestern University, 1948
- Hawley, Charles D., LL.B., *Associate Professor, Law* A.B., Colorado College; LL.B., Harvard Law School. 1966
- Haynes, Robert C., M.S. (Ag.) *Associate Professor, Agricultural Education* B.S. (Ag.) M.S. (Ag.), University of Idaho. 1955

- Heinicke, Donald R., Ph.D., *Associate Professor, Plant Sciences, and Assistant Horticulturist*  
B.S., Oklahoma A. and M. College; M.S., Ph.D., University of Maryland. 1965
- Helton, Audus W., Ph.D., *Professor, Plant Sciences, and Plant Pathologist*  
B.A., M.S., Ohio Wesleyan University; Ph.D., Oregon State University. 1951
- Hemstrom, Morris, M.S., *Associate Professor, Animal Science*  
B.S., Colorado State University; M.S., University of Nebraska. 1959
- Heningham, Eleanor K., Ph.D., *Assistant Professor, English*  
A.B., Mount Holyoke College; M.A., Ph.D., New York University. 1966
- Hespelt, George G., M.S. (E.E.) *Associate Professor, Electrical Engineering*  
B.S., (E.E.), University of Idaho. M.S. (E.E.) Oregon State University. 1957
- Hironaka, Minoru, Ph.D., *Associate Professor, Range Management*  
B.S., Utah State University; M.S., Forestry, University of Idaho; Ph.D., University of Wisconsin. 1952
- Hirschi, Melvin E., B.S., *Associate Professor, Navy ROTC, Commander*  
B.S., University of New Mexico, U. S. Naval War College. 1965
- Hoag, Kenneth, M.A., *Professor, English*  
B.A., M.A., University of Michigan. 1935
- Hodgson, Charles W., Ph. D., *Associate Professor, Animal Science, and Associate Animal Scientist*  
B.S. (Ag.) University of Idaho; M. S., University of Arizona; Ph.D., Michigan State University. 1945
- \*Hoffman, Dwight S., M.S. (Ch.E.), P.E., *Professor, Chemical Engineering, and Assistant Dean, College of Engineering*  
B.S. (Ch.E.), M.S. (Ch.E.), University of Idaho. 1944
- Hofstrand, Arland D., M. S., *Assistant Professor, Wood Utilization*  
B.S., M.S., University of Idaho. 1959
- \*Hosack, Robert E., Ph.D., *Professor, Political Science, and Head,, Department of Social Sciences*  
A.B., College of Wooster; A.M., University of Chicago; Ph.D., Duke University. 1943
- Hoskins, John R., Ph.D., *Professor, Mining Engineering*  
B.S. (Min.E.), University of Idaho; Ph.D., University of Utah. 1967
- Howe, John P., Ph.D., *Associate Professor, Wood Utilization*  
A.B., Amherst College; M.S., Yale University; Ph.D., University of Michigan. 1956
- Hower, Charles O., Ph.D., *Assistant Professor, Chemistry*  
B.A., Whitman College; Ph.D., University of Washington. 1966
- Hungerford, Carles W., Ph.D., *Dean of Graduate School, Emeritus*  
B.S., Upper Iowa University; M.S., Ph.D., University of Wisconsin. 1919
- Hungerford, Kenneth E., Ph.D., *Professor, Wildlife Management*  
B.S.(For.), University of Idaho; M.S. (Wildlife.) University of Connecticut; Ph.D., University of Michigan. 1942-45; 1946
- Iiams, Carlton Laird, Ph.D., *Associate Professor and Acting Chairman, Languages*  
A.B., A.M., Ph.D., University of California. 1961
- Jackle, Erma Jean, B. S., *Assistant Professor, Home Economics*  
B.S., University of Idaho. 1953
- Jackson, Melbourne L., Ph.D., *Professor, Chemical Engineering; Dean, Graduate School, and Coordinator of Research*  
B.S. (Ch.E.), Montana State College; Ph.D., University of Minnesota. 1953
- Jacobsen, Richard T., M.S., *Assistant Professor, Mechanical Engineering*  
B.S.(Mech.Engr.), M.S.(Mech.Engr.), University of Idaho. 1963
- \*\*Janssen, Allen S., M.S. (C.E.), P.E., *Dean, College of Engineering, Professor Civil Engineering, and Director, Engineering Experiment Station*  
B. Arch., B.S.(C.E.), M.S.(C.E.), University of Idaho. 1931
- Jeffers, Dwight S., Ph.D., *Dean, College of Forestry, Emeritus*  
A.B., Illinois Wesleyan University; M.F., Ph.D., Yale University. 1935
- Johnson, Douglas E., M.S.(M.E.), *Assistant Professor, Mechanical Engineering*  
B.S.(M.E.), M.S.(M.E.), Oregon State University. 1965
- Johnson, Frederic D., M.S.(For.), *Associate Professor, Forestry (Ecology)*  
B.S., Oregon State University; M.S.(For.), University of Idaho. 1950
- Johnson, J. Hugo, A.B.(E.E.), *Professor and Head, Department of Electrical Engineering Emeritus*  
A.B.(E.E.), University of Wisconsin. 1918
- Jolley, J. Irving, Ph.D., *Professor, Chemistry, and Chairman, Pre-Medical and Pre-Dental Studies*  
B.S., Ph.D., University of Washington. 1937-1946; 1947
- Jones, Robert W., Ph.D., *Associate Professor, Geology, and Director of Mines Summer Geology Camps*  
B.S.(Geol.), M.S.(Geol.), Ph.D., University of Washington. 1958
- \*\*\*Junk, Frank S., M.S.(C.E.), P.E., *Associate Professor, Civil Engineering*  
B.S.(C.E.), University of Iowa; M.S.(C.E.), University of Idaho. 1949
- Kaus, Paul F., Ed.D., *Director of Summer School and Coordinator of Continuing Education*  
B.A.,(Ed.), North Idaho College of Education; M.(Ed.), Ed.D., Washington State University. 1955

\*Leave of Absence 7-1-67/6-30-68

\*\* Professor of Civil Engineering, after July 1, 1967

\*\*\*On leave 1966-67

- Kearney, Robert James, Ph.D., *Assistant Professor, Physics*  
B.S., M.S., University of New Hampshire; Ph.D., Iowa State University. 1964
- Keith, Thomas B., Ph.D., *Professor, Animal Science and Animal Scientist, Emeritus*  
B.S.(Ag.), University of Idaho; M.S., University of Illinois; Ph.D., (Nutrition), Pennsylvania State University. 1947
- Kelly, Edward L., Ed.D., *Associate Research Professor, Education*  
B.S.,(Ed.), M.Ed., Pennsylvania State University; Ed.D., University of Illinois. 1962
- Kendrick, David D., Ph.D., *Dean, College of Business Administration; Director, Bureau of Business and Economic Research, and Professor, Economics*  
B.S.(Bus.), University of Idaho; M. A., Ph.D., University of California 1946-47; 1957
- Kerr, Thomas S., LL.B., *Dean, College of Letters and Science, Emeritus*  
A.B., Indiana University; LL.B., University of Michigan. 1924
- Kessel, Robert M., Ph.D., *Professor and Head, Department of Office Administration*  
B.E., Wisconsin State College; M.S., Ph.D., University of Wisconsin. 1957-1958; 1960
- Kim, J. S., Ph.D., *Professor, Physics*  
B.Sc., Seoul National University; M.Sc., Ph.D., University of Saskatchewan. 1959
- Kindschy, Dwight L., Ed.D., *Professor, Agricultural Education*  
B.S.(Ag.), Montana State College; M.S., Iowa State University; Ed.D., Washington State University. 1947
- Kirkland, Eric B., M. Ed., *Professor, Physical Education*  
B.S., M.Ed., University of Washington. 1947
- Kirkwood, Mary B., M.F.A., *Professor, Art*  
B.A., University of Montana; M.F.A., University of Oregon. 1930
- Kjos, O. E., Ed.D., *Associate Professor, Psychology*  
B.S., Ellendale State Teachers College; M.Ed., Colorado State University; Ed.D., University of Missouri. 1965
- Kostoch, Walter B., B.A., *Assistant Professor, Naval Science, Lt. Commander*  
B.A.(Economics), St. Olaf College. 1966
- Kraus, James E., Ph.D., *Dean, College of Agriculture; Director, Agricultural Extension Service, and Director, Agricultural Experiment Station*  
B.S., Colorado State University M.S., University of Wisconsin; Ph.D., Cornell University. 1941-1944; 1945
- Lampman, Clifford E., B.S.(Ag.), *Professor, Department of Poultry Science and Poultry Scientist, Emeritus*  
B.S.,(Ag.), University of Wisconsin. 1928
- Larrison, Earl J., M.S., *Associate Professor, Zoology*  
B.S., M.S., University of Washington. 1949
- Law, Gordon, M.S., *Associate Professor, Communications and Acting Head, Department of Communications*  
A.B., Denver University; M.S., Syracuse University. 1961
- Lawe, Rose W., M.S., *Assistant Professor, Home Economics*  
B.S., M.S., Pennsylvania State University. 1965
- LeTourneau, Duane J., Ph.D., *Professor, Agricultural Biochemistry and Soils, and Agricultural Chemist*  
B.S., M.S., Ph.D., University of Minnesota. 1953
- Lewis, Adah, M.S., *Associate Professor, Home Economics, Emeritus*  
B.S., M.S., Kansas State University. 1923
- Lewis, Glen C., Ph.D.(Ag.), *Professor, Agricultural Biochemistry and Soils, and Associate Agricultural Chemist*  
B.S.,(Ag.), M.S.(Ag.), University of Idaho; Ph.D., Purdue University. 1947
- Lind, Leon P., M.Ed., *Assistant Professor and Technician, Radio-Television Center*  
B.S., M.Ed., University of Idaho. 1951
- Lindeborg, Karl Hartvig, Ph.D., *Associate Professor and Associate Agricultural Economist*  
B.S., The Royal Veterinary and Agricultural College, Copenhagen; M.S., Utah State University; Ph.D., Oregon State University 1959
- Little, Miriam H., M.A., *Assistant Professor, Music, Emeritus*  
B.Mus., B.F.A., University of Nebraska; M.A., University of Idaho. 1930
- Locke, Mable, M.S., *Professor and Chairman, Department of Physical Education (Women)*  
B.S., Northwestern University; M.S., University of Wisconsin. 1930-1936; 1947
- Lockery, Glen R., M.A., *Professor of Music*  
B.A., B.M., Lawrence College; M.A., Columbia University. 1947
- Lowenstein, Howard, Ph.D., *Associate Professor, Forestry*  
B.S., Colorado State University; Ph.D., University of Wisconsin. 1958
- Logan, Norman R., M.Mus., *Associate Professor, Music*  
B.S.,(Ed.), M.S.(Mus.Ed.), University of Idaho; M. Mus., University of Southern California. 1947
- Long, Roger B., Ph.D., *Associate Professor, Agricultural Economics*  
B.S., M.S., Ph.D., University of Minnesota. 1966
- Lottman, Robert P., Ph.D., *Associate Professor, Civil Engineering*  
B.S. (C.E.), Polytechnic Institute of Brooklyn; M.S. (C.E.), Purdue University; Ph.D., Ohio State University. 1966
- Loudermilk, Kenneth M., Ed.D., *Assistant Professor, Psychology, and Director, HEW-ORDC*  
B.S., M.S., Ed.D., University of Idaho. 1952-1953; 1961-1962; 1965

- Ludden, T.E., M.D., *Associate Professor, Bacteriology, Deaconess Hospital, Spokane, Washington*  
B.A., Willamette University; M.S., University of Minnesota; M.D., University of Oregon
- Lynch, Gary A., B.A., *Assistant Professor, Business Administration*  
B.A., St. Joseph's College. 1964
- MacFarlane, Douglas, M.Ed., *Assistant Professor and Track Coach, Physical Education*  
B.A., University of Washington; M.Ed., Portland State and Oregon State University. 1963
- McCarter, John C., M.D., *Associate Professor, Bacteriology, St. Luke's Hospital, Boise, Idaho*  
B.A., M.D., University of Wisconsin. 1951
- McIver, Lucy Olive, M.A., *Assistant Professor, Women's Physical Education*  
B.A., University of Kansas; M.A., Ohio State University. 1965
- \*McKean, George A., E.E., *Associate Professor, Electrical Engineering, and Research Supervisor, Engineering Experiment Station*  
B.S.(E.E.), M.S.(E.E.), and E.E., University of Idaho. 1958
- McKenzie, William H., LL.B., *Assistant Professor, Business*  
LL.B., University of Minnesota. 1965
- McMullen, John L., Ph.D., *Associate Professor, Botany, and Chairman, Registration Committee, L & S.*  
B.Ed., Eastern Illinois State College; M.S., Ph.D., Washington State University. 1951
- McProud, G. Elbert, M.S., *Associate Professor, Agricultural Education, and Extension Studies and Training Specialist*  
B.S., M.S., University of Idaho. 1938
- Macklin, Hall M., M.Mus., *Professor and Head, Department of Music*  
B.Mus., University of Illinois; M.Mus., University of Idaho. 1935
- MacPhee, Craig, Ph.D., *Professor, Fishery Management*  
B.A., M.A., University of British Columbia; Ph.D., University of Washington. 1957
- Maib, Frances B., Ed.D., *Professor, Education*  
B.S., Central Washington College of Education; M.A., Ed.D., University of Washington. 1951
- Manis, Hubert C., Ph.D., *Professor and Head, Department of Entomology, and Entomologist*  
B.S., Montana State College; M.S., Kansas State University; Ph.D., Iowa State University. 1940.
- Mann, Paul, MS.,(E.E.) P.E., *Professor, Electrical Engineering*  
B.S.(E.E.), M.S.(E.E.), University of Idaho. 1948
- Marousek, Gerald Eugene, Ph.D., *Associate Professor, Agricultural Economics and Associate Agricultural Economist*  
B.S., M.S., South Dakota State University; Ph.D., Oklahoma State University. 1962
- Marshall, Don A., Ph.D., *Associate Dean, College of Agriculture, and Professor of Agricultural Economics*  
B.S., M.S., Oklahoma State University; Ph.D., Cornell University. 1950
- Marten, Dwayne John, M.S., *Assistant Professor, Physical Education (Men)*  
B.S., Bemidji State College; M.S., Southern Illinois University. 1964
- Martin, Boyd A., Ph.D., *Dean, College of Letters and Science, and Professor, Political Science*  
B.S., University of Idaho; A.M., Ph.D., Stanford University. 1938
- Martin, James W., M.S. (Ag.E.), P.E., *Professor, Department of Agricultural Engineering, and Agricultural Engineer*  
B.S.(E.E.), B.S.(Ag.E.), Kansas State University; M.S.(Ag.E.), Iowa State University. 1946
- Matthias, Norman A., Jr., Major, M.S.(C.E.), *Assistant Professor, Military Science and Advisor, Military Science III*  
B.S., U.S. Military Academy; M.S.(C.E.), A and M College of Texas
- Meldrum, Barbara, Ph. D., *Associate Professor, English*  
B.A., Westmont College; M.A., Ph.D., Claremont Graduate School. 1965
- Merlan, Wilma Brun, M.A., *Assistant Professor, Humanities*  
A.B., Colorado State College; M.A., University of Colorado. 1961
- Miller, John J., Ph.D., *Professor and Chairman, Department of Physics*  
B.A., M.A., Ph.D., University of Texas. 1952
- Miller, Sidney W., M.S.(Ed.), *Assistant Professor, and Placement Coordinator*  
B.S.,(Ed.), M.S.(Ed.), University of Idaho. 1959
- Montgomery, Victor E., Ph.D., *Professor and Head, Psychology*  
A.B., Duke University; M.S., Washington State University; Ph.D., Northwestern University. 1963
- Montoure, John Ernest, Ph.D., *Assistant Professor, Dairy Science, and Assistant Dairy Scientist*  
B.S., M.S., University of Wisconsin; Ph.D., Washington State University. 1961
- Moore, Chester A., B.S.(C.E.), P.E., *Professor and Head, Department of Civil Engineering, Emeritus*  
B.S.(C.E.), Massachusetts Institute of Technology. 1949
- Moore, John C., M.C.E., P.E., *Assistant Professor, Civil Engineering*  
B.S.(C.E.), University of Illinois; M.C.E., Cornell University. 1964
- Moore, William C., M.A., *Assistant Professor, Business*  
B.S., M.A., University of Idaho. 1964
- Muneta, Paul, Ph.D., *Assistant Professor, Agricultural Biochemistry and Soils, and Assistant Agricultural Chemist*  
B.S., Montana State College; Ph.D., Cornell University. 1959

\*On leave 1967-1968

- Naylor, Denny V., Ph.D., *Assistant Professor of Soils, Agricultural Biochemistry and Soils, and Assistant Soil Scientist*  
B.S., M.S., University of Idaho; Ph.D., University of California. 1966
- Nelson, Merlin W., M.S., *Assistant Professor, Education*  
B.S., University of Idaho; M.S., University of Utah. 1964
- Newcomb, Shirley A., M.S., *Associate Professor, Home Economics*  
B.S.(H.Ec.), University of Nebraska; M.S., University of Idaho. 1949
- Newton, Joseph, M.S.(Met.E.), *Professor and Head, Department of Mining and Metallurgy*  
B.S.(Met.E.), Montana School of Mines; M.S.(Met.E.), University of Idaho. 1932
- Nielsen, Elsie, M.S., *Associate Professor, Home Economics*  
B.S., Utah State University; M.S., Iowa State University. 1942
- Norgord, John T., M.S.E.(M.E.), P.E., *Associate Professor, Mechanical Engineering*  
B.S.(M.E.), University of Washington; M.S.E.(M.E.), University of Michigan. 1948
- \*Nybroten, Alfred Norman, Ph.D., *Associate Director, Bureau of Business and Economic Research and Professor of Economics*. 1939-1948; 1958  
B.Ed., Wisconsin State College; Ph.D., University of Wisconsin. 1939-1948; 1958
- O'Brien, Vincent P., Certificate, *Visiting Associate Professor, Art & Architecture Certificate, Certificate, Pratt Institute*. 1967
- Orme, Leon E., Ph.D., *Associate Professor, Animal Science and Associate Animal Scientist*  
B.S., Utah State University; M.S., University of Tennessee; Ph.D., Michigan State University. 1959
- Osborne, Richard P., Ph. D., *Assistant Professor, Mathematics*  
B.A., University of Colorado; Ph.D., Michigan State University. 1964
- Otness, H. Robert, Ph.D., *Professor, Psychology*  
B.S., M.S.(Ed.), University of Idaho; Ph.D., New York University. 1950
- Packenhams, Howard E., M.A., *Associate Professor, English, Emeritus*  
B.A., College of Idaho; M. A., University of Idaho. 1931
- Parberry, Clem H., M.S.(Ed.), *Associate Professor, Physical Education and Intramural Sports Director*  
B.S.(Ed.), Pacific University; M.S.(Ed.), University of Idaho. 1953
- Parish, William R., M.S.(E.E.), *Professor and Acting Head, Department of Electrical Engineering*  
B.S.(E.E.), Iowa State University; M.S.(E.E.), University of Idaho. 1947
- Parks, Jack G., Ph.D., *Assistant Professor, Physics*  
B.S., Seattle University; M.S., Ph.D., University of Washington. 1966
- Partridge, Arthur D., Ph.D., *Associate Professor, Forestry*  
B.S.(For.), University of Maine; M.S.(Path.), Ph.D., University of New Hampshire. 1960
- Peck, Edson R., Ph.D., *Professor, Physics*  
B.A., M.S., Northwestern University; Ph.D., University of Chicago. 1962
- Peebles, John J., M.S.(C.E.), P.E., *Research Associate Professor, Civil Engineering*  
B.S.(C.E.), University of Idaho; M.S.(C.E.), University of Colorado; C.E., University of Idaho. 1963
- Penton, Vance Edwin, Jr., M.S., *Assistant Professor, Mechanical Engineering and Assistant Research Technologist*  
B.S., M.S.(M.E.), University of Idaho. 1960
- Petersen, Charlie F., M.S.(Ag.), *Professor and Head, Poultry Science, and Poultry Scientist*  
B.S.(Ag.), M.S.(Ag.), University of Idaho. 1943
- Peterson, George E., M.E., P.E., *Professor and Head, Mechanical Engineering*  
M.E., Stevens Institute of Technology. 1960
- Peterson, Philip E., LL.M., *Professor, Law, Part-time*  
B.S., J.D., University of Illinois; LL.M., Harvard University. 1952
- Peterson, Rodney D., Ph.D., *Associate Professor, Economics*  
B.A., Huron; M.S., South Dakota State University; Ph.D., University of Nebraska. 1965
- Pitkin, Franklin H., M.F., *Associate Professor, Forestry, and Nursery Superintendent.*  
B.S., M.F., University of Idaho. 1945
- Pope, Warren K., Ph.D., *Professor, Plant Sciences, and Agronomist*  
B.S.(Ag.), Ph.D., University of California. 1947
- Porter, Richard A., Ph.D., *Assistant Professor, Chemistry*  
B.S., Northwestern University; Ph.D., University of California (L.A.), 1962
- Potratz, Clarence J., Ph.D., *Assistant Professor, Mathematics*  
B.A., Pacific Lutheran University; M.S., University of Idaho; Ph.D., Washington State University. 1966
- Potter, Gretchen L., M.A., *Assistant Professor, Home Economics*  
B.S., University of Idaho; M.A., Washington State University, 1966
- Prichard, Theodore J., M.Arch., *Professor and Head, Department of Art and Architecture*  
B.A., University of Minnesota; M.Arch., Harvard University. 1926
- Rabe, Fred W., Ph.D., *Assistant Professor, Zoology*  
B.S., M.S., Colorado State University; Ph.D., University of Utah. 1965
- Raeder, John M., M.S.(Ag.), *Professor, Plant Pathology, Emeritus*  
B.S.(Ag.), M.S.(Ag.), Iowa State University. 1921

\*On leave 1966-67.

- Raunio, Elmer K., Ph.D., *Professor, Chemistry, and Chairman, Chemistry; Director, NSF-IAS Visiting Scientists Program*  
B.A., University of Wyoming; M.S., North Dakota State College; Ph.D., University of Michigan. 1949
- Reed, Eugene E., Ph.D., *Professor, Languages*  
B.A., Texas Christian University; M.A., Ph.D., University of Texas. 1960
- Reid, Rolland R., Ph.D., *Professor and Dean, College of Mines, and Director of Idaho Bureau of Mines and Geology*  
B.S., M.S., Ph.D., University of Washington. 1955
- \*Renfrew, Malcolm M., Ph.D., *Professor, Chemistry, and Head, Department of Physical Sciences*  
B.S., M.S., University of Idaho; Ph.D., University of Minnesota. 1959
- Reynolds, Robert G., *Assistant Professor, Accounting*  
M.B.A., University of Illinois; B.S., B.A., University of Denver; C.P.A., Illinois. 1963
- Rice, Charles W., M.S., *Assistant Professor, Business Administration*  
B.S., Illinois Institute of Technology; M.S., Bucknell University. 1965
- Richman, Robert, M.Ed., *Assistant Director, HEW-ORDC Unit*  
B.A., Colorado College; B.S., Colorado State University; M.Ed., University of Idaho. 1963
- Ridley, Jack R., Ph.D., *Assistant Professor, Plant Sciences, and Assistant Crops Physiologist*  
B.S., M.S., University of Nevada; Ph.D., University of California. 1966
- Rigas, Anthony L., M.S., *Associate Professor, Electrical Engineering*  
B.S., M.S., University of Kansas. 1966
- Rimlinger, James L., B.S., *Professor, Military Science, Colonel*  
B.S., University of Georgia. 1964
- Ritchie, Margaret, M.A., *Professor, Home Economics, Emeritus*  
B.S., M.A., Columbia University. 1938
- Roberts, George H., M.S., *Associate Professor and Chairman, Art*  
B.S., M.S., University of Wisconsin. 1957
- \*Roberts, Lorin W., Ph.D., *Professor, Botany*  
B.A., M.A., Ph.D., University of Missouri. 1957
- Robertson, Alan C., M.S., *Assistant Research Professor, Agricultural Engineering*  
B.S., M.S., University of Idaho. 1965
- Robertson, Bruce M., A.B., *Assistant Professor, Aerospace Studies, Captain*  
A.B., Washburn University. 1965
- Robinson, Allen Dale, M.S., *Assistant Professor, Physics*  
B.S., M.S., University of Idaho. 1952
- Rolland, Siegfried B., Ph.D., *Professor, Social Sciences and History, and Director of NDEA History Institute 1/3 time*  
A.B., M.A., Wayne State University; Ph.D., University of Wisconsin. 1952
- Romero, Jacob B., Ph.D., *Associate Professor, Chemical Engineering*  
B.S., University of New Mexico; M.S., Ph.D., University of Washington. 1966
- Ross, Richard H., Ph.D., *Professor and Head, Department of Dairy Science, and Dairy Scientist*  
B.S., Pennsylvania State University; M.S., West Virginia University; Ph.D., Pennsylvania State University. 1947
- Rusche, Ralph, R., B.S., Lt. Colonel, *Assistant Professor, Military Science*  
B.S.(Ag.), Texas A. & M. 1964
- Russell, George R., C.E., P.E., *Professor, Civil Engineering and Assistant to the Dean*  
B.S.,(C.E.), C.E., University of Idaho. 1947-1951; 1956
- Salkeld, Stephen A., B.S., *Assistant Professor, Naval Science, Lieutenant*  
B.S., Babson Institute. 1966
- Samuelson, Everett V., Ed.D., *Dean, College of Education*  
B.A., Southwestern College; M.S., Kansas State University; Ed.D., University of Kansas. 1963
- Savage, Carleton N., M.S., *Associate Professor, Geology (one-fourth time)*  
A.B., Colby College; M.S., Northwestern University. 1964
- Schafer, Frank D., M.A., *Assistant Professor, Physical Education*  
B.A., Bloomfield College; M.A., Columbia University Teachers College. 1965
- Scheldorf, Jay J., Ph.D., *Associate Professor, Engineering Science*  
B.S., University of Illinois; M.S., Kansas State University; Ph.D., University of Colorado. 1966
- Schell, Stewart C., Ph.D., *Professor and Chairman, Zoology*  
B.S., Kansas State University; M.S., North Carolina State College; Ph.D., University of Illinois. 1949
- Schenk, John A., Ph.D., *Associate Professor, Forest Entomology*  
B.S.F., University of Michigan; M.S. (Ent.), Ph.D., University of Wisconsin. 1961
- Schuldt, Agnes Crawford, M.M., *Professor, Music*  
B.Mus., M.Mus., Syracuse University. 1927-1930; 1946
- Schuster, Robert L., Ph.D., *Professor and Head, Civil Engineering*  
B.S.,(Geol.), Washington State University; M.S.(Geol.), Ohio State University; M.S.(C.E.), Ph.D.(C.E.), Purdue University; D.I.C., University of London. 1967
- Scrivner, Lloyd H., D.V.M., *Professor and Head, Department of Veterinary Science, and Veterinarian*  
M.S., Cornell University; D.V.M., Colorado A. & M. College. 1948

\*On leave 1967-68.

- Seale, Robert H., Ph.D., *Professor and Associate Dean, Forestry*  
B.S., University of California; M.S.(For.), University of Idaho; Ph.D., State University of New York College of Forestry. 1949-50; 1951
- Seaman, Francis, Ph.D., *Associate Professor, and Chairman, Philosophy*  
B.S., M.A., Ph.D., University of Michigan. 1949
- Sears, Forrest E., Ph.D., *Assistant Professor, Dramatics*  
B.A., University of Redlands; M.F.A., Yale Drama School; Ph.D., University of Pittsburgh. 1966
- Seely, Clarence I., M.S., *Professor, Plant Sciences, and Agronomist*  
B.S., M.S., Washington State University. 1947
- Seelye, Donald W., A.B.(Econ.) *Associate Professor, Labor Economics and Business Administration*  
A.B.(Econ.), Indiana University. 1959
- Seiler, David E., M.M., *Assistant Professor, Music*  
B.M., M.M., University of Wisconsin. 1963
- Sharp, Lee A., Ph.D., *Professor, Range Management*  
B.S., M.S., Utah State University; Ph.D., Oregon State University. 1949
- Shay, Thomas M., M.S.(E.E.), *Assistant Professor, Electrical Engineering*  
B.S.(E.E.), M.S.(E.E.), University of Idaho. 1959
- Sherman, Theodore A., M.A., *Professor, English, Emeritus*  
A.B., Stanford University; M.A., University of Idaho. 1931
- Shreeve, Jean'ne, Ph.D., *Professor, Chemistry*  
B.A., Montana State University; M.S., University of Minnesota; Ph.D., University of Washington. 1961
- Shreve, Robert H., Ed.D., *Professor, Education*  
Ph.B., Lawrence University; M.A., Ed.D., Colorado State College. 1966
- Sieckmann, Everett F., Ph.D., *Professor, Physics*  
B.A., Doane College; M.S., Florida State University; Ph.D., Cornell University. 1962
- Siems, Peter L., D.Sc., *Assistant Professor, Geology*  
B.S., University of London; D.Sc., Colorado School of Mines. 1965
- Silha, Henry W., M.S.(M.E.), *Associate Professor, Mechanical Engineering*  
B.S.(M.E.), Montana State College; M.S.(M.E.), University of Idaho. 1941
- Simmons, Charles E. P., Ph.D., *Assistant Professor, History*  
B.A., Seattle University; M.A., Drake University; Ph.D., Washington State University. 1963
- Sita, John B., Ph.D., *Assistant Professor, Foreign Languages*  
Maturita, Coll. Liceo 'Balbo'; Laurea (Doctorate), University of Venice. 1965
- Slinkard, Alfred E., Ph.D., *Associate Professor, Plant Sciences, and Associate Agronomist*  
B.S., M.S., Washington State University; Ph.D., University of Minnesota. 1957
- Sloan, William P., M.C.P., *Associate Professor, Architecture*  
B.Arch., Rensselaer Polytechnic Institute, M.C.P., Yale University. 1955
- Smiley, Charles J., Ph.D., *Professor, Geology*  
B.A., Western Washington College; M.A., Ph.D., University of California. 1962
- Smith, H. S., Ph.D., *Professor Civil Engineering and Dean, College of Engineering, and Director of Engineering Experiment Station*  
B.S., University of Iowa; M.S., University of Iowa; Ph.D., Iowa State University. 1967
- Smith, Howard W., Ph.D., *Associate Professor, Entomology, and Associate Entomologist*  
B.S., M.S., University of New Hampshire; Ph.D., Ohio State University. 1954
- Snider, Hervon L., Ph.D., *Professor and Head, Education*  
B.S.,(Ed.), M.A., Ph.D., University of Nebraska. 1949
- Snider, John A., Ed.D., *Professor and Chairman, Elementary Education*  
B.S.(Ed.), M.S.(Ed.), University of Oklahoma; Ed.D., University of Colorado. 1949
- Snyder, William H., M.S., *Associate Professor, Plant Sciences, and Assistant Horticulturist*  
B.S., South Dakota State College; M.S.(Hort.), University of Illinois. 1956
- Spiker, Emmett E., B.S., *Assistant Professor, Physics, and Electron Microscopist, Emeritus*  
B.S., University of Idaho. 1947
- Staley, William W., E.M., P.E., *Professor, Mining Engineering, Emeritus*  
B.S.(Min.E.), New Mexico School of Mines; M.S.(Met.), University of Idaho; E.M., New Mexico School of Mines. 1928
- Steffens, H. Walter, Ph.D., *Vice President for Academic Affairs*  
B.S.(Pre. Med.), M.S., University of Idaho; Ph.D., Harvard University. 1929
- Steiner, Michael P., Ph.D., *Assistant Professor, Agricultural Economics; and Assistant Agricultural Economist*  
B.S., M.S., Ph.D., University of Wisconsin 1966
- Stevenson, Robert I., LL.B., *Professor, Law*  
B.A., Yale College; LL.B., Yale Law School. 1966
- Stimson, Edward S., S.J.D., *Professor, Law, Emeritus*  
B.Sc., A.M., Ohio State University; LL.B., S.J.D., University of Michigan. 1947
- Stough, Howard B., Ph. D., *Professor, Zoology, Emeritus*  
A.B., Midland College; M.A., Kansas University; Ph.D., Harvard University. 1925
- Sullivan, John H., M.A., *Assistant Professor, Foreign Languages*  
B.A., University of Oregon; M.A., John Hopkins University. 1966
- Summers, Larry V., M.S., *Assistant Professor, Agricultural Economics and Assistant Agricultural Economist*

- Sun, Ping-Tsoong, M.S., P.E., *Associate Professor, Civil Engineering*  
B.S., Chiao-Tung University; M.S., University of Tennessee. 1957
- Taylor, Eugene, M.A., *Professor, Mathematics, Emeritus*  
A.B., M.A., DePauw University. 1920
- Tenney, William H., Ph.D., *Associate Professor, English*  
A.B., A.M., Oberlin College; Ph.D., University of Michigan. 1949
- Theophilus, Donald R., Ph.D., *President, Emeritus*  
B.S. (An.Hus.), B.S. (Dairy Mfg.), M.S. (Dairy Bact.), Ph.D., Iowa State University; LL.D. College of Idaho; Doctor of Science, University of Idaho. 1927
- Thielke, Ruben D., Ph.D., *Professor, Chemistry, Emeritus*  
B.S., (Ch.E.), M.S. (Chem.), Oregon State University; Ph.D., University of Michigan. 1946
- Thomas, Joe E., M.S., *Assistant Professor, Electrical Engineering*  
B.S., University of Wyoming; M.S., University of Idaho. 1961-1962; 1966
- Thompson, Erik G., Ph.D., *Associate Professor, Civil Engineering*  
B.S., Southern Methodist University; M.S., Ph.D., University of Texas. 1964
- Thompson, William D., Lt. Col. USAF, B.A., *Professor, Aerospace Studies*  
B.A., University of Alaska. 1965
- Tisdale, Edwin W., Ph.D., *Professor, Range Management and Associate Director, Forest, Wildlife and Range Experiment Station*  
B.S., University of Manitoba; M.S., Ph.D., University of Minnesota. 1947
- Tolleson, Floyd C., Jr., Ph.D., *Associate Professor and Head, Department of Humanities*  
B.A., M.A., Ph.D., University of Washington. 1955
- Tovey, Weldon R., M.Ed., *Assistant Professor, General Engineering*  
B.S. (M.E.), M.Ed., University of Idaho. 1962-1964; 1965
- Tung, Mason, Ph.D., *Associate Professor, English*  
B.A., National Taiwan University; M.A., Baylor University; Ph.D., Stanford University. 1962
- Turner, Robert L., M.Ed., *Associate Professor, Engineering Graphics*  
B.S. (Ed.), M.Ed., University of Idaho. 1957
- Tylutki, Edmund E., Ph.D., *Associate Professor, Botany*  
B.S., M.S., University of Illinois Ph.D., Michigan State University. 1956
- Vent, Herbert J., Ed.D., *Professor, Education*  
B.S., M.S., University of Oregon; Ed.D., Stanford University. 1960
- Vieira, Norman, J.D., *Associate Professor, Law*  
A.B., Columbia University; J.D., University of Chicago Law School. 1965
- Wagoner, Reuben R., M.A., C.P.A., *Associate Professor, Accounting*  
B.A., Nebraska State Teachers College, Kearney; M.A., University of Nebraska. 1957
- Waldo, Nancy Allen, M.A., *Acting Assistant Professor, 1/2 time, Zoology*  
B.S., Pennsylvania State University; M.A., Stanford University. 1966
- Waldron, Harvey M., Jr., B.S., *Assistant Professor, Biology*  
B.S., University of Idaho. 1966
- Walenta, Thomas R., J.D.S., *Professor Law*  
B.S., University of Idaho; LL.B., University of Minnesota; LL.M., J.D.S., University of Illinois. 1947
- Walker, Delbert J., M.A., *Associate Professor, Mathematics*  
A.B., Pennsylvania Teachers College; M.A., University of Nebraska. 1950
- Walton, Charles W., M.M., *Assistant Professor, Music*  
B.M. (Mus.Ed.), University of Michigan; B.M. (Voice), M.M. (Mus.Lit.), University of Michigan. 1961
- Wang, Chi-Wu, Ph.D. (Biology), *Professor, Forestry*  
B.S. (Botany), National Tsing-Hua University, Peking; M.S. (Forestry), Yale University; Ph.D., (Biology), Harvard University. 1960
- Wang, Ya Yen, M.S., *Assistant Professor, Mathematics*  
B.S., Villa Maria College; M.S., University of Florida 1965
- Warner, Richard E., Ph.D., *Professor, Chemical Engineering, and Associate Director of Engineering Experiment Station*  
A.B., Miami University; M.Sc., Ph.D., Ohio State University. 1966
- Warnick, Calvin C., M.S. (C.E.) P.E., *Professor, Civil Engineering and Director Water Resources Research Institute*  
B.S. (C.E.), Utah State University; M.S. (C.E.), University of Wisconsin. 1947
- Warren, Jon G., LL.B., *Visiting Associate Professor part-time, Law*  
LL.B., University of Idaho. 1966
- Watson, Roscoe D., Ph.D., *Associate Professor, Plant Sciences, and Associate Plant Pathologist*  
B.S., M.S., Utah State University; Ph.D., Cornell University. 1946
- Weiskopf, Edward A., Ph.D., *Visiting Assistant Professor, Chemistry*  
B.A., Albion College; Ph.D., Iowa State University, 1965
- Weltzin, J. Frederick, Ph.D., *Professor, Education; Dean Emeritus, College of Education*  
B.A., B.S., (Ed.), M.S. (Ed.), Ph.D., D.Hum., University of North Dakota. 1944
- Westerlund, Arnold S., M.A., *Associate Professor, Art*  
B.A., M.A., University of Idaho. 1949
- Whipple, Eileen M., M.A., *Assistant Professor, Psychology*  
B.A., M.A., University of British Columbia, 1966



- Whisner, David R., M.M., *Assistant Professor, Music*  
B.M., (Mus.), M.M. (Mus.), Louisiana State University. 1963
- \*Whitehead, Albert E., Ph.D., *Professor and Chairman, Department of Speech*  
B.A., University of Colorado; M.A., Ph.D., University of Wisconsin. 1930
- Wiese, Alvin C., Ph.D., *Professor and Head, Department of Agricultural Biochemistry and Soils, and Agricultural Chemist*  
B.S., M.S., Ph.D., University of Wisconsin. 1946
- Wilde, Willard J., M.S., C.P.A., *Professor Emeritus, Accounting*  
B.S., University of Utah; M.S., University of California. 1924
- Williams, George A., Ph.D. (Geol.), *Professor, Geological Engineering and Head, Department of Geology and Geography*  
B.S. (Min. Engr.), Texas Western College; Ph.D., (Geol.), University of Arizona. 1957
- Williams, Larry G., M.S. (Ag. Engr.), *Assistant Professor, Agricultural Engineering, and Assistant Agricultural Engineer*  
BS. (Ag. Engr.), M.S. (Ag. Engr.), University of Idaho. 1956
- Williams, Roy E., Ph.D., *Assistant Professor, Hydrogeology*  
B.S., M.A., Indiana University; Ph.D., University of Illinois. 1966
- Winkler, Fred H., Ph.D., *Associate Professor, History and Political Science*  
A.B., M.A., University of Florida; Ph.D., Northwestern University. 1955
- Winner, Herbert A., M.S. (Ag.), *Professor and Head, Department of Agricultural Education*  
B.S. (Ag.), Montana State College; M.S. (Ag.), Iowa State University. 1939
- Wise, Ronald Eugene, Ph.D., *Assistant Professor, Music*  
B.M., Eastman School of Music; M.M., Yale School of Music; Ph.D., University of Wisconsin. 1965
- Withers, Russell V., Ph.D., *Associate Professor, Agricultural Economics and Assistant Agricultural Economist*  
B.S., M.S., Utah State University; Ph.D., Cornell University. 1961
- Wohletz, Ernest W., M.S. (For.), *Dean, College of Forestry, Wildlife and Range Sciences, and Director, Forest, Wildlife, and Range Experiment Station*  
B.S. (For.), M.S. (For.), University of California. 1937
- Wolf, Virginia, M.S., *Assistant Professor, Physical Education (Women)*  
B.A., Earlham College; M.S., University of Colorado. 1964
- Woodbury, George W., Ph.D., *Professor, Plant Sciences, and Horticulture*  
B.S., M.S., Michigan State University; Ph.D., Cornell University. 1935-1943; 1948
- Woods, Lonnie Lee, M.B.E., *Assistant Professor, and Administrator, SW Idaho, Adult Ed.*  
B.S., M.B.E., University of Idaho 1961
- Woolums, Edward C., M.Ed., *Associate Professor, Education*  
B.A., M.Ed., University of Colorado. 1962
- Wriggle, Larry K., Ed.D., *Assistant Professor, Education*  
B.A., M.Ed., Eastern Washington State College; Ed.D., Washington State University. 1965

### INSTRUCTORS AND ASSISTANT INSTRUCTORS

- Ackley, Ernest John, *Assistant Instructor Navy ROTC, YNC* 1966
- Adellach, Raymonde, M.A., *Instructor, Humanities*  
B.A., Kent State University; M.A., University of Colorado. 1966
- Anderson, Jay V., B.S., *Instructor, Electrical Engineering*  
B.S., University of Idaho. 1963
- Archer, Raymond Lloyd, M.S., *Instructor, Psychology, one-half time*  
B.A., Nebraska State Teachers College; M.S., Fort Hayes Kansas State Teachers College; D.A.G.S., Michigan State University. 1965
- Ayer, Larry Lee, B.A., *Acting part-time Instructor, Communications*  
B.A., University of Idaho. 1966
- Barnes, Dorothy Gene, M.M., *Instructor, Music*  
B.S., University of Idaho; M.M., University of Idaho. 1965
- Barnes, Willard, B.S., *Instructor, Social Sciences*  
B.S., University of Idaho; M.S., University of Idaho. 1965
- Barrus, James L., M.S., *Instructor, Chemistry*  
B.S., University of Wyoming; M.S., University of Idaho. 1949
- Bayles, Michael D., M.A., *Instructor, Philosophy*  
B.A., University of Illinois; M.A., University of Missouri. 1965
- Bellstrom, Stephen Kyrk, M.A., *Acting Instructor, Humanities*  
B.A., Colorado College; M.A., University of Colorado. 1966
- Beyers, Leroy A., M.S., *Instructor, Physics*  
B.S., M.S., University of Idaho. 1958
- Bishop, Donald, M.S., *Instructor, Geology, part-time*  
B.S., Sacramento State College; M.S., University of Wyoming. 1966
- Blodgett, John E., M.A., *Instructor, Humanities*  
B.A., M.A., Washington State University. 1965

\*On leave 1966-67

- Bondurant, Cecil William, B.S., *Instructor and Engineering Technician, Communications*  
B.S., American Television Institute of Technology. 1962
- Boyle, F. J., *Athletic Trainer and Instructor, Physical Education*. 1955
- Braveman, Sharon Anne, M.A., *Instructor, Mathematics*  
B.A., North Central College M.A., Miami University. 1965
- Burlison, Prudence Barret, B.A., *Instructor, English*  
B.A., Western State College. 1962
- Byrd, William A., M.S., *Instructor, Communications*  
B.A., Whitman College; M.S., Syracuse University. 1965
- Carson, William McKinley, B.S., *Instructor, Engineering*  
B.S., University of Idaho. 1966
- Clark, Calmar W., *Assistant Instructor, Mechanical Engineering*. 1959
- Clark, Darryl, M.A., *Instructor, Humanities*  
B.A., University of Rhode Island; M.A., University of Rhode Island. 1965
- Conway, Ralph Edward, A.M., *Instructor, Communications*  
A.B., University of Portland; A.M., Stanford University. 1966
- Dilworth, Barbara Faye, M.A., *Instructor, English*  
B.A., Mississippi State University; M.A., University of Georgia. 1965
- Edwards, Darrell K., M.S., *Instructor, Chemical Engineering, one-half time*  
B.S.(Ch.E.), Michigan College of Mining and Technology; M.S.(Ch.E.), University of Idaho. 1964
- Elwood, Karen H., B.A., *Acting Instructor, English*  
B.A., Washington State University. 1960
- Erickson, Maynard L., M.S., *Visiting Instructor, Social Science*  
B.S., M.S., Brigham Young University. 1966
- Fink, John Phillip, B.S., *Instructor, Psychology, one-half time*  
B.S.Ed. University of Idaho. 1966
- Flancher, Jack Lauren, M.Ed., *Instructor, Humanities*  
B.S., Northern Michigan University; M.Ed., Western Washington State College. 1965
- Fleishmann, James E., *Assistant Instructor, Naval ROTC, GMGC*. 1965
- Freling, Roger N., M.A., *Instructor, English*  
B.S., M.A., Oklahoma State University. 1962
- Gerrish, Howard W., Jr., B.S., *Instructor, Civil Engineering*  
B.S., University of Idaho. 1966
- Gibson, Gene William, B.S., *Instructor & Research Associate, Animal Science*  
B.S., University of Idaho. 1965
- Green, Anna C., M.Ed., *Acting Instructor, Office Administration, one-half time*  
B.A., Colorado State College of Education; M.Ed., University of Idaho. 1965
- Green, Cumer Leon, B.S., *Instructor, Business Administration, one-half time*  
B.S.(Bus.), University of Idaho. 1966
- Grimes, Clinton E., M.A., *Instructor, Social Science*  
B.A., M.A., University of Montana. 1966
- Gronbach, Karl Hermann, *Assistant Instructor, Air Science, MSgt*. 1964
- Guinn, Stanley J., M.A., *Instructor, Sociology*  
B.A., Whitman College; M.A., Washington State University. 1966
- Hecht, Scotte J., M.A., *Instructor, Humanities*  
B.A., Panhandle A.&M. College; M.A., University of Montana. 1966
- Holabach, Philip Joseph, M.A., *Instructor, Humanities*  
B.A., M.A., Washington State University. 1966
- Hollenbaugh, Kenneth M., M.S., *Instructor, Mines, one-half time*  
B.S., Bowling Green State University; M.S., University of Idaho. 1966
- Howze, Louie Jo, B.A., *Instructor, Humanities*  
B.A., North Texas State University. 1965
- Johnson, John Walter, B.S., *Instructor and Engineering Technician, Communications*  
B.S.(E.E.), University of Idaho. 1964
- Jones, Francis L., B.S., *Acting Instructor, English*  
B.S., University of Idaho. 1965
- Karr, Mary Linda Paulsen, B.A., *Instructor, Humanities*  
B.A., University of Idaho. 1960
- Kessel, Elizabeth June Maki, M.S., *Home Economics, Instructor*  
B.S., Wisconsin State College; M.S., University of Idaho. 1962
- Lemper, George M., 1 SG. RA, *Assistant Instructor, Military Science*. 1965
- Litza, Robert E., *Assistant Instructor, Naval Science, SKI*. 1964
- Long, Mary F. Thomas, M.A., *Instructor, Humanities*  
B.A., Boston University; M.A., University of Connecticut. 1966
- Lowe, Plumer P., Sgt. R. A., *Assistant Instructor, Military Science*. 1964
- McCracken, Francis I., M.S., *Acting Instructor, Botany*  
B.S., M.S., Oklahoma State University. 1962
- McKie, Maryann E., M.A., *Instructor, English*  
B.A., Southern Idaho College of Education; M.A., University of Idaho. 1963

- Maher, Fred W., M.A., *Instructor, Humanities*  
B.A., Mexico City College; M.A., Humboldt State College. 1966
- Mashinter, Harvey J., M.A., *Visiting Instructor, Social Science*  
B.A., Seattle University; M.A., University of Idaho. 1966
- Mayhew, Mary Logan, M.A., *Instructor, Math., one-fourth time*  
B.A., M.A., University of Kentucky. 1966
- Mendoza, Nancy W., M.S., *Instructor, Speech*  
B.A., Lake Forest College; M.S., University of Wisconsin. 1957
- Miles, Paul, M.A. *Instructor, Speech*  
B.S., Brigham Young University; M.A., University of Arizona. 1965
- Moffett, George A., *Assistant Instructor, Naval Science, M/Sgt.* 1965
- Montague, Evelyn P., M.A., *Instructor, Social Science, 2/3 time*  
B.A., Cornell College; M.A., Michigan State University. 1960
- Morgan, Richard E., M.A., *Instructor, Engineering*  
B.S., M.A.Ed., Eastern Washington State College. 1964
- Nelson, Karl E., B.S., *Instructor & Research Associate, Dairy Science*  
B.S., University of Idaho. 1966
- Pauley, William B., B.S.(M.E.), *Instructor, Mechanical Engineering*  
B.S.(M.E.), University of Idaho. 1966
- Pavel, Janis L., M.S., *Acting Instructor, Office Administration, part-time*  
B.S., M.S., University of Idaho. 1959
- Peterson, Maria Luisa, M.A., *Instructor, Languages*  
B.A., Spanish, University of California; M.A. (Spanish), Highlands University. 1964
- Pritchett, Betty, E., B.S., *Acting Instructor, Health, Physical Education and Recreation, part-time*  
B.S., University of Idaho. 1966
- Proctor, Raymond L., Ph.D., *Instructor, History*  
B.S., University of Maryland, Madrid, Spain; M.A., Ph.D., University of Oregon. 1965
- Raunio, Margaret, M.A., *Acting Instructor, English, 3/4 time*  
A.B., Albion College; M.A., University of Michigan. 1964
- Roe, Ralph Eugene, *Assistant Instructor, Naval Science, QMC.* 1964
- Ross, Sylvia Y. Hall, M.S., *Instructor, Geology*  
B.S., M.S., University of Idaho. 1965
- Sharp, Roberta, B.A., *Acting Instructor, English, one-half time*  
B.A., University of Idaho. 1962
- Sherman, Donald G., B.S., *Acting Instructor, Electrical Engineering, 3/5 time*  
B.S.(E.E.), University of Colorado. 1963
- Sloan, Ronald V., B.S., *Instructor, Education, 1/3 time*  
B.S., University of Idaho. 1965
- Slyter, Stanley E., M.S., *Instructor and Research Associate, Animal Science*  
B.S., Kansas State College; M.S., University of Idaho. 1956
- Smith, Elizabeth M., *Brevet Elementaire Industriel, Lecturer, French*  
Brevet Elementaire Industriel, Ecole de L'Initiative, Paris, France. 1966
- Stevenson, Elizabeth Esten, Ph.D., *Acting Instructor, Foreign Languages (French)*  
B.A., Vassar College; Ph.D., Yale University. 1966
- Stockton, Raymond Edward, M.S., *Instructor, Math*  
B.A., Southern Illinois University; M.S., University of Wisconsin. 1966
- Thomas, Carolyn E., M.S., *Instructor, Physical Education*  
B.S., Western Michigan University; M.S., University of Washington. 1966
- Thompson, Charles J., B.S., *Instructor, Health, Physical Education & Recreation*  
B.S., Wisconsin State College; M.S., Indiana University. 1965
- Thompson, Robert W., M.A., *Instructor in Humanities*  
A.A., Lon Morris Junior College; B.F.A., University of Texas; M.F.A., University of Texas.  
1967
- Tyler, David, M.M., *Instructor, Music*  
B.M., M.M., New England Conservatory of Music. 1965
- Utzman, Glen G., LL.B., *Instructor, Business Administration, one-half time*  
B.A., Washington State University; LL.B., University of Idaho. 1964
- Vandevort, Edgar Perry, M.A., *Instructor, Dramatics*  
B.A., University of Idaho; M.A., Northwestern University. 1964
- Verma, Prakash C., M.A., *Instructor, Humanities*  
B.A., Ramjas College; M.A., Delhi University. 1966
- von Dassow, Melita Barabas, B.A., *Instructor, Foreign Language*  
B.A., University of Washington. 1966
- Wall, Virginia Smith, M.A., *Instructor, Languages*  
A.B., Sarah Lawrence College; M.A. (French), Harvard University Grad. School of Ed. 1963
- Webb, Suzanne Strobeck, M.A., *Instructor, Humanities*  
B.A., M.A., University of Denver
- Weller, Clyde G., M.S. (C.E.), *Instructor, Civil Engineering*  
B.S.(C.E.), M.S.(C.E.) University of Idaho. 1965
- Wendle, Jan. N., B.S.(E.E.), *Instructor, Electrical Engineering*  
B.S.(E.E.), University of Idaho. 1967

- White, David A., M.B.A., *Instructor, Business Administration*  
B.A., University of Kansas; M.B.A., Indiana University. 1966
- Woodbury, Kathryn S., M.A., *Instructor, Languages*  
B.A., Elmira College, New York; M.A., University of Maine. 1953-54; 1962; 1964
- Woodruff, Dennis E., B.S. *Herdsman, Instructor and Research Associate, Dairy Science*  
B.S., University of Idaho. 1966
- York, A. Bernard, B.A., *Instructor, Art & Architecture*  
B.A., University of Idaho. 1966
- Zuroff, Sylvia Joy, M.S., *Instructor, Health, Physical Education & Recreation*  
B.S., Rocky Mtn. College; M.S., Springfield College. 1966

### PRESIDENT'S OFFICE

- Hartung, Ernest W., Ph.D., *President*  
A.B., Dartmouth; A.M., Harvard; Ph.D., Harvard; LL.D., University of Rhode Island;  
LL.D., College of Idaho. 1965
- Steffens, H. Walter, Ph. D., *Vice President for Academic Affairs*  
B.S.(Pre-Med.), M.S., University of Idaho; Ph.D., Harvard University. 1929

### ADMISSIONS OFFICE

- Young, Frank, M.S., *Director of Admissions*  
B.S., Jamestown College; M.S., University of Oregon. 1947
- Anduiza, J. P., B.A., *Assistant to the Director of Admissions*  
B.A., St. Martin's College. 1966

### ALUMNI

- Lyle, James M. Jr., M.S.(Ed), *Alumni Secretary*  
B.S.(Pre-Med.), M.S.(Ed.), University of Idaho. 1946
- Frank McCreary, B.S., *Alumni Editor and Assistant Alumni Secretary*  
B.S., University of Idaho. 1964

### ASSOCIATED STUDENTS

- Mix, Gale L., LL.B., *General Manager and Student Union Manager*  
B.S., LL.B., University of Idaho. 1939
- Snyder, Patricia D., B.S., *Assistant Manager of Golf Course*  
B.S., University of Idaho. 1952
- Snyder, Richard L., B.S., *Manager Golf Course*  
B.S., University of Idaho. 1952

### ATHLETICS

- Ostyn, Paul E., *Director of Athletics*  
A.B., Whitman College; M.Ed., University of Nevada. 1965
- Thomas, John Cleon, *Assistant Director of Athletics.* 1956
- Adams, Herb, *Assistant Football Coach*  
B.S.,(Ed.), Southeastern Oklahoma. 1966
- Anderson, Wayne D., *Varsity Basketball Coach*  
B.S.(Ed.), M.S.(Ed.), University of Idaho. 1956
- Boyle, F. J. (Packey), *Trainer.* 1955
- Davis, George, M.A., *Assistant Football Coach*  
B.A., (Anthropology), University Southern California; M.A., (Sec. Admin.), San Francisco State. 1967
- Hughes, Billy, *Assistant Football Coach*  
B.S., Southeastern Oklahoma; M.(Ed.), West Texas State. 1966
- Maker, Bob, *Athletic Publicity Director*  
Boston University. 1966
- Miller, Robert F., *Equipment Manager*  
B.S., University of Idaho. 1965
- Musseau, Steven J., Jr., *Head Football Coach*  
B.S., Louisiana State University. 1962
- Smith, John G., *Varsity Baseball Coach, Assistant Basketball Coach*  
B.S.(Bus.), M.S.(Bus.Adm.), Central State College, Oklahoma. 1965
- Stephenson, Ron, *Athletic Ticket Manager*  
B.S., Idaho State University. 1965

- Thomas, Alex. N., B.S., *Freshman Football Coach, Athletics*  
B.S., Ricks College. 1967
- Troxel, Eddie R., M.A., *Assistant Football Coach, Athletics*  
B.A., Western State College; M.A., Western State College. 1967

## BOOK STORE

- Long, Richard S., B.S.,(Bus.), *Manager*  
B.S.,(Bus.), University of Idaho 1953-56; 1958
- Martin, L. Gilman, *Textbook Manager*  
B.S., Trinity University. 1965

## BUSINESS AND FINANCIAL ADMINISTRATION

- Dick, Kenneth A., M.B.A., C.P.A., *Vice President for Financial Affairs and Bursar*  
B.S.(Bus.), M.S.(Bus.), University of Idaho; M.B.A., Stanford University. 1931
- Anderson, George A., M.Acctg., C.P.A., *University Auditor*  
B.S.(Bus.), M.Acctg., University of Idaho. 1961

## Business Office

- Watts, Joseph W., B.S.(Bus.), *Business Manager*  
B.S.(Bus.), University of Idaho. 1940
- Slade, H. Eugene, B.S.(Bus.), *Assistant Business Manager*  
B.S.(Bus.), University of Idaho. 1942
- Dye, Claude O., *Purchasing Agent*. 1962
- Amos, Don A., B.S.(Bus.), *Accountant*  
B.S.(Bus.), University of Idaho. 1963
- Cole, R. Tucker, B.S.(Bus.), *Accountant*  
B.S.,(Bus.), University of Idaho. 1966
- Davis, Glenn Eugene, B.S. (Bus.), *Accountant*  
B.S.(Bus.), University of Idaho. 1948.
- Everson, B. R., *Assistant Accountant* 1963
- Horgan, Charles L., B.S.(Bus.), *Accountant*  
B.S.(Bus.), University of Idaho. 1954
- Ikeda, John I., B.S.(Bus.), *Accountant*  
B.S.(Bus.), University of Idaho. 1948
- Lindquist, Marie J., *Cashier*. 1956
- Nelson, George W., B.S.(Ed.), *Assistant Accountant*  
B.S.(Ed.), University of Idaho. 1957
- Pilkington, Dan R., B.S., (Bus.), *Assistant Purchasing Agent*  
B.S.,(Bus.), University of Idaho. 1965

## COMPUTER CENTER

- Crowley, H. Ward, Ph.D. Math., *Associate Professor and Director, Computing Center*  
B.A., M.A., Washington State University; Sc.M., Brown University; Ph.D., Washington State University. 1956
- Wang, Ya Yen Lee, Ph.D.Math., *Assistant Professor in Math and Assistant Analyst, Computing Center*  
B.S.,Chem., Villa Maria College; M.S.Math., University of Florida; Ph.D.,Math., University of Idaho. 1965

## COUNSELING CENTER

- Kees, Donald Joseph, M.S.(Ed.), *Director of Counseling Services*  
B.S.(Ed.), M.S.(Ed.), University of Idaho. 1954
- Morris, James D., M.S.(Ed.), *Student Counselor*  
B.S.(Ed.), M.S.(Ed.), University of Idaho. 1965
- Russell, Kenneth S., B.S. *Counselor*  
B.S., University of Idaho. 1966

## ENGINEERING

- Chase, Louis , Jr., *Engineering Technologist, Chemical and Electrical Engineering*. 1966
- Clark, Calmar W., *Assistant in Instruction and Shop Mechanician, Mechanical Engineering*. 1959
- Grieser, Donald A., *Technician, Agricultural Engineering*. 1967

- McGraw, Ralph N., *Assistant in Instruction and Shop Mechanician*. 1960  
 Moden, Walter L., M.S.(Ag.E.), P.E., *Assistant Engineering Technologist*  
 B.S.(Ag.E.), Kansas State University; M.S.(Ag.E), University of Idaho. 1957  
 Rosa, J. Marvin, M.S.(C.E.), *Research Hydraulic Engineer, Agricultural Engineering*  
 B.S.(C.E.), M.S.(Ag.E.), C.E., University of Idaho. 1960  
 Works, D. W., M.S.(Ag.E.), P.E., *Associate Agricultural Engineer*  
 B.S.(Ag.E.), Oregon State University; M.S.(Ag.E), University of Idaho. 1956

### FAMILY HOUSING

- Stout, Elmer A., B.S.(Zool.), *Assistant Director of Family Housing*  
 B.S.(Zool.), University of Idaho. 1966  
 Stark, Emil J., *Maintenance Foreman*. 1963

### HEALTH CENTER

- Baumgartner, Myron R., M.D., *Associate University Physician*  
 B.A., M.D., Ohio State University. 1966  
 Boag, Violet Lucile, R. N., *Nurse*  
 R.N., St. Lukes Hospital, Spokane, Washington. 1953  
 Bullington, Jewel, R.N., *General Duty Nurse*  
 R.N., Orange County General Hospital, Orange, California. 1956  
 Collins, Margaret R.N., *Clinic Nurse*  
 B.S., New Mexico University. 1966  
 Fenwick, Pennie Sue, B.S., *Medical X-Ray Technician*  
 B.S., Idaho State University. 1966  
 Fife, Lorene P., R.N., *Nurse*  
 R.N., Emmanuel Hospital, Portland, Oregon. 1962  
 Fitzgerald, William D., M.D., *University Physician*  
 B.S., Millsape University; M.D., Tulane. 1966  
 Fosberg, Margaret W., R.N., *Clinic Supervisor*  
 R.N., Emery School of Nursing. 1966  
 Hindle, Jeanette B., R.N., *Hospital Supervisor*  
 R.N., Frances P. Bolton School of Nursing. 1959  
 Leonard, Robert R., M.D., *Associate University Physician*  
 M.D., Indiana University. 1966  
 Phelps, Harold, M.D., *X-Ray Consultant*  
 B.S., South Dakota University; M.D., Texas University. 1966  
 Puddy, Walter Edwin, M.D., *Part-time Psychiatrist*  
 B.A., University of California; M.D., University of California Medical School. 1964  
 Walser, Dorothy, R.N., *Nurse*  
 R.N., Deaconess Hospital, Spokane, Washington. 1962

### INFORMATION AND PUBLICATIONS

- Gibbs, Raphael S., B.A., *Professor, Director of Information and Editor of Publications*  
 B.A., University of Idaho. 1934-36; 1946  
 Ames, Leo, B.A., *Staff Editor*  
 B.A., University of Idaho. 1965  
 Hartley, Thomas R., M.S., *Staff Editor*  
 B.A., Lewis and Clark College; M.S., University of Oregon. 1960  
 McCleneghan, Jack, B.A., *Staff Editor*  
 B.A., Fresno State College. 1967

### INSTITUTIONAL RESEARCH

- Van Wagoner, Robert N., M.B.A., *Director of Institutional Research*  
 A.A., Fullerton California Jr. College; B.A., University of Nevada; M.A., University of the  
 Philippines; M.B.A., George Washington University. 1966

### LAW

- Folz, Carolyn Atkins, M.A., *Law Librarian*  
 A.B., Evansville College; B.S.(L.S.), University of Illinois; M.A., University of Idaho. 1945

## LIBRARY

- Zimmerman, Lee Franklin, M.A., *Librarian*  
B.A., University of Wisconsin; B.S.(L.S.), M.A., University of Illinois. 1948
- Ackaret, Lois, *Library Assistant*. 1966
- Atherton, Valerie, M.L.S., *General Librarian*  
B.A., Wilson College; M.L.S., State University of New York (Geneseo). 1965
- Atkinson, Nancy I., A.B.L.S., *Head Catalog Librarian*  
A.B., A.B.L.S., University of Michigan. 1943
- Beck, Richard Joseph, M.A., *Assoc. Librarian, Head of Public Services*  
B.A., St. Thomas College; B.S.(L.S.), M.A., University of Minnesota. 1957
- Burns, Robert Whitehall, Jr., M.A., *Science and Technology Librarian*  
B.A., University of Colorado; M.A., University of Denver. 1957
- Campbell, Colin, M.L.S., *General Librarian*  
B.A., University of New Hampshire; M.L.S., Rutgers University. 1962
- Conditt, Paul C., M.S., *Loan Librarian*  
B.A., Trinity University; M.S.(L.S.), Columbia University. 1961
- Gallup, Helen M., *Library Assistant*. 1959
- Hardies, Rod, M.L.S., *Acquisitions Librarian*  
B.A., University of Washington; M.A. Columbia University; M.L.S., University of Washington. 1965
- Johnson, Sally J., *Library Assistant*. 1956
- Kellogg, George Alexis, M.A., *Humanities Librarian*  
A.B., B.S.(L.S.), Columbia University; M.A., Yale University. 1957
- Liden, Maudie, *Library Assistant*. 1959
- McCauley, Walter, M.A.L.S., *Assistant Social Science Librarian*  
B.A., Murray State University; M.A.L.S., George Peabody. 1966
- Nielsen, Ralph, B.L.S., *Catalog Librarian*  
B.A., University of Alberta; B.L.S., University of Toronto. 1964
- Pedersen, Alpha M., *Library Assistant*. 1953
- Severson, Ina, *Library Assistant*. 1957
- Shaffer, Grace R., *Library Assistant*. 1956
- Shepard, Stanley A., M.S.(L.S.), *Ass't Librarian, Head of Technical Services*  
B.A., B.S., Rutgers University; M.S.(L.S.), Columbia University. 1951-54; 1961
- Slade, Louise L., B.S.(L.S.), *Catalog Librarian*  
B.A., B.S.(L.S.), University of Denver. 1944
- Storey, Edna, *Library Assistant*. 1961
- Webbert, Charles A., M.S., *Social Science Librarian*  
B.A., University of Washington; B.S.(L.S.), George Peabody College;  
M.S., University of Illinois. 1948

## PERSONNEL OFFICE

- Barton, Elbert M., M.S.(Bus.), *Personnel Officer*  
B.S.(Bus.), Oklahoma State University; M.S.(Bus.), University of Idaho. 1960

## PHYSICAL PLANT

- Gagon, George, B.S.(C.E.), P.E., *Physical Plant Director*  
B.S.(C.E.), University of Idaho. 1947
- Baugh, Don, *Electrician Foreman*. 1957
- Cowden, Lloyd D., B.S., *Grounds Superintendent*  
B.S., University of Idaho. 1945
- Fahrenwald, Bill, *Machine Shop Foreman*. 1945
- Frink, Orrin, *Refrigeration Shop*. 1961
- Hatley, Michael J., *Draftsman*. 1966
- Horney, Merrill, *Carpenter Foreman*. 1946
- Howell, John E., B.S.(E.E.), *Engineering Aide*  
B.S.(E.E.), University of Idaho. 1966
- Howerton, Ray, *Supervisor of Janitors*. 1957
- McAllister, Ralph, *Garage Foreman*. 1950
- McBride, Ralph, *Chief, Power Plant Operator*. 1946
- Owen, Glenn B., MBA, *Administrative Director of Physical Plant*  
B.S.(Ed.) University of Idaho; MBA University of Penn. 1964
- Parkins, Loyal E., *Construction Foreman*. 1952
- Pedersen, Chris, *Plumbing Shop Foreman*. 1944
- Peterson, Glenn, *Paint Shop Foreman*. 1936
- Rogers, Wilson, *Chief, Plant Protection*. 1957

Stoos, Edward Carl, Jr., B.S.(E.E.), P.E., *Staff Electrical Engineer*  
B.S.(E.E.), University of Idaho. 1960

Taggart, Melvin C., M.S.(M.E.), P.E., *Staff Mechanical Engineer*  
B.S.(M.E.), University of Idaho; M.S.(M.E.), University of Washington 1966

### PLACEMENT SERVICE

Miller, Sidney W., M.S.(Ed.), *Placement Coordinator and Assistant Professor*  
B.S.(Ed.), M.S.(Ed.), University of Idaho. 1959

### REGISTRAR'S OFFICE

O'Neill, Frederick L., M.Ed., *Registrar*  
B.S.(Commerce), Kansas State Teachers College; M.Ed., University of Idaho. 1954

Frazier, Joseph E., M.S., *Assistant Registrar*  
B.S., M.S., Kansas State University. 1962

### RESIDENCE HALLS

Greene, Robert F., M.S.(Ed.), *Director of Housing*  
B.S., M.S.(Ed.), University of Idaho. 1931

Reed, Richard W., B.S., (Bus.), *Assistant Director of Housing*  
B.S.(Bus.), University of Idaho. 1952

Morin, Bernice M., B.S.(H.Ec.), *Director of Food Services, Residence Halls*  
B.S.(H.Ec.), University of Montana; Dietetic Certification, Michael Reese Hospital,  
Chicago, Illinois. 1944

Doyle, Lois, *Assistant Manager, Wallace Cafeteria.* 1963

Goff, Lola Ann, B.S.(H.Ec.), *Food Service Manager, Gault Cafe*  
B.S.(H.Ec.), University of Idaho. 1961-63; 1964

Jonas, Arlene, B.S.(H.Ec.), *Assistant Food Service Manager, Willis Sweet Cafe*  
B.S.(H.Ec.), University of Idaho. 1966

McBride, Alice, *Assistant Manager, Wallace Cafeteria.* 1955

Moorer, Beverly Ann, B.S.(H.Ec.), *Food Service Manager, Wallace Cafeteria*  
B.S.(H.Ec.), Seattle University; Dietetic Certification, Mills College, California. 1964

Ringe, Laura, B.S.(H.Ec.), *Food Service Manager, Willis Sweet Cafe*  
B.S.(H.Ec.), University of Idaho. 1965

Tusberg, Terry Grant, B.S.(H.Ec.), *Food Service Manager, Hays Cafe*  
B.S.(H.Ec.), University of Idaho; Dietetic Certification, Oklahoma State University, Still-  
water, Oklahoma. 1966

### STATISTICAL SERVICES

Roberts, William S., B.Ed., *Statistical Center Supervisor*  
BBA(Statistics), University of Minnesota; B.A.(Music Ed.), Washington State University.  
1960

Arland, William T., B.B.A., *Assistant Supervisor*  
B.B.A., Gonzaga University. 1967

### STUDENT AFFAIRS

Decker, Charles Otis, M.A., *Dean of Students*  
B.A., Antioch College; M.A., Northwestern University. 1946

Davey, Harry E., M.Ed., *Assistant Dean of Students*  
B.S., U. S. Naval Academy; M.Ed., University of Idaho. 1966

Neely, Marjorie Miller, M.S., *Dean of Women*  
B.A.(Ed.), Eastern Washington College of Education; M.S., Ohio University. 1957

Newman, Dewey L., M.A., *Associate Dean of Students*  
B.S.(Ed.), University of Idaho; M.A.(Ed.), Washington State University. 1961

Rodgers, Bobbie J., M.A., *Assistant Dean of Women*  
B.S., M.A., University of Alabama. 1966

### STUDENT UNION

Mix, Gale L., LL.B., *Manager*  
B.S., LL.B., University of Idaho. 1939

Rogalski, Peter, B.S., *Games Room Manager*  
B.S., University of Idaho. 1965



Rudisill, Maun, M.S., *Program Director*

B.S.(Ed.), Florida State University; M.S.(Ed.), University of Wisconsin. 1964

Rytting, Ann Marie, B.S., *Conference and Social Coordinator*

B.S., University of Idaho. 1965

Todd, Harry E., B.S., *Assistant Manager*

B.S., Kansas State University

Vettrus, Dean L., B.S., *Director, Food Service*

B.S., University of Denver. 1961

### SUMMER SCHOOL AND CONTINUING EDUCATION

Kaus, Paul F., Ed.D., *Director and Coordinator, Summer School and Continuing Education*

B.A.Ed., North Idaho College of Education; M.Ed., Ed.D., Washington State University.  
1955.

## Research and Extension

### AGRICULTURAL CONSULTING COUNCIL

George L. Yost, Chairman  
Idaho Horticultural Society  
Emmett

Stanley Trenhaile  
State Commissioner of Agriculture  
Boise

Parker Woodall  
Idaho Association of Soil Conservation  
Districts  
Sweet

Jenkin Palmer  
Idaho Cattlemen's Association  
Malad

Lewis Phillips  
Idaho Cooperative Council  
Lewiston

Carl Irwin  
Idaho Crop Improvement Asso.  
Kimberly

Robert S. Davis  
Idaho Dairymen's Association  
Kuna

Reid Kilmer  
Idaho-Eastern Oregon Seedsmen Assoc.  
Nampa

Monroe Hays  
Idaho Farm Bureau Federation  
Buhl

Lloyd D. Browning  
Idaho Farm Bureau Federation  
Pocatello

Mrs. Bea Shephard  
Idaho Home Demonstration Council  
Eagle

Pat Tate  
Idaho Milk Processors' Association  
Boise

Clarence Parr  
Idaho Potato Growers Inc.  
Burley

Loyd Merrill  
Idaho Poultry Industry Federation  
Kuna

Virgil Farner, President  
Idaho Swine Producers' Association  
Caldwell

Ellis Odberg, Jr.  
Idaho Wheat Growers' Association  
Genesee

R. K. Siddoway  
Idaho Wool Growers' Association  
St. Anthony

### RESEARCH COUNCIL AND RESEARCH FOUNDATION

The Research Council was established to foster research in all legitimate ways, encourage and assist research workers, coordinate the various research programs being carried on by the University, and administer certain research funds. The University of Idaho Research Foundation, Inc., is a separate legal entity which implements the provisions of the University Patent Policy. Its purpose is to protect the interests of the inventor, the public and the University, and handle inventions growing out of University research programs.

The Special Research funds are administered by the Research Council. The Special Research program provides for conducting fundamental, exploratory and applied research on problems related to the development of Idaho, the efficient utilization of its resources, and the growth of its economy.

The University Research Advisory Council is composed of representative Idaho citizens whose guidance and advice assures Idaho of a research program geared closely to the needs of the State. The membership of the Advisory Council and the directors of the Research Foundation are listed below.

### UNIVERSITY OF IDAHO RESEARCH COUNCIL

Grahn, Edgar H., Ph.D., *Assistant Dean, Graduate School, Professor of Chemistry, and Executive Secretary of Research Council*  
B.S., University of Puget Sound; M.S., University of Idaho; Ph.D., University of Illinois.  
1941-43; 1946

### UNIVERSITY OF IDAHO RESEARCH FOUNDATION, INC.

#### Board of Directors

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Secretary-Treasurer, Edgar H. Grahn

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## UNIVERSITY RESEARCH ADVISORY COUNCIL

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Idaho State AFL-CIO  
1917 Sherman Street  
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Department of Employment  
State of Idaho  
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Briggs and Associates  
Consulting Engineers  
619 Groves Street  
Boise, Idaho
- Mr. R. J. Bruning, Editor  
North Idaho Press  
Wallace, Idaho
- Mr. Albert Carlsen, General Manager  
Idaho Potato Starch Company  
P.O. Box 231  
Blackfoot, Idaho
- Dr. Terrell O. Carver  
Administrator of Health  
Statehouse  
Boise, Idaho
- Mr. George L. Crookham, Jr.  
Board Chairman, Crookham Company  
P.O. Box 520  
Caldwell, Idaho
- Mr. W. R. Cunningham, Division Manager  
Rexburg Division  
Utah Power & Light  
P.O. Box 127  
Rexburg, Idaho
- Mr. A. B. Curtis, Chief Fire Warden  
Clearwater & Potlatch Timber  
Protective Associations  
Orofino, Idaho
- Mr. Henry L. Day, President  
Day Mines, Inc.  
Wallace, Idaho
- Mr. Milton F. Eberhard  
Sunspiced, Inc.  
P.O. Box 592  
Blackfoot, Idaho
- Mr. Richard Egbert  
Tetonia, Idaho
- Mr. James Ellsworth  
Leadore, Idaho
- Mr. L. F. Erickson, P. E.  
Research Engineer  
Department of Highways  
P.O. Box 879  
Boise, Idaho
- Mr. Edward W. Equals  
Planning Survey Manager  
Department of Highways  
P.O. Box 879  
Boise, Idaho
- Mr. Joe T. Fallini, State Director  
Bureau of Land Management  
Idaho State Office  
P.O. Box 2237  
Boise, Idaho
- Mr. Don Fredrickson  
Gooding, Idaho
- Mr. F. P. Hendrickson, Plant Manager  
Monsanto Company  
P.O. Box 816  
Soda Springs, Idaho
- Mr. Harold Johnson, Executive Secretary  
State Tax Commission  
State of Idaho  
Boise, Idaho
- Mr. H. Ferd Koch  
257 Circle Way Drive  
Boise, Idaho
- Mr. Ray W. Kueneman, Vice President  
Food Processing Division  
Research and Development  
J. R. Simplot Co.  
Caldwell, Idaho
- Mr. Max Lattig  
El Paso Natural Gas Products Company  
P.O. Box 37  
Conda, Idaho
- Mr. J. E. McKay, Manager of Metallurgy  
The Bunker Hill Company  
P.O. Box 29  
Kellogg, Idaho
- Mr. Herbert B. McKean  
Director of Research & Development  
Potlatch Forests, Inc.  
Lewiston, Idaho
- Mr. Orland C. Mayer, Director  
Industrial Development  
Idaho Power Company  
P.O. Box 770  
Boise, Idaho
- Mr. J. I. Morgan, President  
J. I. Morgan, Inc.  
New Meadows, Idaho
- Mr. Harold Nelson, Regional Director  
U. S. Department of the Interior  
Bureau of Reclamation  
Box 8008  
Boise, Idaho
- Mr. W. W. Nixon  
Nixon & Nixon  
Attorneys at Law  
P.O. Box 368  
Bonners Ferry, Idaho
- Mr. R. T. Paine, Division Manager  
The Washington Water Power Company  
Lewiston, Idaho
- Mr. M. A. Peterson, General Manager  
Idaho Potato Growers, Inc.  
P.O. Box 978  
Idaho Falls, Idaho
- Mr. L. J. Randall, Chairman of the Board  
Hecla Mining Company  
Wallace, Idaho

## UNIVERSITY RESEARCH ADVISORY COUNCIL

- |  |  |
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| Mr. J. R. Simplot, President<br>J. R. Simplot Company<br>Boise, Idaho  | Mr. A. J. Teske, Secretary<br>Idaho Mining Association<br>P. O. Box 1772<br>Boise, Idaho |
| Mr. F. E. Smith, P. E. Director<br>Engineering & Construction Division<br>Idaho Operations Office<br>U. S. Atomic Energy Commission<br>P.O. Box 2108<br>Idaho Falls, Idaho | Mr. J. F. Watson, General Manager<br>J. C. Watson Company<br>Parma, Idaho                |

## AGRICULTURAL EXPERIMENT STATION

NOTE—Since most members of the Agricultural Experiment Station also teach in the College of Agriculture and are listed in the general faculty, their names are not repeated here. The following list, therefore, represents Experiment Station members wholly in administration or research.

- Kraus, James E., Ph.D., *Dean of the College of Agriculture, Director of the Agricultural Experiment Station, and Director of the Agricultural Extension Service*  
B.S., Colorado State University; M.S., University of Wisconsin; Ph.D., Cornell University.  
1941
- Ensign, Ronald D., Ph.D., *Associate Director of the Agricultural Experiment Station*  
B.S., Northwest Missouri State; M.S., Colorado State University; Ph.D., Cornell University.  
1952
- Chugg, Jack C., M.S., *Associate Soil Scientist*  
B.S., Oklahoma State; M.S., Montana State. 1966
- Crane, Jimmie, B.S., *Research Associate*  
B.S., University of Idaho. 1966
- Cunningham, Helen H., M.S., *Assistant Home Economist, Home Economics Research*  
B.S., University of Idaho; M.S., Iowa State University. 1961
- Huber, Don M., Ph.D., *Associate Plant Pathologist, Plant Sciences*  
B.S.(Ag.), M.S., University of Idaho; Ph.D., Michigan State University. 1963
- Johnson, James L., B.A., *Head of Agricultural Information Department and Agricultural Editor*  
B.A., Washington State University. 1966
- McNeel, Henry A., B.S.,(Ag.) *Research Associate and Farm Foreman, Plant Sciences*  
B.S.(Ag.), Colorado State University. 1964
- Moden, Walter L.,M.S., P.E., *Assistant Agricultural Engineer*  
B.S.(Ag.Engr.), Kansas State University; M.S.(Ag.Engr.), University of Idaho. 1957
- Murray, Glen A., Ph.D., *Assistant Agronomist and Ext. Agronomist, Plant Sciences*  
B.S., Montana State College; M.S., Montana State College; Ph.D., University of Arizona.  
1967
- Parks, Franklin P., M.S., *Research Associate, Ag. Biochem and Soils*  
B.S., M.S., University of Idaho. 1966
- Pope, Warren K., Ph.D., *Agronomist*  
B.S., Ph.D., University of California. 1947
- Sauter, Erwin A., Ph.D., *Associate Poultry Scientist*  
B.S., M.S., Washington State University; Ph.D., University of Idaho. 1956
- Stellmon, M. William, B.A., *Experiment Station Editor*  
B.A., Montana State University. 1964
- Williams, Edgar L., M.S.,(For.), *Assistant Agricultural Economist, and Assistant Forest Economist*  
*Economist*  
B.S., M.S.,(For.), University of Idaho. 1951
- Works, D. W., M.S.(Ag.Engr.), *Associate Agricultural Engineer*  
B.S.(Ag.Engr.), Oregon State University; M.S.(Ag.Engr.), University of Idaho. 1956
- Zaehring, Mary V., Ph.D., *Home Economist and Head of Department of Home Economics*  
*Research*  
B.S., Temple University; M.S., Ph.D., Cornell University. 1956

## Representatives of Cooperating Agencies:

- Bondurant, James A., M.S., *Agricultural Engineer, Soil and Water Conservation Research*  
*Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., Kansas State College; M.S., University of Nebraska.
- Bowers, Sidney A., M.S., *Research Soil Scientist (Physics), Soil and Water Conservation Research*  
*Division, U.S.D.A., Agricultural Research Service. (Twin Falls).*  
B.S., Brigham Young University; M.S., Kansas State University. 1963

- Brown, John W., B.S., *Research Chemist, Soil and Water Conservation Research Division U.S.D.A., Agricultural Research Service (Twin Falls)*  
B.S., Washington State University. 1965
- Brown, Melvin J., M.S., *Soil Scientist (Chemistry), Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service (Twin Falls)*  
B.S., Utah State University; M.S., University of California. 1965
- Carlson, Melvin R., B.S.(For.), *Woodland Conservationist, U.S.D.A., Soil Conservation Service B.S.(For.), University of Idaho. (Boise)*
- Carter, David L., Ph.D., *Research Soil Scientist, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., M.S., Utah State University; Ph.D., Oregon State University. 1965
- Carter, John N., Ph.D., *Research Soil Scientist (Chemistry), Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., University of Missouri; M.S., Ph.D., University of Illinois. 1965
- Cary, John W., Ph.D., *Research Soil Scientist (Physics), Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service (Twin Falls)*  
B.S., Colorado Agricultural and Mechanical College; M.S., Colorado State University; Ph.D., Utah State University. 1965
- Douglas, Clyde L., M.S., *Soil Scientist, Soil and Water Conservation Research Division, U.S.D.A. Agricultural Research Service (Twin Falls)*  
B.S., Southern Illinois University; M.S., University of Illinois. 1966
- Ercanbrack, S. Keith, Ph.D., *Research Animal Geneticist, U.S. Sheep Experiment Station, U.S.D.A. Agricultural Research Service. (Dubois)*  
A.B., Brigham Young University; M.S., Utah State University; Ph.D., Iowa State University. 1957
- Evans, Keith E., B.S., *Supervisor in Charge, Plant Pest Control Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., University of Idaho. 1944
- Flanigan, Thomas G., B.S.(Ag.), *Plant Pest Control Inspector, U.S.D.A., Agricultural Research B.S., University of Maryland.*
- Ford, Homer S., B.S., *District Agent, Bureau of Sport Fisheries and Wildlife, Department of the Interior.*  
B.S., Utah State University. 1964
- Halliday, Blaine O., B.S., *Assistant State Conservationist, U.S.D.A., Soil Conservation Service. (Boise).*  
B.S., Utah State Agricultural College. 1964
- Hamilton, Warren, B.S.(Ag.), *Plant Pest Control Inspector, Plant Pest Control Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., University of Wisconsin. 1957
- Hamon, W. Russell, M.S., *Research Hydraulic Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Boise)*  
B.S., Eastern Kentucky State College; M.S., University of Kentucky; B.S.(C.E.), Massachusetts Institute of Technology. 1964
- Harris, Harold L., B.S.(For.), *Plant Materials Specialist, U.S.D.A., Soil Conservation Service. (Aberdeen)*  
B.S., University of Idaho. 1952
- Hayes, Ralph M., *Agricultural Technician, U.S.D.A., Agricultural Research Service. (Aberdeen).* 1954
- Hulet, Clarence V., Ph.D. *Research Animal Geneticist, U. S. Sheep Experiment Station, U.S.D.A. Agricultural Research Service. (Dubois)*  
B.S., Brigham Young University; M.S., Ph.D., University of Wisconsin. 1957
- Humphreys, Allan S., M.S., *Agricultural Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., M.S., Utah State University. 1960
- Jensen, Marvin E., M.S., *Research Agricultural Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S.; M.S.(A.E.), North Dakota Agricultural College. 1964
- Johnson, Clifton W., M.S., *Hydraulic Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Boise)*  
B.S., M.S., Utah State University. 1960
- Jones, Luther, B.S., *Soil Conservationist, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S., New Mexico State University. 1939
- Kingsbury, J. W., B.S., *State Soil Scientist, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S., University of Idaho. 1964
- Leighty, Willis J., B.S., *Assistant State Soil Scientist, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S., University of Illinois. 1938
- Massee, Truman W., M.S., *Research Soil Scientist, U.S.D.A., Agricultural Research Service. (St. Anthony)*  
B.S., M.S., Oregon State University. 1958
- Mayland, Henry F., M.S., *Research Soil Scientist, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S.; M.S., University of Wyoming. 1964
- Morgan, Lee T., B.S., *State Conservationist, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S., Kansas State University. 1959

- Morse, Blaine, B.S.(For.), *Assistant State Conservationist (Watersheds), U.S.D.A., Soil Conservation Service. (Boise)*  
B.S.(For.), Utah State University. 1959
- Muckel, Dean C., M.S., *Chief, Northwest Branch, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service (Boise).*
- Nelson, Morlan W., B.S.(Soils), *State Snow Survey Supervisor, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S.(Soils), North Dakota State University. 1948
- Nonini, Francis, B.S., *Plant Pest Control Inspector, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., M.S., University of Idaho. 1962
- Pair, Claude H., M.S., *Irrigation Engineer, Soil and Water Conservation Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., M.S., Washington State University.
- Pavek, J. J. Ph.D., *Research Geneticist, U.S.D.A., Agricultural Research Service (Aberdeen)*  
B.S., M.S., University of Minnesota; Ph.D., University of Wisconsin. 1965
- Peay, Walter E., M.S., *Entomologist, Entomology Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., University of Utah; M.S., Utah State University. 1939
- Petr, Frank C., Ph.D., *Research Agronomist, U.S.D.A., Agricultural Research Service. (Aberdeen)*  
B.S., M.S., Montana State College; Ph.D., Iowa State University. 1953
- Price, Donald A., Ph.D., *Research Animal Scientist and Director, U.S. Sheep Experiment Station, U.S.D.A., Agricultural Research Service. (Dubois)*  
B.S., Kansas State University; M.S., Colorado State University; Ph.D., Oregon State University. 1957
- Rasmussen, Warren W., M.S., *Research Soil Scientist, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S.; M.S., Utah State University. 1953
- Robinson, August R., M.S., *Director, Snake River Conservation Research Center, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S.(C.E.), M.S.(Irrig.Engr.), Colorado State University. 1962
- Rosa, J. Marvin, M.S., *Hydraulic Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Moscow)*  
B.S., M.S., University of Idaho. 1960
- Smith, Freeman M., B.S., *Botanist, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Boise)*  
B.S., University of Arizona. 1963
- Smith, J. Hamilton, Ph.D., *Research Soil Scientist (Microbiology), Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., Brigham Young University; M.S., Utah State University; Ph.D., Cornell University. 1965
- Stephenson, Gordon R., M.S., *Geologist, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service. (Boise)*  
A.B., Augustana College; M.S., Washington State University. 1960
- Sunderman, Donald W., Ph.D., *Research Agronomist, U.S.D.A., Agricultural Research Service. (Aberdeen)*  
B.S., M.S., Ph.D., University of Minnesota. 1960
- Swenson, Arthur A., B.S., *Agricultural Research Technician (Insects), Entomology Research Division, U.S.D.A., Agricultural Research Service. (Twin Falls)*  
B.S., University of Idaho. 1962
- Taylor, Peter W., B.S.(For.-Range Mgt.), *Assistant Soil Conservationist, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S.(For.-Rng.Mgt.), University of Idaho.
- Walker, John J., B.S., *Watershed Work Plan Party Leader, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S., Oklahoma A & M. 1964
- Wilkins, Meader H., B.S.(C.E.), *State Conservation Engineer, U.S.D.A., Soil Conservation Service. (Boise)*  
B.S.(C.E.), South Dakota State College. 1954
- Worstell, Robert V., M.S., *Research Agricultural Engineer, Soil and Water Conservation Research Division, U.S.D.A., Agricultural Research Service (Twin Falls)*  
B.S., Oregon State University; M.S., University of California. 1965

### Branch Stations

#### Aberdeen—

- Carpenter, Gene P., Ph.D., *Assistant Entomologist*  
B.S., Oklahoma University; M.S., Ph.D., Oregon State. 1966
- Dallimore, Clarence E., M.S., *Assistant Plant Pathologist*  
B.S., Utah State University; M.S., University of Nebraska. 1955
- Iritani, Willy M., Ph.D., *Associate Horticulturist*  
B.S., University of Minnesota; M.S., University of Idaho; Ph.D., University of Illinois. 1958
- Irvine, William A., Ph.D., *Assistant Plant Pathologist*  
B.S., McGill University; M.S., Ph.D., Iowa State. 1965

- McMaster, Galen M., M.S.(Ag.E.), *Associate Irrigationist*  
B.S.(Ag.E.), M.S.(Ag.E.), University of Idaho. 1955
- Owens, Edward W, Ph.D., *Superintendent and Horticulturist*  
B.S., M.S., University of Idaho; Ph.D., Cornell University. 1955
- Sneed, Edna M., B.S., *Scientific Aide*  
B.S., Colorado State University. 1962
- Sparks, Walter C., M.S., *Horticulturist*  
B.S., M.S., Colorado State University. 1947
- Wise, R. Martin, B.S., *Associate Ag. Chemist (Cereals)*.  
B.S., McPherson College. 1960

## Caldwell—

- Dahmen, Jerome J., Ph.D., *Superintendent and Animal Scientist*  
B.S., University of Idaho; M.S., Ph.D., Oregon State University. 1947
- Frank, Floyd W., Ph.D., *Veterinarian*  
B.S. DVM, Ph.D., Washington State University. 1955
- Mienerhagen, William A., B.S., *Research Associate*  
B.S., University of Missouri. 1957
- Thacker, David L., M.S.(Ag.), *Assistant Dairy Scientist*  
B.S.(Ag.), University of Idaho; M.S.(Ag.), Pennsylvania State University. 1954
- Waldhalm, Donald G., Ph.D., *Assistant Veterinary Microbiologist*  
B.S., M.S., University of Minnesota; Ph.D., University of Illinois. 1960
- Ward, Alton S. C., B.S., *Scientific Aide*  
B.S., College of Idaho. 1966

## Dubois—

- Frederiksen, Kenneth R., M.S., *Associate Animal Scientist, Sheep Experiment Station*  
B.S.(Agr.), University of Idaho; M.S., Colorado State University. 1951

## Parma—

- Foley, Richard F., Ph.D., *Associate Horticulturist*  
B.S., M.S., University of New Hampshire; Ph.D., Cornell University. 1957
- Franklin, Delance F., M.S.(Agr.), *Superintendent and Horticulturalist*  
B.S.(Agr.), M.S.(Agr.), University of Idaho. 1942
- Kochan, Walter P., Ph.D., *Associate Horticulturist*  
B.S., M.S., Utah State University; Ph.D., Rutgers University. 1955
- Romanko, Richard R., Ph.D., *Associate Plant Pathologist*  
B.S., University of New Hampshire; M.S., University of Delaware; Ph.D., Louisiana State University. 1957
- Scott, Donald R., M.S., *Assistant Entomologist*  
B.S., M.S., University of Nebraska. 1956
- Simpson, William R., M.S.(Agr.), *Associate Plant Pathologist*  
B.S.(Agr.), M.S.(Agr.), University of Idaho. 1949
- Torrell, Paul James, M.S.(Agr.), *Assistant Agronomist*  
B.S.(Ag.), M.S.(Ag.), University of Idaho. 1957
- Waters, Norman D., Ph.D., *Assistant Entomologist*  
A.A., Sacramento College; B.S., Ph.D., University of California. 1957

## Sandpoint—

- Benson, Jim A., M.S., *Research Associate*  
B.S., M.S., University of Tennessee. 1967

## Tetonia—

- McKay, Hugh C., M.S., *Superintendent and Agronomist*  
B.S., M.S., University of Idaho. 1951
- McCallum, Bruce A., M.S., *Research Associate*  
B.S., M.S., Montana State University. 1966

## Twin Falls—

- Dean, Leslie L., Ph.D., *Plant Pathologist*  
B.S.(Agr.), M.S.(Agr.), University of Idaho; Ph.D., Purdue University. 1942
- Kolar, John J., Ph.D., *Assistant Agronomist*  
B.S., M.S., Montana State College; Ph.D., Iowa State University. 1956
- Laferriere, Lucien, Ph.D., *Associate Plant Pathologist*  
B.S., University of Maine; M.S., University of Idaho; Ph.D., University of Wisconsin. 1962
- LeBaron, Marshall J., M.S., *Superintendent and Associate Agronomist*  
B.S., M.S., University of Idaho. 1947

## AGRICULTURAL EXTENSION SERVICE

(Agriculture and Home Economics)

Kraus, James E., Ph.D., *Dean of the College of Agriculture, Director of the Agricultural Experiment Station and Director of the Agricultural Extension Service*  
B.S., Colorado State University; M.S., University of Wisconsin; Ph.D., Cornell University.

1941

Youngstrom, C. O., M.S.(Ag.), *Associate Director of Extension Service*  
B.S.(Ag.), Oregon State University; M.S.(Ag.), Kansas State University. 1929 Boise

## Field Staff:

- Anderson, George C., M.S.(Ag.), *Extension Dairyman, Emeritus*  
B.S.(Ag.), Kansas State University; M.S.(Ag.), University of Idaho. 1922 Boise
- Banks, Quentin D., Ph.D., *Extension Economist - Marketing Information*  
B.S., M.S., Ph.D., University of Missouri. 1966 Boise
- Black, Robert Edward, M.A., *Extension Poultry Scientist*  
B.S.A., University of Arkansas; M.A., University of Idaho. 1954 Moscow
- Burlison, Vernon H., M.S.(For.), *Extension Forester*  
B.S.(For.), M.S.(For.), University of Idaho. 1946 Moscow
- Chester, Thomas J., B.S.(Ag.), *Southeast District Extension Agent Supervisor*  
B.S.(Ag.), University of Idaho. 1939 Pocatello
- Cleveland, George W., B.S., *Extension Dairyman*  
B.S., Utah State University. 1934-46; 1951-57; 1961 Boise
- Dahmen, Jerome J., Ph.D., *Extension Animal Husbandman*  
B.S., University of Idaho; M.S., Ph.D., Oregon State University. 1947 Caldwell
- d'Easum, Cedric G., B.A., *Extension Editor*  
B.A., University of Idaho. 1949 Boise
- Fenwick, Harry S., Ph.D., *Extension Plant Pathologist*  
B.S., M.S., Montana State University; Ph.D., Oregon State University. 1956 Moscow
- Finley, Arthur M., Ph.D., *Extension Plant Pathologist*  
B.S., M.A., Ph.D., University of Missouri. 1950 Moscow
- Frederick, Hilda, M.A., *Home Management Specialist*  
B.S., Utah State University; M.A., University of California. 1953 Boise
- Graves, James L., M.S., *District Extension Agent Supervisor*  
B.S., University of Idaho; M.S., University of Wisconsin. 1949 Moscow
- Haberly, Mildred, M.S., *State Home Economists Leader*  
B.S., Oregon State University; M.S., University of Washington. 1941 Moscow
- Hall, Grant B., M.Agr., *Central District Extension Agent Supervisor*  
B.S. (Ag.), M.Agr., University of Idaho. 1950 Boise
- Harder, Roger W., M.S., *Extension Soils Specialist*  
B.S., M.S., University of Wisconsin. 1947 Moscow
- Hemstrom, Morris L., M.S., *Extension Animal Husbandman*  
B.S., Colorado State University; M.S., University of Nebraska. 1959 Moscow
- Higgins, Robert E., M.S.(Ag.), *Extension Agronomist*  
B.S.(Ag.), M.S.(Ag.), University of Idaho. 1946 Boise
- Hole, Dorothy S., B.S., *Assistant State 4-H Leader*  
B.S., Oregon State University. 1957 Moscow
- Horn, Anton Stephen, M.S., *Extension Horticulturist*  
B.S.(Ag.), Kansas State University; M.S., University of Illinois. 1946 Boise
- Johnson, James L., B.A., *Agricultural Editor*  
B.A., Washington State University. 1962-64; 1966 Moscow
- Johanson, Maurice E., M.S.(Ag.), *Assistant State 4-H Leader*  
B.S.(Ag.), M.S.(Ag.), University of Idaho. 1958 Moscow
- Kennedy, Virgil Dean, M.S.(Ag.), *Extension Farm Management Specialist*  
B.S.(Ag.), Oregon State University; M.S.(Ag.), Iowa State University. 1945 Boise
- Larsen, Dorrell C., B.S., *Extension Irrigationist*  
B.S., University of Idaho. 1956 Boise
- LeBaron, Marshall J., M.S., *Extension Agronomist*  
B.S., M.S., University of Idaho. 1947 Twin Falls
- Long, Raymond A., B.S., *Assistant Seed Analyst*  
B.S., Iowa State University. 1961 Boise
- Meyer, Constance A., M.Ed., *Assistant 4-H Club Leader*  
B.S., Oregon State University; M.Ed., University of Maryland. 1966 Moscow
- McAlexander, G. T., B.S., *District Extension Agent Supervisor, Emeritus*  
B.S., Colorado A&M College. 1930 Moscow
- McProud, G. Elbert, M.S., *Extension Studies and Training Specialist (Leader)*  
B.S., M.S., University of Idaho. 1940 Moscow
- Nystrom, Esther A., B.A., *Extension Clothing Specialist*  
B.A., Washington State University. 1944 Boise



Ohms, Richard E., Ph.D., <i>Extension Potato Specialist</i> B.S.(Ag.), M.S.(Ag.), University of Idaho; Ph.D., University of Illinois. 1957	Boise
O'Keeffe, Lawrence E., Ph.D., <i>Extension Entomologist</i> B.S., M.S., North Dakota State; Ph.D., Iowa State University. 1965	Moscow
Painter, Charles G., M.S., <i>Extension Soils Specialist</i> B.S., Colorado A&M College; M.S., Michigan State University. 1954	Boise
Parks, Franklin P., M.S., <i>Extension Associate</i> B.S., M.S., University of Idaho 1966	Moscow
Peterson, Charles L., M.S., P.E., <i>Extension Agricultural Engineer</i> B.S., M.S., University of Idaho. 1963	Moscow
Portman, Roland W., M.S., <i>Extension Entomologist</i> B.S., Colorado State A&M College; M.S., Kansas State University. 1949	Moscow
Robinson, Raymond W., Ph.D., <i>Extension Economist</i> B.S., M.S., Oklahoma A and M College; Ph.D., University of Wisconsin. 1957	Boise
Roylance, Howard B., M.S.(Ag.), <i>Extension Agronomist</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1950	Boise
Samson, Ralph S., M.S.(Ag.), <i>Extension Conservationist</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1946	Boise
Shryack, Willma C., M.H.Ec., <i>Home Economics Specialist</i> B.A., Colorado College of Education; M.H.Ec., Oregon State University. 1950	Moscow
Stephens, Dorothy N., M.S., <i>State Home Economics Leader</i> B.S.(H.Ec.), University of Idaho; M.S., New York University. 1939	Boise
Swartley, Harold W., M.S.(Ag.), <i>State Seed Analyst</i> B.S.(Ag.), Pennsylvania State University; M.S.(Ag.), Kansas State University. 1960	Boise
Tankersley, Howard C., B.S.(Ag.), <i>Extension Rural Civil Defense Specialist</i> B.S.(Ag.), University of Idaho. 1960	Boise
Warren, D. E., B.S.(Ag.), <i>State 4-H Club Leader</i> B.S.(Ag.), University of Idaho. 1929	Moscow
Wells, Wade G., B.S., <i>Extension Animal Husbandman</i> B.S., University of Idaho. 1940	Boise
Williams, Lewis M., B.S., <i>Southwest District Extension Supervisor</i> B.S., University of Idaho. 1934	Boise
Wilson, Esther H., M.S., <i>Extension Nutritionist</i> B.S., Framingham Teachers College; M.S., Washington State University. 1963	Moscow

### County Agricultural Agents:

Alldaffer, Robert C., B.S., <i>County Extension Agent, Caribou County</i> B.S., University of Idaho. 1955	Soda Springs
Allred, William E., B.S., <i>County Extension Agent, Owyhee County</i> B.S., University of Idaho. 1966	Marsing
Alzola, Raymond R., B.S.(Ag.), <i>County Extension Agent, Camas County</i> B.S.(Ag.), University of Nevada. 1963	Fairfield
Bechtolt, C. D., B.S.(Ag.), <i>County Extension Agent, Canyon County, Emeritus</i> B.S.(Ag.), Colorado A and M. 1944	Caldwell
Bodily, Glenn L., M.S.(Ag.), <i>County Extension Agent, Cassia County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1946	Burley
Burns, Leonard A., M.S.(Ag.), <i>County Extension Agent, Latah County</i> B.S.(Ag.), California State Polytechnic College; M.S.(Ag.), University of Idaho. 1958	Moscow
Calnon, Mark B., B.S.(Ag.), <i>County Extension Agent, Ada County</i> B.S.(Ag.), University of Idaho. 1945	Boise
Cole, Joseph W., B.S.(Ag.), <i>County Extension Agent, Oneida County</i> B.S.,(Ag.), University of Idaho. 1957	Malad
Cross, Virgil S., B.S.(Ag.), <i>County Extension Agent, Cassia-Minidoka Counties</i> B.S.(Ag.), University of Idaho. 1940	Burley
Dailey, Gordon H., B.S.(Ag.), <i>County Extension Agent, Lewis County</i> B.S.(Ag.), University of Idaho. 1946	Nezperce
Davis, Raynold D., B.S.(Ag.), <i>County Extension Agent, Bonner County</i> B.S.(Ag.), University of Idaho. 1961	Sandpoint
Dunham, Charles S., B.S.(Ag.), <i>County Extension Agent, Fort Hall Indian Reservation</i> B.S.(Ag.), University of Idaho. 1959	Fort Hall
Duren, Edward P., M.S.(Ag.), <i>County Extension Agent, Bear Lake, Caribou, Franklin Counties</i> B.S.(Ag.), Kansas State University; M.S.(Ag.), University of Idaho. 1960	Soda Springs
Eakin, James I., B.S., <i>County Extension Agent, Blaine County</i> B.S., Utah State University. 1965	Hailey
Edwards, Herbert M., B.S.(Ag.), <i>County Extension Agent, Elmore County</i> B.S.(Ag.), University of Idaho. 1947	Mountain Home
Edwards, Phillip O., M.Ag., <i>County Extension Agent, Custer County</i> B.S. (Ag.), M.Ag., University of Idaho. 1960	Challis
Fitzsimmons, Norman D., B.S., <i>County Extension Agent, Clearwater County</i> B.S., University of Idaho. 1955	Orofino

Futter, Homer I., B.S.(Ag.), <i>County Extension Agent, Latah County</i> B.S.(Ag.), University of Idaho. 1949	Moscow
Gardner, George F., M.S., <i>County Extension Agent, Fort Hall Indian Reservation</i> B.S., M.S., University of Idaho. 1965	Fort Hall
Gardner, Mark L., M.S., <i>County Extension Agent, Jefferson County</i> B.S., Brigham Young University; M.S., University of Wisconsin, 1966	Rigby
Gardner, Max A., M.S.(Ag.), <i>County Extension Agent, Canyon County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1960	Caldwell
Garner, Jay G., B.S.(Ag.), <i>County Extension Agent, Fremont County</i> B.S.(Ag.), University of Idaho. 1946	St. Anthony
Genn, Olan R., B.S., <i>County Extension Agent, Twin Falls County</i> B.S., Oklahoma State University. 1961	Twin Falls
Gephart, Floyd C., M.S., <i>County Extension Agent, Idaho County</i> B.S., M.S., University of Idaho. 1958	Grangeville
Gooch, Rex I., B.S.(Ag.), <i>County Extension Agent, Jefferson County</i> B.S.(Ag.), Utah State University. 1946	Rigby
Greenwell, Don A., B.S., <i>County Extension Agent, Valley County</i> B.S., University of Idaho. 1957	Donnelly
Grover, Milton C., M.S. (Ag.), <i>County Extension Agent, Oneida County, Emeritus</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1942	Malad
Hackler, Frank E., B.S., <i>County Extension Agent, Washington County</i> B.S., Oregon State University. 1946	Weiser
Hall, Grant B., M.Agr., <i>County Extension Agent, Canyon County</i> B.S.(Ag.), M.Agr., University of Idaho. 1950	Caldwell
Hamilton, Lee W., M.A., <i>County Extension Agent, Adams County</i> B.S.(Ag.), University of Idaho; M.A., Colorado State University. 1952	Council
Hart, Ralph D., M.S., <i>County Extension Agent, Canyon County</i> B.S., M.S., University of Idaho. 1957	Caldwell
Henry, John A., M.S.(Ag.), <i>County Extension Agent, Fremont County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1963	St. Anthony
Hilfiker, Herman G., B.S.(Ag.), <i>County Extension Agent, Ada County</i> B.S.(Ag.), University of Idaho. 1936	Boise
Hillman, Russell G., B.S.(Ag.), <i>County Extension Agent, Lemhi County</i> B.S.(Ag.), University of Idaho. 1950	Salmon
Homan, Hugh W., M.S., <i>County Extension Agent, Canyon, Payette, Owyhee Counties</i> B.S., M.S., University of Idaho. 1965	Caldwell
Hopkins, Ivan C., B.S.(Ag.), <i>County Extension Agent, Lincoln County</i> B.S.(Ag.), University of Idaho. 1959	Shoshone
Jacobs, Frank H., B.S.(Ag.), <i>County Extension Agent, Madison County</i> B.S.(Ag.), University of Idaho. 1954	Rexburg
Johannesen, Erling Johan, B.S., <i>County Extension Agent, Gem County</i> B.S., University of Idaho. 1945	Emmett
Johnson, Hyrum G., M.S.(Ag.), <i>County Extension Agent, Bear Lake County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1955	Paris
Johnston, Harold B., B.S., <i>County Extension Agent, Kootenai County</i> B.S., University of Idaho. 1956	Coeur d'Alene
Judd, Harry L., B.S., <i>County Extension Agent, Benewah County</i> B.S., University of Idaho. 1955	St. Maries
Kambitsch, R. Loren, B.S.(Ag.), <i>County Extension Agent, Nez Perce County</i> B.S.(Ag.), University of Idaho. 1946	Lewiston
Koester, Edward F., B.S., <i>County Extension Agent, Gooding County</i> B.S., University of Idaho. 1950	Gooding
Kunkel, Glenn R., B.S., <i>County Extension Agent, Fort Hall Indian Reservation</i> B.S., University of Idaho. 1956	Blackfoot
Linford, Blaine, B.S., <i>County Extension Agent, Canyon County</i> B.S., University of Wyoming. 1961	Caldwell
McPherson, Walter H., B.S.(Ag.), <i>County Extension Agent, Bonner County</i> B.S., University of Idaho. 1951	Sandpoint
Matsen, Gilbert, B.S.(Ag.), <i>County Extension Agent, Payette County</i> B.S.(Ag.), University of Idaho. 1942	Payette
Mink, Edward F., B.S.(Ag.), <i>County Extension Agent, Idaho County</i> B.S.(Ag.), University of Idaho. 1957	Grangeville
Mitchell, Ladd A., M.S.(Ag.), <i>County Extension Agent, Washington County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1963	Weiser
Moss, Ralph J., Jr., B.S., <i>County Extension Agent, Bonneville County</i> B.S., Utah State University. 1954	Idaho Falls
Mylroie, Albert, B.S.(Ag.), <i>County Extension Agent, Bannock County</i> B.S.(Ag.), University of Wyoming. 1940	Pocatello
Paulsen, John H., B.S., <i>County Extension Agent, Bonneville County</i> B.S., University of Idaho. 1955-1964; 1966	Idaho Falls
Peebles, Stephen L., B.S.(Ag.), <i>County Extension Agent, Clark County</i> B.S.(Ag.), University of Idaho. 1960	Dubois

Peterson, Doran A., B.S.(Ag.), <i>County Extension Agent, Ada County</i> B.S.(Ag.), University of Idaho. 1959	Boise
Priest, Wilmer G., B.S., <i>County Extension Agent, Jerome County</i> B.S., University of Idaho. 1946	Jerome
Renberg, Charles L., M.S.(Ag.), <i>County Extension Agent, Bingham County</i> B.S.(Ag.), M.S.(Ag.), University of Idaho. 1954	Blackfoot
Rinebold, Eugene M., B.S., <i>County Extension Agent, Cassia County</i> B.S., University of Idaho. 1952-1958; 1965	Burley
Roberts, John Daniel, B.S.(Ag.), <i>County Extension Agent, Franklin County</i> B.S.(Ag.), University of Idaho. 1943	Preston
Samson, Merle R., B.S.(Ag.), <i>County Extension Agent, Bannock County</i> B.S.(Ag.), University of Idaho. 1946	Pocatello
Schow, Sterling W., B.S.(Ag.), <i>County Extension Agent, Power County</i> B.S.(Ag.), Utah State University. 1944	American Falls
Sharp, D. Wayne, B.S.(Ag.), <i>County Extension Agent, Power County</i> B.S.(Ag.), University of Idaho. 1963	American Falls
Slade, Russell S., M.F., <i>County Extension Agent, Benewah County</i> B.S.(Ag.), Rutgers University; M.F., Duke University. 1957	St. Maries
Smith, LaMont, B.S., <i>County Extension Agent, Minidoka County</i> B.S., University of Idaho. 1955	Rupert
Smith, Vance T., M.S., <i>County Extension Agent, Minidoka County</i> B.S., University of Idaho; M.S., Washington State University. 1941	Rupert
Stranahan, Clyde Henry, B.S.(Ag.), <i>County Extension Agent, Kootenai County</i> B.S.(Ag.), University of Idaho. 1943	Coeur d'Alene
Studer, Bennie W., B.S.(Ag.), <i>County Extension Agent, Boundary County</i> B.S.(Ag.), University of Idaho. 1960	Bonnars Ferry
Thomas, Charles M., B.S.(Ag.), <i>County Extension Agent, Nez Perce County</i> B.S.(Ag.), University of Idaho. 1959	Lewiston
Thometz, Joseph W., <i>County Extension Agent, Nez Perce County, Emeritus</i>	Lewiston
Tovey, Devere, B.S.(Ag.), <i>County Extension Agent, Franklin County</i> B.S.(Ag.), University of Idaho. 1938	Preston
Wagner, Stephen F., M.S., <i>County Extension Agent, Fremont County</i> B.S., M.S., Montana State University. 1966	St. Anthony
Walton, Dale A., B.S., <i>County Extension Agent, Gooding County</i> B.S., University of Idaho. 1965	Gooding
Weston, Milton B., B.S., <i>County Extension Agent, Bingham County</i> B.S., Utah State University. 1944	Blackfoot
Wilson, Jesse, B.S.(Ag.), <i>County Extension Agent, Owyhee County</i> B.S.(Ag.), University of Idaho. 1962	Marsing
York, Robert Aaron, B.S.(Ag.), <i>County Extension Agent, Butte County</i> B.S.(Ag.), University of Idaho. 1947	Arco
Youtz, Donald F., B.S., <i>County Extension Agent, Twin Falls County</i> B.S., University of Wyoming. 1953	Twin Falls

**Home Economics Agents:**

Alder, Renee, B.S., <i>Home Economics Agent, Mindoka County</i> B.S., Brigham Young University. 1965	Rupert
Baune, Joan M., B.S., <i>Home Economics Agent, Lewis County</i> B.S., University of Idaho. 1965	Nez Perce
Bithell, Nondus Hoge, B.S.(H.Ec.), <i>Home Economics Agent, Bingham County</i> B.S.(H.Ec.), University of Idaho. 1955	Blackfoot
Burnstad, Iva A., B.S.,(H.Ec.), <i>Home Economics Agent, Bonner County</i> B.S.(H.Ec.), University of Wyoming. 1959	Sandpoint
Cannon, Mary, B.S., <i>Home Demonstration Agent, Bingham County</i> B.S., Brigham Young University. 1959	Blackfoot
Coltrin, Annjean, B.S., <i>Home Economics Agent, Cassia County</i> B.S., Brigham Young University. 1965	Burley
Craig, Carolyn S., B.S., (H.Ec.), <i>Home Economics Agent, Washington County</i> B.S., Colorado State University. 1960	Weiser
Dyer, Ruth G., B.S., <i>Home Economics Agent, Power County</i> B.S., University of Minnesota. 1964	American Falls
Farrar, Colette W., B.S., <i>Home Demonstration Agent, Fort Hall Indian Reservation</i> B.S., Oregon State University. 1956	Blackfoot
Gray, Charlotte L., B.S.(H.Ec.), <i>Home Demonstration Agent, Nez Perce County</i> B.S.(H.Ec.), University of Idaho. 1958	Lewiston
Hansen, Ivy L., B.S., <i>Home Demonstration Agent, Oneida County</i> B.S., Utah State University. 1947	Malad
Henderson, Joan, B.S., <i>Home Demonstration Agent, Bannock County</i> B.S., Montana State College. 1961	Pocatello
Jensen, Pansy, B.S., <i>Home Demonstration Agent, Valley County</i> B.S., Linfield College. 1959	Donnelly

Jorgensen, Margaret, B.S., <i>Home Economics Agent, Payette County</i> B.S., Brigham Young University. 1965	Payette
Lawroski, Mary Ann, M.S., <i>Home Economics Agent, Bonneville County</i> B.S., University of Arkansas; M.S., Pennsylvania State. 1965	Idaho Falls
Leach, Donna H., B.S., <i>Home Economics Agent, Clearwater County</i> B.S., University of Idaho. 1966	Orofino
McCandless, Carol M., B.S., <i>Home Economics Agent, Jefferson County</i> B.S., Utah State University. 1955	Rigby
Maughan, Loretta F., B.S., <i>Home Economics Agent, Franklin County</i> B.S., Utah State University. 1947	Preston
Meakin, Eunice A., B.H.Sc., <i>Home Economics Agent, Kootenai County</i> B.H.Sc., University of Saskatchewan. 1956	Coeur d'Alene
Nix, Wanda J., B.S.(H.Ec.), <i>Home Economics Agent, Jerome County</i> B.S.(H.Ec.), Idaho State University. 1962	Jerome
Nordlund, Mary N., B.S., <i>Home Economics Agent, Fremont County</i> B.S., Brigham Young University. 1955	St. Anthony
Nuffer, Vicki Lynn, B.S., <i>Home Economics Agent, Teton and Clark Counties</i> B.S., University of Idaho. 1966	Driggs
Palmer, Nancy Ann, B.S.(H.Ec.), <i>Home Economics Agent, Latah County</i> B.S.(H.Ec.), Oregon State University. 1961	Moscow
Rainey, Emily, B.S., <i>Home Economics Agent, Canyon County</i> B.S., University of Idaho. 1966	Caldwell
Reed, Alice Marie, B.S., <i>Home Economics Agent, Twin Falls County</i> B.S., University of Idaho. 1966	Twin Falls
Rettig, Elizabeth, B.S., <i>Home Economics Agent, Canyon County</i> B.S., Kansas State University. 1967	Caldwell
Rexford, Villa R., B.S., <i>Home Economics Agent, Gem County</i> B.S., Oregon State University. 1965	Emmett
Ruby, Mary Lou, B.S., <i>Home Economics Agent, Blaine, Camas, Lincoln Counties</i> B.S., University of Idaho. 1960	Shoshone
Shane, Ruth J., B.S., <i>Home Economics Agent, Gooding County</i> B.S., University of Idaho. 1958	Gooding
Smith, Rosa, B.S., (H.Ec.), <i>Home Economics Agent, Idaho County</i> B.S., (H.Ec.), Kansas State University. 1961	Grangeville
Smith, Joan M., B.S., <i>Home Economics Agent, Lemhi, Butte and Custer Counties</i> B.S., Concord College. 1965	Salmon
Sprute, Janet, B.S., (H.Ec.), <i>Home Economics Agent, Nez Perce County</i> B.S., (H.E.) University of Idaho. 1964	Lapwai
Stalker, Beatrice, B.S., (H.Ec.), <i>Home Economics Agent, Ada County</i> B.S., (H.Ec.), University of Idaho. 1959	Boise
Stegelmier, Marlene M., M.S., <i>Home Economics Agent, Madison County</i> B.S., Ricks College; M.S., Utah State University. 1957	Rexburg
Tolman, Ruth Ann, B.S., <i>Home Economics Agent, Boundary County</i> B.S., Idaho State University. 1963	Bonnars Ferry
Wilson, Lucia L., B.S., <i>Home Economics Agent, Ada County</i> B.S., University of Idaho. 1950	Boise
Wood, Mary Lee, B.S., (Ag.), <i>Home Economics Agent, Owyhee County</i> B.S., (Ag), Fresno State College. 1964	Marsing

## ENGINEERING EXPERIMENT STATION

- \*Janssen, Allan S., M.S., (C.E.), P.E., *Professor, Civil Engineering and Dean of the College of Engineering and Director of the Engineering Experiment Station*  
B.Arch., M.S.(C.E.), University of Idaho. 1931
- Hagen, Jack I., M.S., (Physics & Math), *Associate Professor, Electrical Engineering*  
B.S. (Phys.), M.S. (Physics & Math), Oregon State College. 1965
- Hathaway, Cecil W., B.S.(C.E.), M.E.(Transportation Engineering), P.E., *Research Associate Professor, Civil Engineering, Project Supervisor*  
B.S.(C.E.), University of Idaho; M.E.(Transportation Engineering), University of California. 1960
- Jacobsen, Richard T., M.S.(M.E.), *Assistant Professor, Mechanical Engineering*  
B.S.(M.E.), M.S.(M.E.), University of Idaho. 1963
- McConnachie, John T., M.S.(Ch.E.), *Assistant Research Technologist, Chemical Engineering*  
B.S.(Ch.E.), Gonzaga University; M.S.(Ch.E.), Northwestern University. 1965
- McKean, George A., M.S.(E.E.), *Associate Research Professor, Electrical Engineering, Project Supervisor*  
B.S.(E.E.), M.S.(E.E.), University of Idaho. 1958
- \*H. Sidwell Smith, Ph.D., *Dean of the College of Engineering and Director of the Engineering Experiment Station, Professor of Civil Engineering effective July 1, 1967*  
B.S., M.S., University of Iowa; Ph.D., Iowa State University. 1967

- Peebles, John J., M.S.(C.E.), P.E., *Research Associate Professor, Civil Engineering*  
B.S.(C.E.), University of Idaho; M.S.(C.E.), University of Colorado. 1963
- Penton, Vance E. Jr., M.S.(M.E.), *Assistant Research Technologist and Assistant Professor*  
*Mechanical Engineering*  
B.S.(M.E.), M.S., University of Idaho. 1960
- Rigas, Anthony L., M.S.(E.E.), *Assistant Professor, Electrical Engineering*  
B.S.(E.E.), M.S.(E.E.), University of Kansas. 1966
- Warner, Richard E., Ph.D.(Ch.E.), P.E., *Professor, Chemical Engineering and Associate Director*  
*of Engineering Experiment Station*  
A.B.(Chem.), Miami University; M.S.(Ch.E.), Ph.D., Ohio State University

**FOREST, WILDLIFE AND RANGE EXPERIMENT STATION  
IDAHO COOPRATIVE WILDLIFE RESEARCH UNIT  
IDAHO COOPERATIVE FISHERY UNIT**

- Wohletz, Ernest W., M.S., *Dean of College of Forestry, and Director of Forest, Wildlife and*  
*Range Experiment Station; Professor, Forestry Policy*  
B.S., M.S., University of California. 1937
- Alden, Howard R., M.S., B.S.(Ed.), M.S.(Bot.), *Assistant Professor Forestry (Recreation)*  
B.S., M.S., University of Maine. 1963
- Belt, George H., M.F., *Assistant Professor, Forestry (Watershed)*  
B.S., North Carolina State; M.F., Yale University. 1965
- Bjorn, Theodore C., Ph.D., *Associate Professor, Fishery Management*  
B.S., Utah State University; M.S., University of Idaho; Ph.D., Utah State University. 1966
- Chapman, Donald W., Ph.D., *Leader, Idaho Cooperative Fishery Unit; Professor, Fishery*  
*Management*  
B.S., M.S., Ph.D., Oregon State University. 1964
- Dalke, Paul D., Ph.D., *Leader, Idaho Cooperative Wildlife Research Unit; Professor, Wildlife*  
*Management*  
B.S.F., M.S.F., Ph.D., University of Michigan. 1948
- Deters, Merrill E., Ph.D., *Professor Forestry (Management)*  
B.S.(For.), M.S.(For.), Ph.D., University of Minnesota. 1940
- Giles, Robert H., Jr., Ph.D., *Assistant Professor, Wildlife Management*  
B.S., M.S., Virginia Polytechnic Institute; Ph.D., Ohio State University. 1963
- Hironaka, Minoru, Ph.D., *Assistant Professor, Range Management*  
B.S., Utah State University; M.S.(For.), University of Idaho; Ph.D., University of Wisconsin.  
1954
- Hofstrand, Arland D., M.S.(For), *Assistant Professor, Wood Utilization*  
B.S.(For.), M.S.(For.), University of Idaho. 1959
- Howe, John P., Ph.D., *Associate Professor, Wood Utilization*  
A.B., Amherst College; M.S., Yale University; Ph.D., University of Michigan. 1956
- Hungerford, Kenneth, Ph.D., *Professor, Wildlife Management*  
B.S.(For.), University of Idaho; M.S., University of Connecticut; Ph.D., University of  
Michigan. 1942-45; 1946
- Johnson, Frederic D., M.S.(For.), *Assistant Professor, Forestry (Ecology)*  
B.S., Oregon State University; M.S.(For.), University of Idaho. 1950
- Loewenstein, Howard, Ph.D., *Associate Professor Forestry (Soils)*  
B.S., Colorado State University; Ph.D., University of Wisconsin. 1958
- MacPhee, Craig, Ph.D., *Professor Fishery Management*  
B.A., M.A., University of British Columbia; Ph.D., University of Washington. 1957
- Partridge, Arthur D., Ph.D., *Associate Professor Forestry (Pathology)*  
B.S.(For.), University of Maine; M.S.(Path.), Ph.D., University of New Hampshire. 1960
- Pitkin, Franklin H., M.F., *Assistant Professor Forestry (Reforestation) Superintendent, Forest*  
*Nursery*  
B.S.(For.), M.F., University of Idaho. 1945
- Schenk, John A., Ph.D., *Associate Professor, Forest Entomology*  
B.S.F., University of Michigan; M.S. Ph.D., University of Wisconsin. 1961
- Seale, Robert H., Ph.D., *Associate Dean, College of Forestry, Wildlife and Range Sciences;*  
*Professor, Forestry (Economics)*  
B.S., University of California; M.S.(For.), University of Idaho; Ph.D., State University  
of New York College of Forestry. 1949-50; 1951
- Sharp, Lee A., Ph.D., *Associate Professor, Range Management*  
B.S., M.S., Utah State University; Ph.D., Oregon State University. 1949
- Tisdale, Edwin, Ph.D., *Associate Director, Forest, Wildlife and Range Experiment Station;*  
*Professor Range Management*  
B.S., University of Manitoba; M.S., Ph.D., University of Minnesota. 1947
- Wang, Chi-Wu, Ph.D., *Associate Professor, Forestry (Genetics)*  
B.S.(Botany), National Tsing-Hua University, Peking; M.S.(For.), Yale University; Ph.D.,  
Harvard University. 1960
- Williams, Edgar L., M.S.(For.), *Assistant Professor, Forestry (Business)*  
B.S.(For.), M.S.(For.) University of Idaho. 1960

McKendrick, Jay Dee, M.S., *Research Associate, Range Management*  
 B.S. (Ag.), M.S., University of Idaho. 1965  
 Hager, Victor J., *Foreman, Forestry Nursery*. 1960

### IDAHO BUREAU OF MINES AND GEOLOGY

- Reid, Rolland R., Ph.D., *Dean of the College of Mines and Director of the Bureau of Mines and Geology*  
 B.S., (Geol.), M.S. (Geol.), Ph.D., University of Washington. 1955
- Asher, R. R., B.S., *Minerals Engineer*  
 B.S., University of Idaho. 1962
- Bishop, Donald T., M.S., *Hydrogeologist*  
 B.S., M.S., University of Wyoming. 1965
- \*Green, William R., M.S. (Min.E.), *Mining Engineer*  
 B.S. (Min.E.), University of Idaho; M.S. (Min.E.), University of Nevada. 1965
- Prater, Lewis S., B.S., *Assistant Director and Metallurgist*  
 B.S., Montana School of Mines. 1962
- Ross, Sylvia H., M.S., *Groundwater Geologist*  
 B.S., M.S., University of Idaho. 1965
- Savage, Carleton N., M.S., *Economist Geologist*  
 A.B., Colby College; M.S., Northwestern University. 1957
- Williams, Roy E., Ph.D. (Geol.), *Hydrogeologist*  
 B.S. (Geol.), Indiana University; M.A. (Geol.), Ph.D., University of Illinois. 1966
- \*On one-half time University of Idaho appointment and one-half time Idaho Bureau of Mines and Geology appointment.

**OFFICE OF THE REGISTRAR**  
**UNIVERSITY OF IDAHO ENROLLMENT TABLE—CONSOLIDATED ENROLLMENT—1964-65—JUNE 11, 1965**

COLLEGE, COURSE or CURRICULUM	FRESHMEN			SOPHOMORES			JUNIORS			SENIORS			TOTAL BY CURRICULA			UNDERGRAD TOTALS			GRADUATES			GRAND TOTALS		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
COLLEGE OF LETTERS & SCIENCE	313	272	585	241	220	461	218	170	388	143	115	258				917	794	1711	91	43	134	1008	837	1845
Specials													2	17	19									
Arts	115	149	264	101	126	227	76	106	182	52	55	108	344	436	780									
Science	87	58	145	72	39	111	71	25	96	36	21	57	266	143	409									
Pre-Med Studies	14	4	18	5		5	17		17	7			7	43	4									
Home Economics		45	45		45	45		34	34		30	30		154	154									
Pre-Nurs. Studies		7	7		7	7		2	2		1	1			17									
Music	3	3	6	1	1	2	1	3	4	7	4	11	12	11	23									
Architecture	47	3	50	35	1	36	31		31	33	2	35	146	6	152									
Pre-Dent. Studies	7		7	9		9	5		5	1			1	22	22									
Physics	14	1	15	1		1	6		6	2		2	23	1	24									
Non-Degree	2	1	3			1	2		2				5	1	6									
Arts & Law comb.	24	1	25	16	1	17			9	5	2	7	54	4	58									
COLLEGE OF AGRICULTURE	92		92	81	4	85	89		89	39	1	40				302	5	307	46	2	48	348	7	355
Special													1		1									
COLLEGE OF ENGINEERING	217	1	218	174	1	175	177	1	178	203	1	204				772	4	776	38		38	810	4	814
Special													1		1									
Civil Engineering	57		57	46		46	45	1	46	58		58	206	1	207									
Electrical Engineering	65		65	56		56	62		62	62	1	63	245	1	246									
Mechanical Engineering	62	1	63	50		50	47		47	56		56	215	1	216									
Chemical Engineering	23		23	19	1	20	17		17	24		24	83	1	84									
Agricultural Engineering	10		10	3		3	6		6	3		3	22		22									
COLLEGE OF LAW				38	2	40	35		35	23		23				96	2	98				96	2	98
COLLEGE OF MINES	16	1	17	17	2	19	22		22	31		31				88	3	91	15		15	103	3	106
Specials													2		2									
Mining Engineering	2		2				3		3	3		3	8		8									
Metallurgical Engineering	3		3	11	1	12	6		6	9		9	29	1	30									
Geological Engineering	6		6	1		1	5		5	5		5	17		17									
Geology	5	1	6	5	1	6	3		3	6		6	19	2	21									
Geography							5		5	8		8	13		13									
COLLEGE OF FORESTRY	103	1	104	53	2	55	73		73	96		96				327	3	330	19		19	346	3	349
Special													2		2									
COLLEGE OF EDUCATION	93	172	265	106	181	287	146	175	321	117	125	242				468	665	1133	54	20	74	522	685	1207
Special													6		18									
Education	88	157	245	103	160	263	128	160	288	109	105	214	428	582	1010									
Music Education	3	6	9	3	7	10	12	6	18	5	6	11	23	25	48									
Business Education	2	9	11		14	14	6	9	15	3	14	17	11	46	57									
COLLEGE OF BUSINESS	176	56	232	152	29	181	151	14	165	89	4	93				571	106	677	17	1	18	588	107	695
Specials													3	3	6									

(Continued on next page)

(Continued from page 347)

COLLEGE, COURSE or CURRICULUM	FRESHMEN			SOPHOMORES			JUNIORS			SENIORS			TOTAL BY CURRICULA			UNDERGRAD TOTALS			GRADUATES			GRAND TOTALS		
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
Business .....	134	54	188	132	28	160	137	14	151	83	4	87	486	100	586									
Business & Law comb. ....	42	2	44	20	1	21	14	---	14	6	---	6	82	3	85									
UNCLASSIFIED GRADUATES																			58	56	114	58	56	114
DOCTORATES																			59	6	65	59	6	65
<b>TOTAL STUDENTS IN RESIDENCE</b>	<b>1010</b>	<b>503</b>	<b>1513</b>	<b>862</b>	<b>441</b>	<b>1303</b>	<b>911</b>	<b>360</b>	<b>1271</b>	<b>741</b>	<b>246</b>	<b>987</b>	<b>17</b>	<b>32</b>	<b>49</b>	<b>3541</b>	<b>1582</b>	<b>5123</b>	<b>397</b>	<b>128</b>	<b>525</b>	<b>3938</b>	<b>1710</b>	<b>5648</b>
SUMMER SESSION (1964)																								
Non-Resident Instruction .....				Graduates: 387	175	562	Undergrads: 390	423	813	66	63	129										843	661	1504
Adult Education .....				College: 468	606	1074	High School: 230	227	457													698	833	1531
Extension Courses .....																						279	386	665
N.R.T.S. ....																						560	877	1437
In-Absentia .....																						284	8	292
<b>TOTAL STUDENTS SERVED DURING 1964-65</b>																						<b>6630</b>	<b>4481</b>	<b>11,111</b>



**OFFICE OF THE REGISTRAR**  
**UNIVERSITY OF IDAHO ENROLLMENT TABLE—CONSOLIDATED ENROLLMENT—1965-66—JUNE 12, 1966**

COLLEGE, COURSE or CURRICULUM	FRESHMEN			SOPHOMORES			JUNIORS			SENIORS			SPECIALS			UNDERGRADUATE TOTALS			GRADUATES			GRAND TOTALS					
	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T			
COLLEGE OF LETTERS & SCIENCE	392	401	793	275	213	488	207	165	372	197	129	326	8	26	34	1079	934	2013	126	45	171	1205	979	2184			
Arts	141	222	363	136	112	248	91	102	193	62	76	138				430	512	942									
Science	107	83	190	63	42	105	66	26	92	60	24	84				296	175	471									
Pre-Med	38	2	40	5	1	6	5		5	14		14				62	3	65									
Home Econ.	1	76	77		46	46		36	36		28	28				1	186	187									
Pre-Nurs.		9	9		4	4											13	13									
Pre-Dental	19		19	6		6	6		6		6					31		31									
Music	3	3	6	2	3	5	1		1	5	1	6				11	7	18									
Architecture	40		40	35	2	37	27		27	46		46				148	2	150									
Physics	4		4	9		9				2		2				15		15									
Comb. Arts & Law	36	6	42	18	1	19	10	1	11	8		8				72	8	80									
Non-Degree	3		3	1	2	3	1		1							5	2	7									
COLLEGE OF AGRICULTURE	112	7	119	77	1	78	84	2	86	67		67				340	10	350	64	6	70	404	16	420			
COLLEGE OF ENGINEERING	276	1	277	175	1	176	171	1	172	193	1	194	1		1	816	4	820	49		49	865	4	869			
Civil Engineering	62		62	41		41	44		44	52	1	53				199	1	200									
Electrical Engineering	79		79	58		58	58		58	65		65				260		260									
Mechanical Engineering	74	1	75	54	1	55	49		49	50		50				227	2	229									
Chemical Engineering	39		39	19		19	16	1	17	16		16				90	1	91									
Agricultural Engineering	22		22	3		3	4		4	10		10				39		39									
COLLEGE OF LAW				53	2	55	24	2	26	34	1	35				111	5	116				111	5	116			
LL.B.				7		7	6	1	7	7		7				20	1	21									
Juris Doc.				46	2	48	18	1	19	27	1	28				91	4	95									
COLLEGE OF MINES	19		19	20		20	16	2	18	22		22				77	2	79	22	3	25	99	5	104			
Mining Engineering	2		2	2		2	1		1	4		4				9		9									
Metallurgical Engineering	8		8	3		3	5	1	6	11		11				27	1	28									
Geological Engineering	3		3	3		3	2		2	4		4				12		12									
Geology	5		5	5		5	6	1	7	7		7				16	1	17									
Geography	1		1	7		7	2		2	3		3				13		13									
COLLEGE OF FORESTRY	150	1	151	64	1	65	53	2	55	99		99	1		1	367	4	371	44		44	411	4	415			
COLLEGE OF EDUCATION	109	219	328	101	179	280	149	191	340	127	132	259	2	13	15	488	734	1222	61	20	81	549	754	1303			
Education	103	193	296	93	163	256	141	166	307	109	120	229				446	642	1088									
Music Education	6	10	16	6	5	11	2	5	7	14	6	20				28	26	54									
Business Education		16	16	2	11	13	6	20	26	4	6	10				12	53	65									
COLLEGE OF BUSINESS	193	58	251	195	30	225	148	15	163	128	8	136	2		2	666	111	777	19	1	20	685	112	797			
Business	158	57	215	159	29	188	140	15	155	116	8	124				573	109	682									
Comb. Business & Law	35	1	36	36	1	37	8		8	12		12				91	2	93									
UNCLASSIFIED GRADUATES																			33	48	81	33	48	81			
TOTAL IN RESIDENCE	1251	687	1938	960	427	1387	852	380	1232	867	271	1138	14	39	53	3944	1804	5748	418	123	541	4362	1927	6289			
SUMMER SESSION (1965)	Graduates:			466	277	743	Undergrads:			365	384	749	Specials:			87	116	203				918	777	1695			
Non-Resident Instruction	College:			324	395	719	High School:			279	244	523										604	639	1243			
Adult Education																						230	329	559			
Extension Courses																						725	1143	1868			
N.R.T.S.																						293	6	299			
In-Absentia																						37	15	52			
TOTAL STUDENTS SERVED IN 1965-66																									7169	4836	12,005

## UNIVERSITY OF IDAHO

 OFFICE OF THE REGISTRAR  
 CONSOLIDATED GEOGRAPHICAL DISTRIBUTION OF STUDENTS—1964-65  
 JUNE 11, 1965

## SUMMARY

	Resi- dence	Summer Session 1964	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sencia	N.R.T.S.
IDAHO .....	4354	934	1172	1333	646	18	292
Other States .....	1156	408	348	103	18	15	---
Foreign Countries .....	138	35	11	---	1	1	---
<b>TOTALS</b> .....	<b>5648</b>	<b>1377</b>	<b>1531</b>	<b>1436</b>	<b>665</b>	<b>34</b>	<b>292</b>

## STUDENTS FROM IDAHO COUNTIES

	Resi- dence	Summer Session 1964	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sencia	N.R.T.S.
Ada .....	503	72	177	109	337	2	---
Adams .....	18	4	9	19	1	---	---
Bannock .....	54	13	48	4	---	---	6
Bear Lake .....	17	2	6	1	---	1	---
Benewah .....	40	8	18	19	1	---	---
Bingham .....	88	18	16	3	7	---	9
Blaine .....	26	2	13	15	---	---	---
Boise .....	4	---	3	7	3	---	---
Bonner .....	131	16	26	47	12	---	---
Bonneville .....	128	16	29	1	96	2	266
Boundary .....	55	13	7	2	1	---	---
Butte .....	16	5	2	12	---	---	6
Camas .....	10	---	3	1	1	---	---
Canyon .....	314	65	106	179	42	1	---
Caribou .....	8	3	9	2	---	---	1
Cassia .....	45	10	22	21	---	---	1
Clark .....	---	2	3	---	---	2	---
Clearwater .....	98	23	18	14	---	---	---
Custer .....	33	1	11	1	---	---	---
Elmore .....	73	18	37	137	8	1	---
Franklin .....	2	---	4	2	2	---	---
Fremont .....	25	2	4	---	---	---	---
Gem .....	50	7	26	36	6	---	---
Gooding .....	72	16	20	39	---	---	---
Idaho .....	113	28	43	15	---	---	---
Jefferson .....	21	1	4	---	5	---	1
Jerome .....	74	9	24	24	1	---	---
Kootenai .....	210	43	80	66	76	---	---
Latah .....	909	269	126	125	---	5	---
Lemhi .....	20	5	6	---	---	---	---
Lewis .....	60	21	19	16	---	---	---
Lincoln .....	18	2	3	4	1	---	---
Madison .....	19	3	5	1	---	---	1
Minidoka .....	76	13	24	2	1	---	---
Nez Perce .....	277	107	54	168	2	1	---
Oneida .....	5	3	1	5	---	---	---
Owyhee .....	36	9	12	22	2	---	---
Payette .....	71	14	9	46	2	1	---
Power .....	24	2	7	---	---	---	---
Shoshone .....	190	37	48	67	26	1	---
Teton .....	2	1	---	1	---	---	---
Twin Falls .....	305	35	62	66	3	1	1
Valley .....	50	10	11	6	2	---	---
Washington .....	64	6	17	28	8	---	---
<b>IDAHO TOTALS</b> .....	<b>4354</b>	<b>934</b>	<b>1172</b>	<b>1333</b>	<b>646</b>	<b>18</b>	<b>292</b>

## OTHER STATES

	Resi- dence	Summer Session 1964	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sencia	N.R.T.S.
Alabama .....	---	1	3	---	---	---	---
Arizona .....	11	4	2	---	---	---	---
Arkansas .....	3	---	1	---	---	---	---
California .....	181	51	36	---	1	2	---
Colorado .....	11	9	2	---	---	1	---
Connecticut .....	2	1	---	---	---	---	---
Delaware .....	---	---	1	---	---	---	---
Dist. of Columbia .....	3	1	1	---	---	---	---
Florida .....	6	2	5	---	---	---	---

ENROLLMENT STATISTICS

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	Residence	Summer Session 1964	Correspondence	Extension	Adult Educ.	In-Absentia	N.R.T.S
Georgia	1	1	4	...	...	...	...
Illinois	50	18	8	...	1	1	...
Indiana	8	1	...	...	...	...	...
Iowa	11	5	5	...	...	...	...
Kansas	12	3	1	...	...	...	...
Kentucky	...	...	2	...	...	...	...
Louisiana	2	1	2	...	...	...	...
Maine	2	...	12	...	...	...	...
Maryland	10	3	2	...	...	...	...
Massachusetts	15	4	5	...	...	...	...
Michigan	13	6	5	...	...	...	...
Minnesota	11	6	3	...	...	1	...
Mississippi	2	1	3	...	1	...	...
Missouri	3	...	3	...	...	...	...
Montana	30	6	21	5	1	...	...
Nebraska	6	2	5	...	...	...	...
Nevada	22	2	22	...	2	1	...
New Hampshire	3	...	2	...	1	...	...
New Jersey	21	5	2	...	1	...	...
New Mexico	3	4	3	...	1	...	...
New York	38	6	22	...	...	...	...
North Carolina	1	...	4	...	...	...	...
North Dakota	14	5	3	...	...	...	...
Ohio	21	2	7	...	...	...	...
Oklahoma	7	2	3	...	...	...	...
Oregon	91	58	36	50	3	2	...
Pennsylvania	21	7	3	...	...	...	...
Rhode Island	...	...	2	...	...	...	...
South Carolina	...	1	4	...	...	...	...
South Dakota	12	1	1	...	...	...	...
Tennessee	1	...	...	...	...	...	...
Texas	7	...	10	...	...	...	...
Utah	12	3	1	1	...	1	...
Vermont	1	...	6	...	...	...	...
Virginia	13	2	4	...	...	...	...
Washington	408	152	65	46	6	6	...
Wisconsin	28	9	3	...	...	...	...
Wyoming	4	10	4	...	...	...	...
Alaska	18	5	8	...	...	...	...
Hawaii	17	8	3	1	...	...	...
OTHER STATES	...	...	...	...	...	...	...
TOTAL	1156	409	348	103	18	15	...

FOREIGN COUNTRIES

	Residence	Summer Session 1964	Correspondence	Extension	Adult Educ.	In-Absentia	N.R.T.S
Australia	1	...	...	...	...	...	...
Belgium	1	...	...	...	...	...	...
Bolivia	2	1	...	...	...	...	...
Brazil	1	...	...	...	...	...	...
British Comm.	8	...	...	...	...	...	...
Burma	2	...	...	...	...	...	...
Canada	35	5	5	...	1	...	...
Canal Zone	1	...	...	...	...	...	...
China	12	5	...	...	...	...	...
Colombia	1	1	...	...	...	...	...
Costa Rica	1	...	...	...	...	...	...
Denmark	...	1	...	...	...	...	...
Ethiopia	1	1	...	...	...	...	...
France	...	...	1	...	...	...	...
Germany	4	...	...	...	...	...	...
Ghana	...	...	5	...	...	...	...
Greece	2	...	...	...	...	...	...
Guam	1	1	...	...	...	...	...
India	23	9	...	...	...	...	...
Indonesia	1	1	...	...	...	...	...
Iran	9	4	...	...	...	...	...
Japan	1	1	...	...	...	...	...
Kenya	2	1	...	...	...	...	...
Korea	3	...	...	...	...	...	...
Mexico	1	...	...	...	...	...	...
Nigeria	2	2	...	...	...	...	...
Norway	8	...	...	...	...	...	...
Pakistan	6	1	...	...	...	...	...
Philippines	3	1	...	...	...	...	...

	Residence	Summer Session 1964	Correspondence	Extension	Adult Educ.	In-Absentia	N.R.T.S
Syria .....	3	---	---	---	---	1	---
Turkey .....	2	---	---	---	---	---	---
Uganda .....	1	---	---	---	---	---	---
<b>FOREIGN TOTALS</b> .....	<b>138</b>	<b>35</b>	<b>11</b>	<b>---</b>			

**OFFICE OF THE REGISTRAR**  
**CONSOLIDATED GEOGRAPHICAL DISTRIBUTION OF STUDENTS—1965-66**  
**JUNE 12, 1966**

	Residence	Summer Session 1965	Correspondence	Extension	Adult Educ.	In-Absentia	N.R.T.S
IDAHO .....	4841	1014	961	1747	543	25	299
Other States .....	1296	441	275	121	16	23	---
Foreign Countries .....	152	36	7	---	---	4	---
<b>TOTALS</b> .....	<b>6289</b>	<b>1491</b>	<b>1243</b>	<b>1868</b>	<b>559</b>	<b>52</b>	<b>299</b>

**STUDENTS FROM IDAHO COUNTIES**

	Residence	Summer Session 1965	Correspondence	Extension	Adult Educ.	In-Absentia	N.R.T.S
Ada .....	594	111	147	82	253	3	---
Adams .....	23	8	10	14	1	---	---
Bannock .....	60	23	37	9	---	---	9
Bear Lake .....	19	6	---	---	---	---	---
Benewah .....	51	8	19	17	4	1	---
Bingham .....	85	21	12	29	11	---	20
Blaine .....	30	3	9	4	---	---	---
Boise .....	9	2	3	---	1	---	---
Bonner .....	193	16	21	54	10	---	---
Bonneville .....	173	21	29	12	99	---	260
Boundary .....	83	13	11	7	1	1	---
Butte .....	10	7	2	9	---	1	6
Camas .....	12	3	3	8	1	---	---
Canyon .....	327	53	83	220	30	2	---
Caribou .....	14	4	7	11	---	---	---
Cassia .....	61	15	21	66	---	---	---
Clark .....	1	1	3	1	---	---	---
Clearwater .....	106	18	15	43	3	---	---
Custer .....	25	5	6	24	---	---	---
Elmore .....	98	18	28	96	8	---	---
Franklin .....	8	7	3	1	1	---	---
Fremont .....	32	4	9	1	1	---	---
Gem .....	57	10	8	10	4	---	---
Gooding .....	88	20	27	38	1	---	---
Idaho .....	118	43	36	66	---	3	---
Jefferson .....	30	6	11	1	---	---	1
Jerome .....	70	15	17	30	---	---	---
Kootenai .....	248	36	73	109	72	---	---
Latah .....	833	233	89	125	---	5	---
Lemhi .....	32	3	6	7	2	---	---
Lewis .....	64	20	19	26	---	---	---
Lincoln .....	21	7	5	19	1	---	---
Madison .....	19	3	1	3	---	---	2
Minidoka .....	91	14	19	47	---	---	---
Nez Perce .....	300	85	44	230	---	2	---
Oneida .....	11	5	2	1	1	---	---
Owyhee .....	41	12	10	30	6	1	---
Payette .....	78	9	13	67	8	---	---
Power .....	24	3	6	3	---	---	---
Shoshone .....	233	48	34	104	20	2	---
Teton .....	2	5	2	---	---	---	---
Twin Falls .....	347	46	50	68	1	2	1
Valley .....	50	10	5	16	---	1	---
Washington .....	71	14	6	39	3	1	---
<b>IDAHO TOTALS</b> .....	<b>4841</b>	<b>1014</b>	<b>961</b>	<b>1747</b>	<b>543</b>	<b>25</b>	<b>299</b>

ENROLLMENT STATISTICS

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OTHER STATES

	Resi- dence	Summer Session 1965	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sentsia	N.R.T.S.
Alabama	.....	.....	2	.....	.....	.....	.....
Alaska	28	5	13	.....	.....	.....	.....
Arizona	8	5	2	.....	.....	1	.....
Arkansas	2	1	.....	.....	.....	.....	.....
California	199	62	50	1	1	1	.....
Colorado	12	6	.....	.....	.....	.....	.....
Connecticut	4	.....	.....	.....	.....	.....	.....
Dist. Col.	4	.....	4	.....	.....	.....	.....
Florida	5	3	.....	.....	1	1	.....
Georgia	1	1	2	.....	.....	.....	.....
Hawaii	20	6	4	.....	.....	.....	.....
Illinois	49	5	8	.....	.....	1	.....
Indiana	14	1	1	.....	.....	.....	.....
Iowa	13	9	2	.....	.....	1	.....
Kansas	10	4	3	.....	.....	.....	.....
Kentucky	1	.....	.....	.....	.....	.....	.....
Louisiana	5	1	3	.....	.....	.....	.....
Maine	2	1	3	.....	.....	.....	.....
Maryland	14	1	2	.....	.....	.....	.....
Massachusetts	16	2	3	.....	.....	.....	.....
Michigan	18	9	3	.....	.....	.....	.....
Minnesota	13	11	2	.....	.....	.....	.....
Mississippi	2	3	.....	.....	.....	.....	.....
Missouri	9	.....	.....	.....	.....	.....	.....
Montana	31	10	20	.....	.....	.....	.....
Nebraska	2	4	1	.....	.....	1	.....
Nevada	27	12	19	.....	.....	.....	.....
New Hampshire	2	1	.....	.....	.....	.....	.....
New Jersey	17	6	3	.....	.....	.....	.....
New Mexico	6	1	1	.....	.....	.....	.....
New York	40	13	15	.....	.....	.....	.....
North Carolina	1	.....	6	.....	.....	.....	.....
North Dakota	16	3	4	.....	.....	.....	.....
Ohio	27	8	2	.....	.....	.....	.....
Oklahoma	5	1	1	.....	.....	.....	.....
Oregon	116	64	28	28	6	4	.....
Pennsylvania	32	7	1	.....	.....	1	.....
South Carolina	1	1	.....	.....	.....	.....	.....
South Dakota	7	4	1	.....	1	.....	.....
Tennessee	4	1	.....	.....	.....	.....	.....
Texas	10	7	5	.....	1	.....	.....
Utah	10	6	3	.....	.....	.....	.....
Vermont	2	.....	2	.....	.....	.....	.....
Virginia	17	1	4	.....	.....	.....	.....
Washington	440	141	46	82	6	11	.....
Wisconsin	27	10	2	.....	.....	1	.....
Wyoming	7	4	4	.....	.....	.....	.....
OTHER STATES	.....	.....	.....	.....	.....	.....	.....
TOTALS	1296	441	275	121	16	23	.....

FOREIGN COUNTRIES

	Resi- dence	Summer Session 1965	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sentsia	N.R.T.S.
Arabia	2	.....	.....	.....	.....	.....	.....
Australia	1	1	.....	.....	.....	.....	.....
Bolivia	1	.....	.....	.....	.....	.....	.....
Brazil	1	.....	.....	.....	.....	.....	.....
British Comm.	11	3	.....	.....	.....	1	.....
Canada	31	10	5	.....	.....	.....	.....
Canal Zone	1	.....	.....	.....	.....	.....	.....
China	14	2	.....	.....	.....	.....	.....
Colombia	.....	1	.....	.....	.....	.....	.....
Cuba	1	.....	.....	.....	.....	.....	.....
El Salvador	1	.....	.....	.....	.....	.....	.....
Germany	3	.....	.....	.....	.....	.....	.....
Greece	2	.....	.....	.....	.....	.....	.....
Guam	1	.....	1	.....	.....	.....	.....
India	21	6	1	.....	.....	.....	.....
Iran	15	4	.....	.....	.....	2	.....
Ireland	1	.....	.....	.....	.....	.....	.....
Israel	1	.....	.....	.....	.....	.....	.....
Italy	1	1	.....	.....	.....	.....	.....

	Resi- dence	Summer Session 1965	Corres- pondence	Exten- sion	Adult Educ.	In-Ab- sentia	N.R.T.S.
Japan .....	1	---	---	---	---	---	---
Kenya .....	2	1	---	---	---	---	---
Korea .....	3	---	---	---	---	---	---
Mexico .....	1	---	---	---	---	---	---
Netherlands .....	1	---	---	---	---	---	---
Nigeria .....	7	2	---	---	---	---	---
Norway .....	6	1	---	---	---	---	---
Pakistan .....	12	1	---	---	---	---	---
Philippines .....	2	---	---	---	---	---	---
Sweden .....	1	---	---	---	---	---	---
Syria .....	4	2	---	---	---	---	---
Turkey .....	2	---	---	---	---	---	---
Uganda .....	1	---	---	---	---	---	---
Yemen .....	1	---	---	---	---	---	---
<b>FOREIGN TOTALS</b> .....	<b>152</b>	<b>36</b>	<b>7</b>	---	---	<b>4</b>	---

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