

UNIVERSITY OF OREGON
GRADUATE SCHOOL

EUGENE, OREGON

CATALOG ISSUE
1967-68

BULLETIN



OREGON STATE SYSTEM OF HIGHER EDUCATION

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Oregon State System of Higher Education

The Oregon State System of Higher Education, organized in 1932, provides educational opportunities for young people and adults throughout the State of Oregon. Member institutions are elements of an articulated system, parts of an integrated whole.

Opportunities for general education are distributed as widely as possible throughout the state, while specialized, professional, and technical programs are centered at specific institutions.

Members of the Oregon State System of Higher Education are: Oregon State University at Corvallis, University of Oregon at Eugene, Portland State College at Portland, Oregon College of Education at Monmouth, Southern Oregon College at Ashland, Eastern Oregon College at LaGrande, and Oregon Technical Institute at Klamath Falls. Campuses of the Medical School and the Dental School of the University of Oregon are located in Portland. The Division of Continuing Education represents all the institutions in making college-level courses and special programs available to all citizens. The Division has offices in Salem as well as on all State System campuses.

An interinstitutional booklet, "Your Education," lists fields of study at all State System institutions, and gives other important information for prospective students. For a free copy, write "Your Education," State Board of Higher Education, P.O. Box 5175, Eugene, Oregon 97403.

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Board members are appointed to six-year terms by the Governor of
Oregon with confirmation by the State Senate.

Calendar

Fall Term, 1967-68

August 31, *Thursday*.....Last day to apply for fall-term admission
without penalty
September 19-24, *Tuesday-Saturday*.....Regular registration
September 25, *Monday*.....Classes begin
October 6, *Friday*.....Last day to register or change program
November 10, *Friday*.....Last day to apply for degree for
December Commencement
November 3, *Friday*.....Last day for submitting doctoral theses
to committee
November 17, *Friday*.....Last day for submitting master's theses
to committee
December 1, *Friday*.....Last day for master's and doctor's
final oral examinations
December 8, *Friday*.....Fall-term Commencement

Winter Term, 1967-68

January 2, *Tuesday*.....Regular registration
January 3, *Wednesday*.....Classes begin
January 12, *Friday*.....Last day to register or change program
February 9, *Friday*.....Last day to apply for degree for
March Commencement
February 2, *Friday*.....Last day for submitting doctoral theses
to committee
February 16, *Friday*.....Last day for submitting master's theses
to committee
March 1, *Friday*.....Last day for master's and doctor's final
oral examinations
March 8, *Friday*.....Winter-term Commencement

Spring Term, 1967-68

March 25, *Monday*.....Regular registration
March 26, *Tuesday*.....Classes begin
April 5, *Friday*.....Last day to register or change program
May 10, *Friday*.....Last day to apply for degree
for June Commencement
May 3, *Friday*.....Last day for submitting doctoral theses
to committee
May 17, *Friday*.....Last day for submitting master's theses
to committee
May 31, *Friday*.....Last day for master's and doctor's final
oral examinations
June 9, *Sunday*.....Spring-term Commencement

Summer Sessions, 1968

June 17, *Monday*.....Registration
June 18, *Tuesday*.....Classes begin
July 12, *Friday*.....Last day for submitting doctoral theses
to committee
July 22, *Monday*.....Last day for submitting master's theses
to committee
August 3, *Friday*.....Last day for master's and doctor's
final oral examinations
August 10, *Saturday*.....Summer-session graduation convocation

University of Oregon

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General Information

The Graduate School, coordinating the graduate efforts of seven professional schools and the departments of the College of Liberal Arts, exists to further the University of Oregon's fundamental objective of discovering, conserving, and disseminating knowledge. Its program provides opportunity for scholarly specialization, for mastery of a particular field, for study in depth to complement the breadth of undergraduate education and enrich both professional and cultural life.

With an enrollment of 3,135 students in the regular sessions and 3,807 in the summer sessions, the Graduate School is large enough to provide competitive stimulation and cooperative exchanges, yet small enough to maintain a close professor-student relationship in classes, seminars, laboratories, and in advanced study and research. The University takes pride in its ability to maintain this relationship.

Of nearly 2,800 degrees conferred by the University of Oregon during the 1965-66 academic year, approximately 40 per cent were graduate degrees.

History of the Graduate School

The Graduate School was organized in 1900. Prior to that time, honorary master's and doctor's degrees were conferred in the 1880s and two master's degrees, with definite residence requirements, were conferred in 1899. After two decades of concentration on the master's degree, the Graduate School announced requirements for the Doctor of Philosophy degree in 1920. The first degree under these standards was granted in 1926. Of the fields in which the Ph.D. degree is now authorized, eight have been added in the last decade.

University Campus

The University of Oregon is fortunate in its location, equidistant from the Pacific Ocean and the Cascade Mountains—at the head of the Willamette Valley, 109 miles south of Portland, on the main line of the Southern Pacific Railroad and on the interstate highway, its easy accessibility is also enhanced by the service of United Air Lines and West Coast Air Lines. The city of Eugene, with a population of over 75,000, lies in a rapidly developing metropolitan area of three times the city's population. The Willamette Valley enjoys a mild climate, with moderate winters and cool summers. The average rainfall is less than 38 inches, concentrated in the winter months.

The University campus is noted for the beauty of its landscaping. It occupies 187 acres in the eastern section of Eugene. Since World War II, the following facilities of particular interest to graduate students have been added to the campus: Commonwealth Hall (business administration and the social sciences), the University Theater and remodeled Villard Hall (speech), the Science Building (biology, physics, chemistry, geology), Prince Lucien Campbell Hall (English, history, philosophy, sociology), an addition to the Library, the Student Union, Eric Allen Hall (journalism), a new wing for the School of Music, Lawrence Hall (architecture and allied arts), several residence halls and housing for married students, reconstructed Friendly Hall (foreign languages), reconstructed Deady Hall (mathematics), remodeled Condon Hall (psychology, geography), new quarters for the Department of Anthropology and the Museum of Natural History, and the Paleoeology Building.

Libraries

The organization of the University of Oregon Library into three broad subject divisions—Humanities, Social Science, and Science—supplemented by the General Reference Division, the Special Collections Division and the Audiovisual Media Center, is particularly well suited to the requirements of graduate study. A new addition to the Library has increased the capacity of the holding to 1,300,000 volumes and 2,341 readers.

Holdings on the Eugene campus now total over 1,000,000 volumes; 14,000 serials are currently received. The Library is a member of the Pacific Northwest Bibliographic Center, and has ready access to resources of other major libraries in this region and elsewhere through a system of interlibrary loans.

The Library is a depository for the documents of the U.S. and Canadian governments. Publications of the League of Nations, United Nations and its specialized agencies, and the Organization of American States are well represented, as are the official records of many nations and numerous international organizations.

The Special Collections Division, with 900,000 manuscripts, 140,000 photographs, pictures, and prints, and other collections of unusual material, is a major resource for graduate research.

Summer Sessions

Courses and research opportunities are available to degree candidates in the summer. Supplemented by individualized study arrangements, the summer offerings enable the graduate student to make uninterrupted progress toward his degree. Formal admission to summer session is not required. However, for summer session work to be credited toward a degree, formal admission to graduate status in a school or department is required.

Summer opportunities are unusually extensive for students in all phases of professional education. Visiting professors and special lectures enrich the program especially designed to meet the needs of teachers and educational administrators. Teachers who wish subject-matter concentration are accommodated through courses from all segments of the curriculum and through a special interdisciplinary program leading to the master's degree.

Foreign Students

Graduate students from foreign lands are welcome at the University of Oregon. They are eligible for assistantships and fellowships and are otherwise considered as an integral part of the graduate student body. Some schools and departments require the Test of English as a Foreign Language before admission. Foreign students who have special problems connected with their alien status, such as visas, government regulations, employment, and general orientation, are invited to use the services of the Foreign Student Adviser, a member of the staff of the Office of Student Affairs.

Fees and Deposits

Regular fees and tuition for students in the Graduate School, for both residents of Oregon and nonresidents, total \$143.00 a term. Students holding graduate or research assistantships or fellowships which involve teaching or research duties pay a special reduced fee of \$35.00 a term. For 7 term hours of work or less, students pay the regular part-time fee, ranging from a minimum of \$31.00 for 2 term hours to a maximum of \$108.50 for 7 term hours. Payment of full-time or part-time

fees entitles a graduate student to all services maintained by the University for the benefit of students.

Graduate students must make a \$25.00 general deposit once each year at the time of first registration, as a protection to the University against the loss of or damage to institutional property.

A new graduate student, who has not been previously enrolled in the University of Oregon, pays a \$10.00 application fee; this fee, which is not refundable, must be sent to the Office of Admissions with the student's application for admission. A student who is applying for a teaching or research assistantship may defer formal application for admission and payment of the application fee until negotiations for the assistantship are completed.

A new graduate student, who has not been formerly enrolled in the University of Oregon, and who plans to enroll in the fall term must also make a \$25.00 entrance deposit on receipt of his notice of admission to the University; when he enrolls and completes registration, this deposit becomes his \$25.00 general deposit (see above). If the student does not complete his registration, the entrance deposit is forfeited.

A special fee of \$20.00 is paid by all students who are granted doctor's degrees, to cover the cost of the reproduction of their theses on microfilm or microcards.

Living Accommodations

Graduate students may live in the dormitories, which accommodate 3,143 undergraduate and graduate students, in facilities for married students, accommodating 656 families, or in rooms in private homes. The University maintains six dining halls for students.

Board and room costs in University dormitories are approximately \$354.00 for the fall term, \$236 for the winter term, and \$197 for the spring term—a total of approximately \$787 for the academic year. Board and room charges are payable at the beginning of each term. If a student is unable to make the total payment at the beginning of the term, arrangements may be made for payment in two installments, the first at the beginning of the term and the second on a fixed date later in the term.

Dormitory applications should be made as early as possible before the opening the school year, on an official form supplied by the Housing Office, Carson Hall, and must be accompanied by a room deposit of \$50.00. If a student cancels a fall-term dormitory reservation before August 1, or winter- or spring-term reservation two weeks before the opening of the term, \$40 of the \$50 reservation deposit will be refunded; \$10 will be retained to cover the cost of processing the reservation and the refund. The full deposit, however, will be refunded if the student fails to qualify for admission to the University.

Facilities for married students include a wide variety of accommodations. The rents range from \$42.50 to \$76.00. Applications should be made to the Housing Office, Carson Hall.

The Housing Office also maintains a file of rooms available in private homes in Eugene.

Assistantships, Scholarships, Fellowships

Teaching and research assistantships, scholarships, and fellowships are available to well-qualified graduate students. Applications should be made before March 1.

All persons holding these positions must enroll in the Graduate School, and are expected to enter a program leading to an advanced degree.

Teaching Assistantships. Nearly all schools and departments award graduate teaching assistantships. Stipends range from \$1,800 to \$2,800 for the academic year. Teaching assistants are allowed to register for a maximum of 12 term-hours of course work. Duties, which are limited to 15 hours a week, consist of reading papers, supervising laboratory and quiz sections, etc.

Research Assistantships. A number of departments and schools employ graduate research assistants, who work under the supervision of faculty members. Funds come from research grants and contracts. Stipends, fees, and enrollment limitations are the same as for teaching assistants; augmented service in the summer may substantially increase the annual stipend.

State Scholarships. A limited number of scholarships covering tuition and laboratory and course fees are available to graduate students. All applicants, to be eligible, must be in need of financial assistance, and must show evidence of superior scholarship. Application should be made to the chairman, Committee on Scholarships and Grants in Aid, on official blanks furnished by his office, and must be filed before March 1.

Special Fellowship Programs. Graduate students at the University of Oregon are eligible for fellowship awards granted by the National Science Foundation, the National Institutes of Health, the Woodrow Wilson Foundation, and other endowed foundations. The University participates in the National Defense Education Act Program, Experienced Teacher Fellowship Program, Prospective Teacher Fellowship Program, NSF Traineeship Program and the NSF Summer Traineeship Program for Teaching Assistants. Information concerning these programs may be obtained in the Graduate Office.

Postdoctoral Fellowships. The University of Oregon participates in several postdoctoral fellowship programs and provides facilities for postdoctoral study under faculty supervision.

Robert A. Booth Fellowship in Public Service. This fellowship, supported by a bequest from the late Robert A. Booth of Eugene, is awarded to an outstanding graduate of an accredited college or university. The value varies from \$250 to \$500. Selection is made on the basis of scholarship, character, personality, and interest in public service as a career.

Coca Cola Scholarship. This scholarship, at present approximately \$400, is awarded biennially to a graduating senior of the University of Oregon, as an aid to postgraduate study at the University. In choosing a scholar, a faculty committee gives consideration to scholastic record, character, good citizenship, and promise as a graduate student. The scholarship is endowed through a gift from John G. Foster of Eugene.

Thomas Condon Fellowship in Paleontology. This fellowship, normally carrying a stipend of \$500, is endowed through a bequest from the late Mrs. Ellen Condon McCornack and is named in memory of her father, Dr. Thomas Condon, member of the University faculty from 1876 until his death in 1906.

Haskins and Sells Teaching Fellowship in Accounting. A \$1,000 fellowship is awarded each year by the Haskins and Sells Foundation to a graduate student preparing for a career in college teaching of accounting. For eligibility, an applicant should have completed the requirements for a master's degree.

F. G. G. Schmidt Fellowship in German. This \$250 fellowship, supported by a gift from the late Dr. F. G. G. Schmidt, a member of the University faculty from 1897 until his death in 1945, is awarded annually to a worthy graduate student majoring in German.

Weyerhaeuser Fellowship. The Weyerhaeuser Company Foundation offers a \$2,250 fellowship to outstanding graduate students in business administration majoring in forest industries management. The award is made through the Forest Industries Management Center to encourage advanced professional training in this field.

Zimmerman Scholarship. The Joseph P. and Eva Zimmerman scholarships, of varying amounts, are awarded to seniors and graduate students. The scholarship is supported through a bequest of the late Miss Lois Zimmerman, Class of '28, and is named in memory of her father and mother.

Loan Funds

The University of Oregon administers student loan funds of approximately \$500,000. These funds are available for two types of loans: regular loans for a period of six months to two years; and emergency loans of small amounts for a period of ninety days or less. Inquiry and applications should be made through the Director of Financial Aids, Office of Student Affairs.

Graduate students are also eligible for loans from funds provided under the National Defense Education Act. The University also participates in United Student Aid Fund, Inc.

Health Service

The regular Student Health Service of the University, including the hospital facilities of the Infirmary, is available to graduate students on the same terms as other students. Before admission, each entering student is required to have a physical examination by a physician of his choice, and to present a record of this examination on a form provided by the University.

Through the Student Health Service the University strives to safeguard the health of its students. This is accomplished through health education, complete medical examinations for the detection of remedial defects, constant vigilance against incipient disease, medical treatment of acute diseases, and the maintenance of hygienic student living conditions.

The student health services in the institutions in the Oregon State System of Higher Education are supported by student registration fees and such charges as are necessary. Every student registered for credit is entitled to all the services of the Student Health Service.

The Student Health Service facility is new, designed and equipped to meet the rapidly changing concepts in medical treatment and the rapid growth of the University; it consists of out-patient departments, a 44-bed hospital, including a modern isolation unit of four private beds, and the necessary laboratory, emergency, and administrative facilities. In general, medical services offered include: (1) general medical attention and treatment, including minor surgery (major surgery and other procedures requiring general anesthesia and specialists' services are referred); (2) 15-day free hospitalization in the Student Health Service facility during one academic year if recommended by a Health Service physician; (3) 24-hour daily emergency service; (4) routine laboratory procedures, including X-ray and clinical laboratory; (5) a pharmacy; (6) limited psychiatric and counseling services on an out-patient basis, supervised by a psychiatrist; (7) physical therapy.

Charge are made against the breakage deposit for prescriptions, X-ray, laboratory procedures, and services, such as immunizations and physical therapy, but every attempt is made to keep these as low as possible.

All expenses of, or connected with, surgical operations or specialized services must be borne by the student, including the services of a special nurse, where deemed necessary. Under no circumstances will the Health Service pay or be responsible for bills from private physicians or private hospitals.

The privileges of the Health Service are not available to members of the faculty.

Placement Services

The University assists its students and graduates in obtaining employment, through a Student Employment Service for those seeking part-time and vacation positions, and a Graduate Placement Service for those seeking professional employment after graduation.

Cultural and Recreational Programs

The University of Oregon takes justifiable pride in the quality and comprehensiveness of its cultural and recreational programs, which it considers an intrinsic part of its educational function for all students, graduate and undergraduate.

Lectures. The regular University curriculum is supplemented by University assemblies at which visiting speakers address the student body and by frequent public lectures by faculty members and visiting scholars.

Musical Activities. Graduate students automatically become members of the Eugene and University Civic Music Association, which brings to McArthur Court each year six or seven outstanding artists or musical groups.

The faculty and students of the School of Music also present a variety of musical programs each year.

The University Concert Band, the University Symphony Orchestra, the University Choral Union, the University Singers, and smaller ensembles provide membership for all who qualify and wish to participate.

A circulating collection of records is maintained by the University. Listening facilities are available in the Student Union and in the Douglass Room of the Library.

Theater. The University Theater presents dramatic productions ranging from classical drama to current plays and musicals in a well-equipped theater. Graduate students are welcomed as participants in these dramatic activities.

Museums and Collections. The University maintains three museums, the Museum of Art, the Museum of Natural History, and the Miniature Wagon Museum. The Museum of Art houses the Warner Collection of Oriental Art and carries on an active program of special exhibitions and lectures. The Museum of Natural History has divisions of anthropology, botany, geology, paleontology, and zoology. The Miniature Wagon Museum contains authentic miniatures of nineteenth- and early twentieth-century American carriages, coaches, and wagons.

Loan exhibitions and student art work are also shown in the Art Gallery in Lawrence Hall and in the gallery in the Student Union.

Sports. The facilities of the School of Health, Physical Education, and Recreation are available to all graduate students for a wide variety of gymnastic and sports activities. All charges are covered by the payment of regular tuition and fees.

Degrees and Regulations

Advanced Degrees

The University of Oregon offers through the Graduate School work leading to advanced degrees in the liberal arts and sciences, and in the professional fields of architecture and allied arts, business administration, dental sciences (at the Dental School in Portland), education, health, physical education, and recreation, journalism, medical sciences (at the Medical School in Portland), music, and nursing (at the School of Nursing in Portland). The degrees granted, and the fields in which programs of study leading to the respective degrees are currently offered, are listed below

Doctor of Philosophy: anthropology, biology, chemistry, comparative literature, economics, education, English, geography, geology, Germanic languages, health, physical education, and recreation, history, mathematics, medical sciences, philosophy, physics, political science, psychology, Romance languages, sociology, speech.

Doctor of Business Administration: business administration.

Doctor of Education: education, health, physical education, and recreation.

Doctor of Musical Arts: music.

*Master of Arts: anthropology, art, art history, biology, business administration, chemistry, Classical languages, comparative literature, economics, education, English, geography, geology, Germanic languages, health, physical education, and recreation, history, journalism, mathematics, medical sciences, music, philosophy, physics, political science, psychology, Romance languages, sociology, speech.

*Master of Science: art, biology, business administration, chemistry, dental sciences, economics, education, geography, geology, health, physical education, and recreation, journalism, mathematics, medical sciences, nursing, physics, political science, psychology, sociology, speech.

Master of Architecture: architecture.

Master of Fine Arts: drawing and painting, sculpture, ceramics, weaving, jewelry and metalsmithing, creative writing, theater.

Master of Business Administration: marketing and industrial management, finance and business environment, accounting and business statistics.

Master of Education: education.

Master of Landscape Architecture: landscape architecture.

Master of Music: music education, performance and music literature, composition.

Master of Urban Planning: urban planning.

General Regulations

The University recognizes two classes of graduate students: (1) students enrolled in the Graduate School for work toward a graduate degree, and (2) unclassified graduate students. Students of the first class follow programs organized in conformity with the rules stated below. Students of the second class enroll for courses in which they are interested, with the understanding that the University is under no implied obligation to accept credit earned as credit toward a graduate degree. Whether a student is adequately prepared to enroll in any graduate course

* See also "Interdisciplinary Master's Programs," pages 20-21.

is determined by the instructor in charge and by the head of the department or school concerned.

Admission. For admission as a graduate student for work toward a graduate degree the student must meet minimum University requirements and be accepted by the department or school in which he wishes to work. The general University requirements for graduate admission, summarized below, may be supplemented by special requirements of departments and schools. Beginning with the fall term, 1967-68, former University students (graduates and undergraduates) must be formally admitted to graduate status. A student who wishes to change his major must be formally admitted to the department in which he intends to work for a degree.

An applicant should address inquiries concerning graduate admission to the department or school in which he plans to study, not to the Graduate School or the Office of Admissions.

Documents Supporting Application. An applicant for admission as a graduate student must submit: (1) two copies of an application on an official University form, and (2) two copies of an official transcript of his college record. One copy of these credentials should be sent to the department or school in which the applicant plans to study and the other to the Office of Admissions.

Minimum Requirements for Admission. Minimum University requirements for graduate admission are as follows:

Admission for Work Toward a Graduate Degree. Graduation from an accredited college or university with a cumulative undergraduate grade-point average of 2.75 or higher is required for admission for work toward a graduate degree. A student who has completed 12 or more term hours of graduate work at another institution with a GPA of 3.00 or higher is admitted without reference to his undergraduate GPA if the work is accepted by his major department or school as applicable toward a graduate degree. A student whose academic record does not meet these standards may be granted admission on a provisional basis for not more than 36 term hours of graduate work.

Admission as an Unclassified Student. Students having a baccalaureate degree and wishing to attend classes, but who do not wish to conform to a degree program or have not been accepted by a department, may be admitted to the Graduate School as unclassified students. Students in this category are advised through a separate procedure and must have permission from the instructor to enroll in any graduate course. If a department later decides to accept an unclassified student in a degree program, he is treated as though he were a transfer from another school. This may include acceptance, at the department's discretion, of up to 15 graduate credit hours earned as an unclassified student toward a graduate degree.

Continuous Enrollment. A graduate student who has been admitted for work toward a graduate degree is required to enroll in the University each term during the regular academic year from the time of first enrollment until the completion of all degree requirements, including the submission of thesis or dissertation, the passing of all examinations, and the awarding of the degree. His enrollment is either as a student in residence or as a student on leave of absence.

Leave of absence is granted for a stated period of time, normally not to exceed one calendar year. A graduate student on leave of absence is expected neither to make use of University facilities nor to place demands upon the faculty, and therefore pays no fees during the leave period.

Failure to maintain continuous enrollment, either in residence or on leave of absence, is considered evidence that the student has withdrawn from the Univer-

sity. If he wishes to resume his studies, he must formally apply for readmission, and must satisfy requirements for admission in effect at the time of application.

Reservation of Graduate Credit. The Graduate School encourages superior students to begin their graduate studies as early in their careers as feasible. A student at the University of Oregon who needs not more than 48 term hours in order to complete requirements for a bachelor's degree (i.e., who has senior standing) and who has a cumulative GPA of 3.00 may petition the dean of the Graduate School for the reservation of credit in specified graduate courses. A "Reservation of Credit" form, available in the office of the Graduate School, must be filed not later than two weeks after the beginning of the term in which the courses involved are taken. Credit may not be reserved for courses taken during a period of more than three terms. A student who has been granted reservation of credit is assigned a graduate adviser to assist him in planning his graduate work.

Course Registration Requirements. The maximum course load for a graduate student devoting all of his time to graduate study in a regular term or in an eleven-week summer session is 16 term hours; the maximum for a teaching or research assistant is 12 term hours. The maximum course load for an eight-week summer session is 13 term hours. Credit for work taken in excess of these maximums cannot be applied toward a degree.

All graduate students using campus facilities or studying under the supervision of a member of the faculty are required to register for a minimum of 3 term hours of course work.

All graduate students holding half-time teaching or research assistantships are required to register for a minimum of 6 term hours of course work; students holding three-tenths-time assistantships are required to register for a minimum of 9 term hours of course work.

Students working for a master's degree with thesis are required to register for a minimum of 9 term hours in Thesis (503) before completing the program for the degree. Students working for a doctor's degree are required to register for a minimum of 18 term hours in Thesis before completing the program for the degree.

Grade Requirement. A graduate student is required to earn at least a B grade average to qualify for a graduate degree. A grade-point average of less than 3.00 at any time during the student's graduate studies is considered unsatisfactory, and may result in disqualification by the dean of the Graduate School after consultation with the student's major department or school. A course in which the student earns a grade of D will not carry graduate credit, but will be included in the computation of the student's GPA. F grades will also be included in the GPA computation.

In all divisions except the School of Law, Research (501) and Thesis (503) are classified as no-grade courses, and are disregarded in the calculation of the student's GPA.

Graduate Courses. All courses numbered in the 500s carry graduate credit, as do those in the 400s which have been approved by the Graduate Council. Approved courses in the 400s are designated in this Catalog by (G) or (g) following the course title. Courses designated (G) may form a part of either a major or a minor; courses designated (g) may be taken toward a minor only. Graduate students taking courses in the 400s are expected to do work of a higher order and broader scope than the work of undergraduate students in the same courses. Undergraduate enrollment in the 400 courses designated (G) is generally restricted to seniors; undergraduate enrollment in 400 courses designated (g) is generally restricted to juniors and seniors.

Courses numbered in the 500s and designated (p) represent instruction offered at a level of intellectual maturity suitable for graduate students who

have earned a bachelor's degree in a field other than their professional field. Such courses carry credit toward a master's degree, but this credit may not be counted toward the minimum requirement of 30 term hours in the major.

Off-Campus Graduate Courses. Graduate students at the University of Oregon may, with the consent of their advisers, take courses carrying graduate credit at Oregon State University and at the Oregon College of Education. Students register for these courses on the Eugene campus. Grades are transmitted by the instructor to the University Registrar and recorded on the student's University of Oregon transcript.

Degree Requirements

Master's Degrees

Credit Requirements. For a master's degree, the student must complete an integrated program of study totaling not less than 45 term hours in courses approved for graduate credit. Integration may be achieved either through a departmental major or through a program of interdisciplinary studies (see pages 20-21). For the master's degree with a departmental major, a minimum of two-thirds of the work (30 term hours) must be in the major.

Residence Requirement. The residence requirement for the master's degree is 30 term hours of work on the Eugene campus or at the Medical School, Dental School, or School of Nursing in Portland.

Transferred Credit. Credit earned at other accredited institutions, or in the Division of Continuing Education of the Oregon State System of Higher Education, may be counted toward the master's degree under the following conditions: (1) the total of transferred credit may not exceed 15 term hours; (2) the courses must be relevant to the degree program as a whole; (3) the transfer must be approved by the student's major department and the Graduate School; (4) the grades earned must be A or B. Graduate credit is not allowed for correspondence courses. Credit granted for work done at another institution is tentative until validated by work in residence (see also "Time Limit" below).

Language Requirements. For the M.A. degree, the student must show, by examination or by adequate undergraduate courses (completion of the second-year college course), a reading knowledge of French, German, or Russian or any other language the Graduate Council may have approved for the student's department or school. A list of languages other than French, German, or Russian approved by the Graduate Council for master's degree programs in certain schools and departments appears on page 23. By petition to the dean of the Graduate School, endorsed by his major department or school, a student may substitute another language. A foreign student whose native language is not English and who is admitted before fall 1967 may, on the recommendation of his school or department, substitute a reading and speaking knowledge of English for the satisfaction of the language requirement. There are no language requirements for the M.S. and professional degrees unless specified by the school or department.

Course Requirements. For the M.A. or M.S. degree with a departmental major, at least nine credit hours in 500-599 courses are required.

Time Limit. All work toward the master's degree (including work for which credit is transferred from another institution, thesis, and the final examination) must be completed within a period of seven years.

Examinations. Qualifying and final examinations may be required in any

field at the discretion of the department or school. The conduct and content of these examinations are departmental or school responsibilities.

Thesis. In some fields, all candidates for the master's degree are required to present a thesis; in others the thesis is optional.

A student who writes a thesis should apply to his department for information on the various steps involved and the minimal standards expected. The student should also call at the Graduate School to learn the University rules regarding thesis style and format, number of copies required, abstracts, etc. Copies of theses will not be accepted by the Graduate School unless they meet specified standards of form and style.

Interdisciplinary Master's Programs

In addition to specialized graduate work in the traditional fields of learning, the University provides opportunities for integrated interdisciplinary studies leading to the M.A. or M.S. degree—including both programs planned in the light of the individual student's interests and established programs of interdisciplinary studies organized and administered through interdepartmental faculty committees.

Graduate students pursuing a program of interdisciplinary studies may supplement courses offered by the several departments and schools with individualized studies, for which they may enroll under the following course numbers:

ISt 501. **Research.** Hours to be arranged.

ISt 503. **Thesis.** Hours to be arranged.

The established interdisciplinary programs approved by the Graduate Council are shown below. A student interested in one of these programs should direct his inquiry to the chairman.

International Studies. Dr. Clarence E. Thurber, chairman.

Asian Studies. Dr. Theodore Stern, chairman.

Juvenile Correction. Dr. Kenneth Polk, chairman.

Public Affairs. Dr. Jarold Kieffer, chairman.

Industrial and Labor Relations. Dr. Paul Kleinsorge, chairman.

The requirements for an M.A. or M.S. degree in interdisciplinary studies are the same as those for the departmental master's degree, except those requirements relating to major or minor fields.

The program is supervised by the Committee on Interdisciplinary Studies, of which Dr. Lloyd R. Sorenson, professor of history, is chairman.

Graduate Program for Teachers. A special program of graduate study for students working toward the satisfaction of the Oregon state requirement of a fifth year of college work for final high-school teacher certification is offered as one of the University's programs of interdisciplinary studies. The student must have a reasonable background of undergraduate study in the field in which he proposes to work, and must complete prerequisites for specific courses. The requirements for a master's degree in the program for teachers are as follows:

(1) A total of between 45 and 51 term hours in graduate courses, distributed in accordance with (a) and (b) below:

(a) A total of 36 term hours in subject fields (work in liberal arts departments or professional schools other than education), distributed in accordance with one of the following options:

Option 1. Between 15 and 21 term hours in each of two subject fields.

Option 2. A minimum of 36 term hours in any field in which the University offers major work toward the master's degree.

Option 3. A minimum of 36 term hours in the composite field of social studies or the composite field of science. A program in social studies may include work in the fields of anthropology, economics, geography, history, political science, psychology, and sociology. A program in science may include work in the fields of biology, chemistry, geology, mathematics, and physics.

In each of the options listed above, at least 6 term hours of work must be taken in 500 courses. The student's program must be planned to provide well-rounded knowledge, and must not be made up of scattered, unrelated courses.

For Options 1 and 2, 18 term hours in each of the subject fields involved must be presented as an undergraduate prerequisite. For Option 3, the prerequisite is 36 term hours in the composite field involved.

(b) Between 9 and 15 term hours in graduate courses in the field of education, the number of hours to be determined on the basis of the amount of work in education completed by the student as an undergraduate.

(2) Satisfaction of the regular requirements of the Graduate School for the M.A. or M.S. degree without thesis. The combined total of work transferred from other accredited institutions and work done in the Division of Continuing Education of the Oregon State System of Higher Education cannot exceed 15 term hours.

Inquiries about the interdisciplinary programs for teachers in history, English, mathematics, geography, and foreign languages should be directed to the chairmen of these academic departments. Inquiries about programs in other areas should be directed to Dr. Lloyd R. Sorenson.

Master of Business Administration

The requirements for the degree of Master of Business Administration are listed on page 38.

Master of Education

The Master of Education is a professional degree in the field of education. Programs of study leading to this degree are designed to provide graduate training for teachers in either the elementary or the secondary schools. At the discretion of the faculty of the School of Education, the candidate may be required to submit a report of a field study. A written comprehensive final examination in the student's field of specialization is required.

The residence requirement for the M.Ed. degree is 30 term hours of graduate work on the University campus.

Master of Fine Arts

The degree of Master of Fine Arts is granted for attainments and proven creative ability in the arts. The primary requirement is the satisfactory completion of a creative project of high quality. All candidates must, however, satisfy minimum requirements of residence and study.

Early in his M.F.A. program, the student takes a qualifying examination as prescribed by the major school or department. This examination may cover any work done at another institution which is to be part of the candidate's M.F.A. program.

The student plans his M.F.A. program with the assistance of a major adviser and such faculty members as may be designated by his school or department. The program must include at least 18 hours in formal graduate courses dealing with the history and theory of his genre or with the critical investigation of its standard

or classic works; this work may include related studies outside the student's major field; with the approval of the student's advisory committee, this requirement may be satisfied by comprehensive examinations.

For the M.F.A. degree, at least two years of full-time work beyond the bachelor's degree are required, of which at least one year must be spent in residence on the Eugene campus of the University of Oregon.

Every candidate for the M.F.A. degree must submit an extended creative work or project of high professional character. It is expected that the preparation of an acceptable project will require the greater part of an academic year. Three clear copies of the project or of a report on the project as prescribed by the candidate's major school or department and approved by the adviser, must be distributed by the student to the members of his examining committee not less than four weeks before the time set for his final examination; at the conclusion of the examination, these copies, with required revisions, if any, are deposited in the Graduate Office.

Except in the case of the M.F.A. degree in writing, the final examination for the M.F.A. degree must include an oral examination, open to all members of the faculty and to advanced graduate students. The date of the oral examination is publicly announced at least one week before it is held. The examining committee consists of the candidate's advisory committee and other members, including at least one not directly connected with the major department or school. The committee is nominated by the major department or school, subject to the approval of the dean of the Graduate School. Oral examinations for the M.F.A. degree in writing are given only in special cases when the Creative Writing Committee of the Department of English recommends them.

Master of Architecture

The requirements for the degree of Master of Architecture are listed on page 29.

Master of Landscape Architecture

The requirements for the degree of Master of Landscape Architecture are listed on page 29.

Master of Library Science

The requirements for the degree of Master of Library Science are listed on page 68.

Master of Urban Planning

The requirements for the degree of Master of Urban Planning are listed on page 38.

Master of Music

The requirements for the degree of Master of Music are listed on page 75.

Doctor of Philosophy

General Requirements. The degree of Doctor of Philosophy is granted primarily for attainments and proven ability. Requirements of time and credit are secondary; but no candidate will be recommended for the degree until he has satisfied the minimum requirements of residence and study.

It is recommended that a student not take all his undergraduate and all his Ph.D. work at the University of Oregon.

Qualifying Examination. Early in his doctoral program, the student takes a qualifying examination as prescribed by the major school or department. This examination may cover any work done at another institution for which transfer credit is requested. An exceptionally good performance on the final examinations for the master's degree may be accepted as satisfying the qualifying-examination requirement.

Doctoral Program. The student plans his doctoral program with the assistance of his major adviser. As soon as he has passed his qualifying examination, his program is presented for approval to an advisory committee, appointed by the dean of the Graduate School. The committee determines the amount of work the student is expected to do outside his major school or department, in light of his background and objectives.

Residence. For the Ph.D. degree, at least three years of full-time work beyond the bachelor's degree are required, of which at least one year must be spent in residence on the Eugene campus of the University of Oregon or at the University of Oregon Medical School in Portland.

Language Requirement. For the Ph.D. the student must demonstrate by formal examination a reading knowledge of a first and second language. Normally, these languages are selected from French, German, and Russian. Additional second languages for certain schools and departments have been approved by the Graduate Council. A foreign student whose native language is not English and who is admitted before fall 1967 may petition to substitute a reading and speaking knowledge of English for one of the two required languages. Students may petition the Graduate School for approval of other languages. The Graduate Council has approved a limited number of substitutes for the second language in certain schools and departments. These substitution plans are:

Plan 1. A high reading competency in the first language, measured by a score at the 90th percentile or higher on the Educational Testing Service Graduate School Foreign Language Test.

Plan 2. A moderate level of competency in reading, writing, listening, and speaking in the first language as measured by the Modern Language Association proficiency test.

Plan 3. A sequence in statistics, Mth 441, 442, 443, with an average grade of B.

Plan 4. A sequence in computing, Mth 233 or Mth 428, Mth 444, Mth 507, with an average grade of B.

Approved additional second languages and substitution plans for the second language are shown in the table below.

School or Department	Other Languages Approved for the M.A. and as Second Languages for the Ph.D.	Substitution Plans for the Second Language in Ph.D. Programs			
		1	2	3	4
Anthropology	.....	x	x	x	....
Economics	Spanish, Portuguese, Italian, Swedish, Dutch	x	x	x	x
Geography	Chinese, Japanese, Spanish	....	....	....	....
Geology	Italian, Spanish	....	....	....	....
Political Science	Portuguese, Spanish	x	x	x	x
Psychology	.....	x	x	x	x
Sociology	.....	x	x	x	x
Speech	Latin, Greek, Spanish	....	....	....	....
Education	Spanish	x	x	x	x
Health, Physical Education and Recreation	.....	....	x	....	....
Journalism	Chinese, Japanese, Italian, Spanish	....	....	....	....

Comprehensive Examinations. The student working toward the Ph.D. degree must pass a group of comprehensive examinations (oral or written or both) not less than one academic year before he expects to complete work for the degree. These examinations are expected to cover all areas of concentration and may cover any supporting area if this seems desirable to the advisory committee. Advancement to candidacy is contingent on passing these examinations. The student is not eligible to take the examinations until he has satisfied the language requirement and has taken substantially all the course work for the degree.

The final examination for a doctor's degree must be taken not later than three calendar years after advancement to candidacy. Failure to complete requirements for the degree within this period will result in invalidation of the student's comprehensive examinations.

Thesis. Every candidate for the Ph.D. degree must submit a thesis embodying the results of research and showing evidence of originality and ability in independent investigation. The thesis must be a real contribution to knowledge, based on the candidate's own investigations. It must show a mastery of the literature of the subject, and be written in creditable literary form. It is expected that the preparation of an acceptable thesis will require at least the greater part of an academic year.

Three clear copies of the thesis, including the original copy, approved and signed by the adviser, must be distributed by the student, unbound, to the members of his examining committee not less than four weeks before the time set for his final examination; at the conclusion of the examination, these copies, with required revisions, if any, are deposited in the Graduate Office. Copies of the thesis will not be accepted by the Graduate Office unless they meet satisfactory standards of form and style. Seven copies of an abstract of the approved thesis (not longer than 600 words) must be filed in the Graduate Office four weeks before the examination.

Final Examination. The final examination for the Ph.D. degree may be written in part, but must include an oral examination of at least two hours' duration. The oral examination is open to all members of the faculty and to advanced graduate students. The date of the oral examination is publicly announced at least one week before it is held. The examining committee consists of the candidate's advisory committee and other members, including at least one not directly connected with the major department. The committee is nominated by the major department or school, subject to the approval of the dean of the Graduate School.

In the oral examination the candidate is expected to defend his thesis and to show a satisfactory knowledge of his major field. The written examination, if given, is expected to cover aspects of the major field with which the thesis is not directly concerned.

Doctor of Business Administration

The requirements for the degree of Doctor of Business Administration are listed on page 39.

Doctor of Education

General Requirements. The degree of Doctor of Education is granted in recognition of mastery of theory, practice, and research in professional education or in health and physical education. In addition to a primary area of specialization, the student's plan of study should include work in supporting areas of education, foundation areas, a research area, and some noneducation courses related to his

program. There is no specific foreign language requirement for the D.Ed. degree; however, a student whose fields of training or whose research project call for a reading knowledge of one or more foreign languages may be required to demonstrate the needed linguistic ability. With the exceptions indicated in this section, the general requirements with respect to the qualifying examination, residence, comprehensive examinations, thesis, and final examinations for the D.Ed. degree are the same as those listed above for the Ph.D. degree.

Thesis. The doctoral dissertation may be either a report of research which makes an original contribution to knowledge or a study in which the student deals with knowledge already available and produces a constructive result of importance and value for educational practice. The dissertation proposal should be developed early in the doctoral program.

Advancement to Candidacy. Advancement to candidacy for the D.Ed. degree in the School of Education is based on proficiency shown in comprehensive examinations and the recommendation of a doctoral advisory committee. The comprehensive examinations may be taken only after the student has (1) been admitted to the degree program, (2) completed approximately two-thirds of the total course work in his program, (3) obtained approval of his dissertation proposal by his advisory committee, and (4) received the consent of his adviser to take the examinations. Students interested in the D.Ed. degree in the School of Health, Physical Education, and Recreation must meet requirements established by that school.

Doctor of Musical Arts

The requirements for the degree of Doctor of Musical Arts are listed on p. 76.

Procedure for Doctor's Degrees

Procedure	Responsible Agency	Chronology
1. <i>Admission</i> —see page 17.	Department or school.	First step.
2. <i>Course work and residence</i> —Student's advisory committee, appointed by school or department with the approval of the dean of the Graduate School, determines the program, which must include three years of work beyond the bachelor's degree, and at least one year on the Eugene campus or at the Medical School in Portland.	Department or school.	After appointment of advisory committee.
3. <i>Foreign languages</i> — Where required.	Advisory committee; Div. of Modern & Classical Lang.; Graduate School.	Before comprehensive examination.
4. <i>Comprehensive examination</i> — covers the major discipline in a comprehensive manner; advances the student to candidacy for the degree.	Department or school.	After substantially all course work has been taken, and after language requirement has been met, but at least one year before expected completion of all work for the degree.
5. <i>Thesis</i> —Required for all doctor's degrees.	Department or school.	After comprehensive examination, but not less than four weeks before final examination; thesis abstract must be filed with the Graduate School not later than four weeks before date of final examination.
6. <i>Application for degree.</i>	Registrar.	One month before the date of Commencement.
7. <i>Final examination</i> — Examining committee consists of the advisory committee, at least one member outside the major field, and <i>ex-officio</i> , the dean of the Graduate School.	Department or school.	After completion of thesis, course work, and residence requirements, but within three years of the comprehensive examination (otherwise a new comprehensive examination must be taken).
8. <i>Granting of degree.</i>	General faculty, on certification by Graduate School; Registrar.	After all requirements have been satisfied.
9. <i>Thesis reproduction fee</i> —\$20 fee required.	Business Office.	Before award of certificate of completion.
10. <i>Certificate of completion.</i>	Graduate School; Registrar.	At end of term in which all degree requirements are satisfied.
11. <i>Diploma.</i>	Graduate School; Registrar.	Dated as of Commencement.

Instruction

Anthropology

Professors: HOMER G. BARNETT, LUTHER S. CRESSMAN (emeritus), THEODORE STERN.

Associate Professors: VERNON DORJAHN (department head), ALFRED G. SMITH, DON E. DUMOND.

Assistant Professors: DAVID L. COLE, LE ROY JOHNSON, JOSEPH G. JORGENSEN, MALCOLM MCFEE, ANN G. SIMONDS, PAUL E. SIMONDS, MICHAEL J. STANISLAWSKY, DWIGHT T. WALLACE, PHILIP D. YOUNG.

Graduate work leading to the M.A. and Ph.D. degrees is offered with choice of specialization in archaeology, cultural anthropology, ethnology, linguistics, and physical anthropology. All degrees are in anthropology; this means that the student must demonstrate basic competence in archaeology, ethnology, linguistics, and physical anthropology, and will then choose a field for specialization based on this broad foundation. Old World archaeology is not offered as a special field at the Ph.D. level.

Ordinarily two years are required for completion of the work leading to the master's degree and four for the Ph.D. The Ph.D. candidate may bypass the master's degree if he shows a superior performance on an appraisal examination taken near the completion of the third term of graduate study.

Field work is ordinarily expected of all students as the basis for theses. Summer field work in archaeology, cultural anthropology, and linguistics is usually offered during the summer session. This work is frequently integrated with a faculty research project and provides an opportunity for selected students to receive supervised early training in various field methods.

The department's osteology and serology laboratories are excellently equipped for instruction and research.

The presence in Oregon of Indian reservations and nonreservation Indian groups provides convenient facilities for field work. The changing status of the Indian populations on these reservations offers opportunities for research in problems of cultural and social dynamics, as well as for work in conventional areas of interest. Oregon also offers a rich field for students of archaeology, which is being exploited in the research and instructional program.

A detailed statement of requirements and procedures for graduate students in anthropology will be furnished upon request to the department.

Anth 407. **Seminar.** (g) Hours to be arranged.

Anth 408. **Field Work in Anthropology.** (G) Hours to be arranged.

Anth 411, 412, 413. **World Prehistory.** (g) 3 hours each term. Wallace.

Anth 414. **Race and Culture.** (G) 2 hours. Jorgensen, Simonds.

Anth 415. **Socialization in Primitive Society.** (G) 2 hours. Stern.

Anth 416. **History of Anthropology.** (G) 2 hours. Stern.

Anth 417, 418, 419. **The American Indian.** (G) 3 hours each term. Jorgensen, Stern, Young.

Anth 423, 424, 425. **Peoples of the Pacific.** (G) 3 hours each term. Smith.

Anth 426, 427, 428. **Peoples of Africa.** (G) 3 hours each term. Dorjahn.

Anth 434, 435, 436. **Peoples of the Near East.** (G) 3 hours each term.

- Anth 437. **Peoples of Interior Asia.** (G) 3 hours.
- Anth 438, 439, 440. **Peoples of Southern and Eastern Asia.** (G) 3 hours each term. Stern.
- Anth 441, 442, 443. **Linguistics.** (G) 3 hours each term. Smith, Stern.
- Anth 444. **Religion and Magic of Primitives.** (G) 3 hours. McFee, Stern.
- Anth 445. **Folklore and Mythology of Primitives.** (G) 3 hours. McFee, Stern.
- Anth 446. **Art Among Primitives.** (G) 3 hours. McFee, Stern.
- Anth 450, 451, 452. **Cultural Dynamics.** (G) 3 hours each term. Barnett.
- Anth 453. **Primitive Value Systems.** (G) 3 hours. Barnett.
- Anth 454. **Applied Anthropology.** (G) 3 hours. Barnett.
- Anth 455. **Anthropology and Native Administration.** (G) 3 hours. Barnett.
- Anth 456, 457, 458. **Language, Culture, and Behavior.** (G) 3 hours each term. Smith.
- Anth 501. **Research.** Hours to be arranged.
- Anth 502. **Research Methods in Anthropology.** Hours to be arranged. Jorgensen.
- Anth 503. **Thesis.** Hours to be arranged.
- Anth 505. **Reading and Conference.** Hours to be arranged.
- Anth 506. **Special Problems.** Hours to be arranged.
- Anth 507. **Seminar.** Hours to be arranged.
Theory and Method in Archaeology: Dumond, Johnson, Wallace. *Field Methods in Ethnology:* Barnett. *Anthropological Theory:* Barnett. *The Negro in the New World:* Dorjahn. *Primate Behavior:* Simonds. *Fossil Man:* Simonds. *Evolution and Race:* Simonds. *Primitive Primates:* Simonds. *Modern Mexico:* Dumond. *Basic Physical Anthropology:* Simonds. *Basic Archaeology:* Stanislawski, Wallace. *Archaeology of the Circumpolar Region:* Dumond. *Archaeology of Western North America:* Cressman, Dumond, Wallace. *Problems of Modern Africa:* Dorjahn. *West African Ethnology:* Dorjahn. *Reservation Indians:* Jorgensen. *Modern Latin America:* Young.
- Anth 511. **Culture, Society, and the Individual.** 3 hours. Barnett.
- Anth 512. **The Beginnings of Civilization.** 3 hours. Wallace
- Anth 514. **Primitive Social Organization.** 3 hours. Jorgensen.
- Anth 515. **Primitive Political Systems.** 3 hours. Dorjahn.
- Anth 516. **Primitive Economic Systems.** 3 hours. Dorjahn.
- Anth 520, 521, 522. **Advanced Physical Anthropology.** 4 hours each term. Cole, Simonds.
- Anth 523, 524, 525. **Archaeology of the New World.** 3 hours each term. Dumond, Stanislawski, Wallace.
- Anth 530, 531, 532. **Cultural Ecology.** 3 hours each term.

Architecture and Allied Arts

Professors: WALTER CREESE (dean), GEORGE F. ANDREWS, WALLACE S. BALDINGER, THOMAS O. BALLINGER, JOHN BRISCOE, HOWARD BUFORD, FREDERICK A. CUTHBERT, ROBERT FERENS, FREDERICK T. HANNAFORD, WALLACE S. HAYDEN, GEORGE M. HODGE, JR., GEORGE S. JETTE, VINCENT LANIER, DAVID MCCOSH, MARION D. ROSS, WALLACE M. RUFF, ANDREW M. VINCENT, JACK WILKINSON, JAN ZACH.

Associate Professors: STANLEY BRYAN, PAUL BUCKNER, JACK W. BURGNER, WILLIAM R. DALE, PHILIP H. DOLE, WILLIAM FASH, DAVID FOSTER, BROWNELL FRASIER, ROBERT JAMES, LYMAN T. JOHNSON, GORDON KENSLER, JUNE K. MCFEE, A. DEAN MCKENZIE, EARL E. MOURSUND, C. MAX NIXON, CHARLES B. RYAN, AMEDEE SOURDRY.

Assistant Professors: PAUL BUCKNER, MARIAN C. DONNELLY, JANE GEHRING, PHILIP GILMORE, HARLOW HUDSON, T. WILLIAM KLEINSASSER, PATRICIA LAWRENCE, RONALD LOVINGER, DONALD L. PETING, MICHAEL PEASE, DAVID N. RINEHART, JAY V. SOEDER, JOHN E. STAFFORD, DAVID R. STANNARD, NEIL W. THOMPSON, RICHARD L. UNRUH.

Graduate work in the School of Architecture and Allied Arts is offered in each of the nine divisions of the school: architecture, landscape architecture, urban planning, interior architecture, drawing and painting, sculpture, applied design, art education, and art history.

Programs combining work in two or more divisions of the school are encouraged. Programs may also include related courses given by other University schools or departments.

All graduate study in the creative field is conducted on an individual basis. Enrollment in seminars and research courses is restricted to small groups, usually of not more than ten students. In all cases where the student works toward completion of a terminal creative project, a multiple-staff assignment is made. For example, in the field of architecture, not less than two faculty members are assigned to each graduate student at the earliest stage of his program; through this arrangement, a breadth of criticism is assured throughout the student's work on his terminal creative project.

An applicant for graduate study in a creative field may be asked to send photographs of his recent work. When accepted, he should bring with him a small exhibit of original material to facilitate discussions with his adviser on the scope of his graduate program.

After the student has passed a qualifying examination, and after his project and general program have been approved by the graduate committee and the student's adviser, the adviser appoints a final committee of five faculty members to serve as a jury and consulting body during the development of the student's program. One of the five members of this committee must be from outside the faculty of the School of Architecture and Allied Arts and one member may be selected by the candidate.

Work done by the student during the period before the qualifying examination is acceptable for graduate credit either in whole or in part, depending upon the student's academic deficiencies or his need for greater background in certain creative areas. After the qualifying examination has been passed and the project outline accepted, the minimum time required to complete all degree requirements is three terms. Graduate assistants and other part-time students spend proportionately longer time.

The graduate program of the school falls into three general categories:

(1) For students who enter graduate work from any one of the regular five-year undergraduate curricula having strictly professional content:

(a) *Master of Architecture.* (i) For original work in architectural design, requiring completion of a terminal creative project in design that involves a broad and complex problem that can serve as a base for investigation of a specific area of concern; the problem is selected, initiated, developed, and publicly presented by the student; more than one student may collaborate on such a project. (ii) For completion of original research on a specific architectural problem such as user requirements, performance standards, the design process, environmental survey

techniques, construction methods, structural design, building types, etc.; the results of the research are presented in the form of a thesis.

(b) *Master of Landscape Architecture*. For original work in landscape design, requiring presentation of a terminal creative project in design, selected and developed by the student; this project may be integrated with a parallel architectural project, or a group of students in landscape architecture may collaborate on the project, or the project may be primarily a thesis related to some specific phase of the work of the profession.

(c) *Master of Urban Planning*. (i) For creative design in city or regional planning; requiring the selection, development, and public presentation of a project in design. (ii) For research in some phase of regional or urban planning; this type of program normally requires presentation of a thesis. (When appropriate, two or more students having common interests may collaborate on a single design project or research problem.)

Basic undergraduate work in the history of art is prerequisite to entering graduate work. A reading knowledge of a second foreign language, in addition to the general language requirement for the M.A. degree, is highly desirable. A thesis and an oral examination covering the main divisions of art history are required of each student.

(2) For students who enter graduate work from any one of the regular four-year undergraduate curricula and who wish to do advanced creative work:

Master of Fine Arts. For creative work only, requiring completion of a terminal creative project in painting or drawing, graphic arts, mural design, sculpture, or applied design. The M.F.A. degree may also be awarded upon completion of a project involving work in more than one of these fields. For example, a student whose major concentration is in sculpture may include in his project some work in ceramics, in order to investigate glazes and firing as they apply to problems in ceramic sculpture. Development of such secondary interests is encouraged. The candidate may be required to hold a comprehensive public showing of his work in galleries and exhibition areas on the campus. Two examples of each student's work may be retained by the School of Architecture and Allied Arts for its permanent records and for future exhibition. All other work is returned to the student after the exhibit is closed. (See also page 21.)

(3) For students who enter graduate work from any of the regular four-year undergraduate curricula and who desire to do work that is not necessarily creative:

(a) *Master of Arts*. For graduate study in the history of art. A written qualifying examination is required after fifteen hours of graduate study in the department. A reading knowledge of one foreign language is required; the ability to read both French and German is highly desirable. The student must present a program of study for approval by the department, including at least three graduate research seminars. A written thesis is required, for which a maximum of nine term hours of credit is allowed. An oral examination will be given on the thesis.

(b) *Master of Arts*. For graduate study with emphasis on theoretical aspects of any of the visual arts.

(c) *Master of Science*. For completion of other approved programs, usually involving special combinations of interest in professional and nonprofessional areas.

(d) *Master of Science or Master of Arts (in Art Education)*. For programs of advanced study planned especially for teachers. Graduate work is available to meet the needs of junior-high, senior-high, and junior-college teachers.

A reference library of 5,000 volumes, covering interests of all divisions, is permanently housed in the school. Two research librarians are available. The school collection of lantern slides numbers over 59,000, and is recognized as one of the best in the region. Photographic laboratory, wood shop, gallery workroom, and other supplemental facilities are available.

Visiting lecturers and critics in all professional areas are frequent guests of the school and are available for consultation by graduate students.

Architecture

Arch 420, 421, 422. **Building Materials and Construction.** (g) 3 hours each term. Hannaford.

Arch 469, 470, 471. **Theory of Structures II.** (G) 3 hours each term. Hodge.

Arch 472, 473, 474. **Theory of Structures III.** (G) 4 hours each term. Hannaford.

Arch 501. **Special Studies.** Hours to be arranged.

Arch 505. **Reading and Conference.** Hours to be arranged.

Arch 507. **Seminar.** Hours to be arranged.

Arch 509. **Graduate Terminal Project.** Hours to be arranged.

Arch 529. **Ethics and Practice (Architecture).** 2 hours fall or spring. Hayden.

Arch 541. **Architecture as Amenity.** 2-4 hours. Hayden.

Arch 542. **Architecture as Form.** 2-4 hours.

Arch 587. **Architectural Design.** 1 to 12 hours any term. Dole, Rinehart.

Arch 599. **Architecture Workshop.** 2-4 hours any term. Hayden.

Interior Architecture

Arch 501. **Special Studies.** Hours to be arranged.

Arch 505. **Reading and Conference.** Hours to be arranged.

Arch 507. **Seminar.** Hours to be arranged.

Arch 530. **Ethics and Office Practice (Interior).** 2 hours.

Arch 588. **Interior Design.** 1 to 12 hours any term.

Landscape Architecture

LA 411, 412, 413. **Parks, School Grounds, and Recreation Areas.** (g) 3 hours each term. Jette.

LA 430, 431, 432. **Plant Composition.** (G) 3 to 6 hours each term.

LA 433, 434, 435. **Ethics and Practice (Landscape).** (G) 1 hour each term. Cuthbert, Jette, Ruff.

LA 459. **Landscape Field Practice.** (G) 3 hours.

LA 460, 461. **Landscape Construction II.** (G) 3 hours each term. Quiner.

LA 501. **Special Studies.** Hours to be arranged.

LA 505. **Reading and Conference.** Hours to be arranged.

LA 507. **Seminar.** Hours to be arranged. Buford.

LA 509. **Graduate Terminal Project.** Hours to be arranged.

LA 589. **Landscape Design.** 1 to 12 hours any term.

Fine and Applied Arts

Drawing, Painting, and Graphic Arts

Art 480. **Lithography.** (g) 2 to 4 hours any term. McCosh.

- Art 483. **Intaglio Printing Methods.** (G) 2 to 4 hours any term.
- Art 490. **Advanced Painting.** (g) 2 to 4 hours any term. Vincent, Wilkinson, McCosh.
- Art 491. **Advanced Drawing.** (g) 1 to 4 hours any term. Ryan, Soeder.
- Art 492. **Composition and Visual Theory.** (G) 2 to 4 hours any term. Wilkinson.
- Art 493. **Visual Continuity.** (G) 1 to 3 hours any term. Foster.
- Art 495. **Cinemagraphics.** (G) 2 to 4 hours any term.
- Art 501. **Special Studies.** Hours to be arranged.
- Art 505. **Reading and Conference.** Hours to be arranged.
- Art 507. **Seminar.** Hours to be arranged.
- Art 509. **Terminal Creative Project.** Hours to be arranged.
- Art 580. **Graduate Studies in Print Making.** Hours to be arranged.
- Art 590. **Graduate Studies in Painting.** Hours to be arranged. Vincent, Wilkinson, Ryan, Soeder.
- Art 591. **Graduate Studies in Drawing.** Hours to be arranged.

Sculpture and Applied Design

- Art 455. **Advanced Ceramics.** (G) 2 to 4 hours any term. James.
- Art 456. **Advanced Weaving.** (G) 2 to 4 hours any term. Nixon.
- Art 457. **Advanced Jewelry and Metalsmithing.** (G) 2 to 4 hours any term. Nixon.
- Art 458. **Textile Printing.** (G) 2 to 4 hours. Gehring.
- Art 489. **Advanced Metal Casting.** (G) 3 hours.
- Art 494. **Advanced Sculpture.** (G) 2 to 4 hours any term. Buckner, Zach.
- Art 496. **Ceramic Sculpture.** (G) 2 hours any term.
- Art 501. **Special Studies.** Hours to be arranged.
- Art 505. **Reading and Conference.** Hours to be arranged.
- Art 507. **Seminar.** Hours to be arranged.
- Art 509. **Terminal Creative Project.** Hours to be arranged.

Art History

- ArH 437, 438, 439. **History of Architecture II.** (G) 3 hours each term.
- ArH 440. **American Architecture.** (G) 3 hours. Ross.
- ArH 446, 447, 448. **Japanese Art.** (G) 3 hours each term. Baldinger.
- ArH 450, 451, 452. **Art in Latin America.** (G) 3 hours each term. Ross.
- ArH 476, 477, 478. **Background of Modern Art.** (G) 3 hours each term. Baldinger.
- ArH 501. **Special Studies.** Hours to be arranged.
- ArH 503. **Thesis.** Hours to be arranged.
- ArH 505. **Reading and Conference.** Hours to be arranged.
- ArH 507. **Seminar.** Hours to be arranged.
Ancient Art. Mediaeval Art. Renaissance and Baroque Art. American Art. Chinese Art. Indian Art. Islamic Architecture. Prints and Drawings. History of Film and Photography.
- ArH 511, 512, 513. **The Art Museum.** 3 hours each term. Baldinger.
- ArH 514. **Art History Bibliography.** 1 hour.

Art Education

- ArE 409. **Practicum.** (g) Hours to be arranged. Ballinger, Gehring.
- ArE 411. **Methods and Research Materials: Art in Elementary Schools.** (G) 3 hours fall. Burgner.
- ArE 414. **Art in the Senior High School.** (G) 3 hours spring. Lanier.
- ArE 501. **Special Studies.** Hours to be arranged.
- ArE 505. **Reading and Conference.** Hours to be arranged.
- ArE 507. **Seminar.** Hours to be arranged.
- ArE 532. **Supervision of Children's Art Laboratory.** 3 hours any term. Burgner.
- ArE 535. **Art and Architecture for the School Administrator.** 3 hours.

Urban Planning

- UP 499. **City Planning II.** (G) 1 to 6 hours any term. Dale.
- UP 501. **Special Studies.**
- UP 505. **Reading and Conference.**
- UP 507. **Seminar.** Hours to be arranged. Buford.
- UP 508. **Seminar in Planning and Housing.** 2 to 3 hours any term. Dale.
- UP 509. **Graduate Terminal Project.** Hours to be arranged.

Asian Studies

The University offers an interdisciplinary program in Asian studies, leading to the Master of Arts degree. Students may elect one of three options: (1) a program of studies without thesis; (2) a program with thesis; or (3) a program combining work in Asian studies with work in a departmental field of specialization, leading to two master's degrees. The program is administered by an advisory committee, of which G. Ralph Falconeri, lecturer in history, is chairman.

Students electing option (1) must complete 54 term hours of graduate study, including 45 hours in Asian studies, and must submit two substantial research papers, developed in an Asian studies seminar. Students electing option (2) must complete 48 term hours of graduate study, including 45 hours in Asian studies, of which 9 hours is earned for thesis. Students electing option (1) or (2) must take Asian studies courses in not less than three different disciplines and must earn 6 term hours of credit in an Asian studies seminar; not more than 18 hours of credit in Japanese or Chinese languages may be counted toward the degree.

Students electing option (3) must complete 30 term hours in interdisciplinary Asian studies, including at least 3 hours in an Asian studies seminar, and 45 term hours in a departmental field of specialization. A thesis, applying the methodology of the student's departmental field to an Asian studies subject, is required. A student completing this program is granted two M.A. degrees, in Asian studies and in his departmental field.

A candidate is required to demonstrate competence in an Asian language, relevant to his program, equivalent to the attainment expected after two years of college study.

For admission, a student is expected to have completed an undergraduate major in interdisciplinary Asian studies or in one of the departmental disciplines represented in the Asian studies program; he may, however, qualify for admission through the completion of 18 term hours of work in each of two disciplines pertinent to the Asian studies program. A student who has not completed Far East in

Modern Times (Hst or PS 391, 392, 393) or equivalent as an undergraduate must audit this sequence during his first year of graduate study.

The graduate program in Asian studies is supported by the following courses:

Anthropology—Peoples of Southern and Eastern Asia (Anth 438, 439, 440).

Art Education—Seminar: Art of the Himalayas (ArE 507).

Art History—Japanese Art (ArH 446, 447, 448).

Arts and Letters—Seminar: Modern Japanese Literature (AL 407); Seminar: Modern Chinese Literature (AL 407).

Geography—Eastern and Southern Asia (Geog 451).

History—History of China (Hst 494, 495, 496); History of Japan (Hst 497, 498, 499); Japanese Political Evolution Since 1912 (Hst 591); Seminar: Japanese Historiography (Hst 507); Seminar: China (Hst 507); Seminar: Japan (Hst 507); Colloquium: History of the Far East (Hst 508); Colloquium: Chinese Revolution (Hst 508); Colloquium: Japanese History (Hst 508).

Political Science—Government and Politics of the Far East: China (PS 460, 461); Seminar: Comparative Communist Systems (PS 507).

Religious Studies—Seminar: Buddhist Philosophy in India (R 407); Seminar: Religious Philosophy of China (R 407); Seminar: Religions in Japan (R 407).

Center for Japanese Studies. Graduate study and research in Japanese culture and civilization is sponsored through the University Center for Japanese Studies. The program of the center includes the direction of the work of graduate students who choose Japan as an area of concentration for the M.A. degree in Asian studies. Through the center, advanced students are provided an opportunity to pursue part of their studies in Japan. Paul S. Dull, professor of history, is director of the center.

Biology

Professors: EDWARD NOVITSKI (department head), CLARENCE W. CLANCY, MELVIN J. COHEN, PETER FRANK, PHILIP GRANT, GRAHAM HOYLE, RALPH R. HUESTIS, JAMES KEZER, AARON NOVICK, PAUL L. RISLEY, BRADLEY T. SCHEER, J. ARNOLD SHOTWELL, ARNOLD L. SODERWALL, FRANKLIN W. STAHL, GEORGE STREISINGER.

Associate Professors: ANDREW BAJER, RICHARD W. CASTENHOLZ, STANTON A. COOK, LEROY E. DETLING, JANE GRAY, ROBERT W. MORRIS, FREDERICK W. MUNZ, WILLIAM R. SISTROM, SANFORD S. TEPPER, DONALD E. WIMBER.

Assistant Professors: H. T. BONNETT, GEORGE CARROLL, BAYARD H. MCCONAUGHEY, JOHN R. MENNINGER, W. R. MOBERLY.

Instructor: G. J. MURPHY.

Graduate work leading to the Ph.D. degree is offered in the fields of botany (plant morphology, cytology, anatomy, taxonomy, and physiology), ecology (plant and animal), genetics, marine biology, microbiology, molecular biology, physiology (comparative, general, and mammalian), and zoology (cytology, embryology, invertebrate, and vertebrate).

Graduate work leading to the M.A. or M.S. degrees is also offered in all of the above fields. Although graduate students working for the Ph.D. degree may be granted a master's degree during their graduate tenure, the master's degree is intended primarily to be a terminal graduate degree for prospective teachers.

Candidates for a master's degree are expected to have met undergraduate major requirements or their equivalents (determined by examination) before or as soon as possible after beginning graduate study. These requirements include: general biology, including both zoology and botany; invertebrate and vertebrate zoology, including anatomy and embryology; plant morphology and systematics; cellular physiology; genetics; general chemistry, organic chemistry; general physics; one year of college mathematics; two years of French, German, or Russian.

Facilities for research and study include the Museum of Natural History, an herbarium containing large collections from the Pacific area, an aquarium room, an electron microscope room, a greenhouse, controlled-temperature rooms, photographic darkrooms, and laboratories equipped for mammalian, comparative, plant, and general physiology. Animal colonies of *Drosophila*, with an extensive stock of mutant types are maintained for genetic experiment. Stocks of *Cricetus* and *Mus* are available for physiological research. In a rich collecting area on the Oregon coast, the University operates an Institute of Marine Biology which provides instructional and research facilities for all the institutions of the State System of Higher Education. The Institute of Molecular Biology is equipped for work in virus genetics and related biochemical and biophysical studies, and provides a graduate program in areas of mutual interest to biologists, chemists, and physicists.

- Bi 408. **Laboratory Projects.** (G) Hours to be arranged.
- Bi 414, 415, 416. **Comparative Physiology.** (G) 4 hours each term.
- Bi 417. **Introduction to Mammalian Physiology.** (g) 4 hours (summer sessions).
- Bi 418, 419, 420. **Comparative Physiology Laboratory.** (G) 2 hours.
- Bi 422. **Introduction to Genetics.** (G) 4 hours. Clancy, Novitski.
- Bi 423. **Genetics Laboratory.** (G) 3 hours. Clancy.
- Bi 424. **Human Genetics.** (G) 3 hours. Novitski.
- Bi 426. **Evolution.** (G) 3 hours.
- Bi 428, 429. **Cytology.** (G) 4 hours each term, winter and spring. Wimber.
- Bi 431. **Microtechnique.** (G) 2-4 hours. Bajer.
- Bi 432. **Fungi.** (G) 4 hours. Carroll.
- Bi 433. **Algae.** (G) 4 hours. Castenholz.
- Bi 434. **Plant Anatomy.** (G) 4 hours.
- Bi 435. **Methods of Pollen Analysis.** (G) 3 hours, spring term, alternate years. Gray.
- Bi 436. **Cenozoic Paleobotany.** (G) 3 hours, spring term, alternate years. Gray.
- Bi 439. **Field Botany.** (G) 4 hours (summer sessions).
- Bi 441. **Plant Physiology.** (G) 4 hours.
- Bi 455. **Histology.** (G) 4 hours. Kezer.
- Bi 459. **Field Ornithology.** (G) 3 hours (summer sessions).
- Bi 461, 462. **Invertebrate Zoology.** (G) 4 hours each term (marine institute).
- Bi 463. **Parasitology.** (G) 4 hours. McConnaughey.
- Bi 467. **Marine Invertebrate Types.** (g) 3 hours (marine institute).
- Bi 468. **Invertebrate Embryology.** (G) 4 hours (marine institute).
- Bi 471, 472, 473. **Principles of Ecology.** (G) 4 hours each term. Cook, Frank.
- Bi 475. **Aquatic Biology.** (G) 3 hours. Castenholz, Frank.
- Bi 476. **Biology of Marine Organisms.** (G) 8 hours (marine institute).

- Bi 477. **Planktonology.** (G) 4 hours (marine institute).
- Bi 478. **Marine Ecology.** (G) 4 hours (marine institute).
- Bi 481, 482. **Microbiology.** (G) 5 hours fall, 3 hours winter. Sistrom.
- Bi 491, 492, 493. **Historical Biogeography.** (G) 3 hours each term. Shotwell.
- Bi 495. **History of Biological Ideas.** (G) 3 hours. Grant.
- Bi 496, 497. **Laboratory and Field Methods in Biology.** (G) 2 hours each term, fall and spring. Murphy.
- Bi 501. **Research.** Hours to be arranged.
- Bi 502. **Supervised College Teaching.** Hours to be arranged.
- Bi 503. **Thesis.** Hours to be arranged.
- Bi 505. **Reading and Conference.** Hours to be arranged.
- Bi 507. **Seminar.** Hours to be arranged.
Animal Physiology. Biophysics. Botany. Cytology. Developmental Biology. Ecology. Genetics. Molecular Biology. Radiation Biology.
- Bi 510. **Endocrinology Laboratory.** 1-3 hours.
- Bi 511. **Vertebrate Endocrinology.** 3 hours. Soderwall.
- Bi 512. **Physiology of Reproduction.** 3 hours. Soderwall, Risley.
- Bi 513. **Comparative Endocrinology.** 3 hours. Scheer.
- Bi 516, 517. **Neurophysiological Basis of Behavior.** 3 hours each term. Cohen, Hoyle.
- Bi 519. **Neurophysiological Laboratory.** 3 hours. Cohen, Hoyle.
- Bi 520, 521, 522. **Advanced Genetics.** 2 hours each term. Novitski.
- Bi 523. **Principles of Electron Microscopy.** 2-4 hours.
- Bi 526. **Developmental Genetics.** 3 hours. Clancy.
- Bi 531. **Experimental Plant Morphogenesis.** 4 hours. Bonnett.
- Bi 537, 538, 539. **Advanced Systematic Botany.** 3 hours each term.
- Bi 541. **Advanced Plant Physiology.** 3 hours.
- Bi 544. **Plant Physiology Laboratory.** 2 or 3 hours.
- Bi 545. **Physiology and Ecology of Algae.** 3 hours. Castenholz.
- Bi 551. **Biology of Fishes.** 4 hours. Morris.
- Bi 565. **Experimental Embryology.** 4 hours. Grant.
- Bi 597, 598, 599. **Advanced Biology.** 3 hours each term. Tepfer.

Business Administration

Professors: RICHARD W. LINDHOLM (dean), EDWIN F. BEAL, MARK R. GREENE, CHARLES E. JOHNSON, SIOMA KAGAN, ARTHUR MACE, JOHN B. MINER, EDWARD W. REED, STUART U. RICH, WILLIAM J. ROBERT, ROY J. SAMPSON, JOSEPH P. SCHWITTER, STANLEY C. VANCE.

Associate Professors: LESLIE P. ANDERSON, ROMAN R. ANDRUS, DAVID A. BAERNCOFF, W. SCOTT BAUMAN, EDWIN H. CAPLAN, EATON H. CONANT, JEROME DASSO, DALE S. HARWOOD, CATHERINE M. JONES, W. DWAIN RICHINS, LESLIE SHAFFER, FREDERICK J. SEUBERT, KEITH D. SKELTON, JOHN W. SOHA, HAROLD K. STROM, ARTHUR L. THOMAS, DONALD L. THOMPSON, DONALD A. WATSON.

Assistant Professors: CHRIS LUNESKI, FRANKLIN MCCARTHY, WILLIAM H. PARKS, KENNETH RAMSING, DANIEL P. REMINGTON, NORMAN R. SMITH, PAUL SWADENER.

The School of Business Administration provides: (1) basic professional business education for entering graduate students who have had little or no undergraduate work in business administration; (2) advanced work in general management and in business specialties for students who have completed an undergraduate major in business administration; and (3) preparation for careers in college teaching and research.

Instruction is offered in the fields listed below. In all fields, instruction in the School of Business Administration is supported by courses in cognate fields offered by other divisions of the University. The graduate program is accredited by the American Association of Collegiate Schools of Business.

Accounting—public, industrial and government.

Business Education.

Business Statistics—quantitative analysis for business decisions.

Finance—banking, investments, real estate, finance management.

Forest Industries Management—management of forest products industries (lumber, plywood, pulp and paper, construction and housing).

Managerial Economics—economic principles of business management, business planning, forecasting, business fluctuations.

International Business—finance, trade, management, foreign commercial law.

Risk and Insurance—risk management, personal and property insurance, pensions and group insurance, social insurance.

Marketing—marketing theory, marketing research, market communications, price and product policy, consumer behavior, industrial marketing.

Business Organization Theory—management functions, organizational conflict and change, leadership, group behavior.

Transportation—industrial traffic management, highway, rail, air, and ocean transportation, public utilities.

Production—operations research, production programming, industrial management, industrial structure and policy.

Personnel—selection, training, wage and salary administration, labor relations.

Master's Program. The School of Business Administration offers a two-year program leading to the Master of Business Administration, Master of Science or Master of Arts degree. For students entering with little or no undergraduate work in business, a total of 75 term hours of work is required. This includes a 30-hour first-year core, all or part of which may be waived for students who have had equivalent work as undergraduates, and 45 additional hours of graduate course work, of which a minimum of 30 hours must be in graduate courses offered in the School of Business Administration. A maximum of 15 hours may be taken in a minor area outside the school.

Admission. For admission to the master's program, the student must: (1) satisfy the general requirements for admission to the Graduate School; (2) have

a minimum GPA of 2.75 for his last two years of undergraduate work; (3) achieve an acceptable score on the Admission Test for Graduate Study in Business; and submit three letters of recommendation and a letter of purpose.

Graduate work taken in summer sessions before a student is formally admitted to a graduate program in business must have the prior approval of the dean to be counted as credit toward an advanced degree.

Core Program. The first year of the master's program includes a series of core seminars and two terms of work in Principles of Economics, planned especially for students whose undergraduate studies have been in fields other than business administration. For these students, the first-year core program is required; all or part of the requirement may be waived for students who have had equivalent instruction as undergraduates at the University of Oregon or another institution. The first-year core requirement is as follows:

	Term Hours
Accounting in Administration (Ac 511, 512)	6
Statistics for Business Decisions (BS 511)	3
Financial Environment (FBE 514)	3
Financial Management (FBE 516)	3
Legal Environment of Business (FBE 517)	3
Industrial Administration (PIM 511)	3
Administration of Marketing Function (MIT 511)	3
Principles of Economics (Ec 201, 202)	6
	30

Master of Business Administration. The program leading to the M.B.A. degree emphasizes the development of breadth of understanding of business problems and of general management skills; the program is especially adapted to the needs of students who have earned their bachelor's degree in the social sciences, humanities, sciences, or engineering.

The requirements are: (1) completion of the first-year core program or equivalent; (2) a minimum of 30 term hours of graduate courses in the School of Business Administration, including not more than 18 hours in a field of specialization; (3) 15 term hours of graduate credit in business courses or related areas outside the school. A thesis is not required; if the student elects to submit a thesis, thesis credit (9 hours) is counted as part of the 18-hour maximum in his field of specialization.

All candidates for the M.B.A. degree are required to take a written comprehensive examination, covering the field of specialization, and a final oral examination.

Master of Science or Master of Arts. The program leading to the M.S. or M.A. degree allows more specialization than the M.B.A. program, and is especially adapted to the needs of students interested in careers in accounting, business statistics and research, industrial management, and teaching.

The requirements are: (1) completion of the first-year core program or equivalent; (2) a minimum of 30 term hours of graduate courses in the School of Business Administration, including not more than 15 term hours in a field of specialization; (3) a thesis in the field of specialization, 9 hours; (4) completion of a minor in the school or in a cognate field for a minimum of 12 and a maximum of 15 hours; (5) for the M.A. degree, competence in a foreign language.

Candidates for the M.S. or M.A. degree are required to take a written comprehensive examination covering the major field of specialization and an oral examination on the thesis.

Minor in Business Administration. A master's candidate with a major in another field may elect a minor in business administration. The minor consists of course work in both the first-year core and in a specialized area, and is adapted to

the student's needs and background. The adequacy of the candidate's preparation is reviewed by the school before admission to work for a minor.

Foreign Students. The work of foreign graduate students (other than Canadian) during their first year of residence is considered probational. A foreign student will be admitted to candidacy for a master's degree only after the faculty has had an opportunity to judge the adequacy of his background in business education, his facility in the English language and his ability to adjust to an unfamiliar educational environment.

Doctoral Program. The School of Business Administration offers a program of advanced graduate study and research leading to the degree of Doctor of Business Administration, to careers in college teaching and administration, and to responsible research positions in business and government.

Admission. For admission to the doctoral program, the student must (1) satisfy the admission requirements of the Graduate School; (2) have the background of graduate work required for a master's degree in business administration; and (3) show exceptional academic promise.

Degree Requirements. The requirements for the D.B.A. degree are as follows:

(1) Completion of a minimum of 63 term hours of work above the level expected for a master's degree in business administration.

(2) Completion of studies in each of the following five areas:

	Term Hours
Business organization theory & policy—minimum	9
A major functional area of business (accounting, finance, marketing, production—programs in other areas may be arranged)—minimum	9
Statistics & quantitative control—minimum	9
Advanced Economic Theory (Ec 458, 459, 460)	9
A field of study other than business—minimum	9

(3) Submission of a thesis presenting an original and major contribution to the understanding of the thesis subject, for a minimum of 18 term hours of credit the student must enroll for 3 term hours in Thesis in each term the thesis is uncompleted after he has passed his comprehensive examinations, up to a maximum of 36 term hours).

(4) Examinations, including: (a) a qualifying examination, normally taken during the student's second term of doctoral studies; (b) written comprehensive examinations, not less than one academic year before the student expects to complete work for the degree, covering the required five areas of study—see (2) above; (c) a final oral examination on the thesis.

Reading knowledge of foreign languages is not required.

Accounting and Business Statistics

Accounting

Ac 411, 412, 413. **Income-Tax Procedures.** (G) 2 hours each term. Peiterson.

Ac 420, 421. **Management Information Systems.** (G) 3 hours each term. Harwood.

Ac 430. **Fund Accounting.** (G) 3 hours. Harwood, McCarthy, Thomas.

Ac 440, 441. **Accounting Verification.** (G) 3 hours each term. Soha.

Ac 450, 451. **Special Topics in Accounting.** (G) 3 hours each term. Johnson.

Ac 480, 481. **Advanced Accounting Problems.** (G) Hours to be arranged. Lunski, Caplan.

- Ac 501. **Research.** Hours to be arranged.
- Ac 503. **Thesis.** Hours to be arranged.
- Ac 507. **Seminar.** Hours to be arranged.
Development of Accounting Thought: Caplan. Managerial Cost and Budget Analysis: Thomas, Caplan, Soha.
- Ac 508. **Workshop.** Hours to be arranged (summer session and extension).
- Ac 511, 512. **Accounting in Administration.** (p) 3 hours each term.
- Ac 540. **Administrative Control.** 3 hours. Harwood.
- Ac 542. **Accounting Verification.** 3 hours. Soha.
- Ac 552. **Accounting Theory.** 3 hours. Thomas.
- Ac 562. **Cost Analysis and Interpretation.** 3 hours. Harwood, Luneski.

Business Statistics

- BS 432. **Quantitative Analysis for Business Decisions.** (G) 3 hours. Baerncof, Mace, Richards.
- BS 433. **Special Topics in Business Statistics.** (G) 3 hours. Baerncof, Mace, Richards.
- BS 434. **Applied Regression Analysis.** (g) 3 hours.
- BS 435. **Industrial Dynamics.** (G) 3 hours.
- BS 507. **Seminar.** Hours to be arranged.
Industrial Dynamics: Mace. Quantitative Analysis for Business Decisions: Baerncof.
- BS 511. **Statistics for Business Decisions.** (p) 3 hours.

Business Education

- BEd 407. **Seminar.** (g) Hours to be arranged.
- BEd 421. **Foundations of Business Education.** (g) 3 hours. Jones.
- BEd 422. **Business Education and the Community.** (g) 3 hours. Jones.
- BEd 507. **Seminar.** Hours to be arranged.
Administration and Supervision of Business Education: Jones. Application of Research Findings to Business Education: Jones.
- BEd 508. **Workshop.** Hours to be arranged (summer sessions and extension).

Finance and Business Environment

- FBE 460. **Commercial Bank Management.** (g) 3 hours. Reed.
- FBE 474. **International Finance Management.** (G) 3 hours. Kagan.
- FBE 475. **Foreign-Trade Marketing.** (G) 3 hours. Kagan.
- FBE 476. **Foreign Business Operations.** (G) 3 hours. Kagan.
- FBE 501. **Research.** Hours to be arranged.
- FBE 503. **Thesis.** Hours to be arranged.
- FBE 507. **Seminar.** Hours to be arranged.
- FBE 508. **Workshop.** Hours to be arranged (summer sessions and extension).
- FBE 514. **Financial Environment.** (p) 3 hours. Reed, Bauman, Parks.
- FBE 516. **Financial Management.** (p) 3 hours. Anderson, Parks.
- FBE 517. **Legal Environment of Business.** (p) 3 hours. Robert.

- FBE 519. **Business Ethics.** 3 hours. Richins.
- FBE 520. **Methods in Business Research.** 3 hours. Watson.
- FBE 525. **Managerial Economics.** 3 hours. Richins.
- FBE 530. **Problems in Business Planning and Forecasting.** 3 hours. Lindholm.
- FBE 540. **Problems in Finance.** 3 hours. Anderson.
- FBE 545. **Theory of Finance.** 3 hours. Anderson, Bauman, Parks.
- FBE 550. **Foreign Commercial Law.** 3 hours. Robert.
- FBE 565. **Security Analysis.** 3 hours. Bauman.
- FBE 566. **Investment Problems.** 3 hours. Bauman.
- FBE 570. **Commercial Banking.** 3 hours. Reed.
- FBE 571. **International Finance and Investment.** 3 hours. Kagan.
- FBE 572. **International Commercial Relations.** 3 hours. Kagan.
- FBE 573. **International Business Operations.** 3 hours. Kagan.
- FBE 575. **The Money Market.** 3 hours. Reed.
- FBE 580. **Government and Private Financial Institutions.** 3 hours. Reed, Lindholm.

Marketing, Insurance, and Transportation

- MIT 418. **Commercial and Industrial Site Location.** (G) 3 hours.
- MIT 430. **Advanced Real Estate and Urban Land Use.** (G) 3 hours.
- MIT 431. **Residential Property Development.** (G) 3 hours.
- MIT 451. **Transportation Regulatory Laws and Procedures.** (G) 3 hours. Sampson, Strom.
- MIT 452. **Special Problems in Transportation and Traffic Management.** (G) 3 hours. Sampson, Strom.
- MIT 455. **Business Insurance and Risk Management.** (G) 3 hours. Greene, Swadener.
- MIT 456. **Life and Health Insurance.** (G) 3 hours. Greene, Swadener.
- MIT 457. **Special Topics in Risk and Insurance.** (G) 3 hours. Greene, Swadener.
- MIT 458. **Social Insurance.** (G) 3 hours. Greene, Swadener.
- MIT 467. **Public Utility Management.** (G) 3 hours. Sampson, Strom.
- MIT 501. **Research.** Hours to be arranged.
- MIT 503. **Thesis.** Hours to be arranged.
- MIT 507. **Seminar.** Hours to be arranged.
- Marketing Theory*: Remington. *Consumer Behavior*: Smith. *Marketing Communication*: Smith. *Risk Management*: Greene. *Transportation Problems*: Sampson. *Physical Distribution Management*: Strom. *Marketing Research*: Andrus. *Product Innovation*: Andrus. *Entrepreneurship*: Smith.
- MIT 508. **Workshop.** Hours to be arranged (summer sessions and extension).
- MIT 511. **Administration of the Marketing Function.** (p) 3 hours.
- MIT 520. **Marketing Problems and Policies.** 3 hours.
- MIT 521. **Pricing Policies.** 3 hours. Remington.
- MIT 530. **Problems in Industrial Marketing.** 3 hours.
- MIT 540. **Problems in Forest Industries Management.** 3 hours.
- MIT 549. **Transportation Theory and Practice.** 3 hours. Sampson, Strom.

- MIT 555. **Risk and Insurance Theory.** 3 hours. Greene.
 MIT 556. **Pensions and Group Insurance.** 3 hours. Greene.
 MIT 557. **Analysis of Business Risk.** 3 hours.
 MIT 561. **Analysis of Consumer Behavior.** 3 hours. Smith.
 MIT 562. **Marketing Communications.** 3 hours. Smith.
 MIT 563. **Marketing Concepts and Theory.** 3 hours. Smith.

Personnel and Industrial Management

- PIM 412. **Personnel Management.** (g) 3 hours. Shaffer.
 PIM 413. **Wage and Salary Administration.** (G) 3 hours. Shaffer.
 PIM 414. **Problems in Personnel Management.** (g) 3 hours. Seubert.
 PIM 429. **Production Planning and Control.** (G) 3 hours.
 PIM 480. **Business History.** (G) 3 hours. Jones.
 PIM 501. **Research.** Hours to be arranged.
 PIM 503. **Thesis.** Hours to be arranged.
 PIM 507. **Seminar.** Hours to be arranged.
Research Design: Shaffer. *Computer in Business:* Ramsing. *Industrial Management Concepts:* Vance. *Comparative Management Systems:* Seubert.
 PIM 511. **Industrial Administration.** (p) 3 hours. Vance.
 PIM 528. **Concepts in Industrial Management.** 3 hours.
 PIM 530. **Production Programming.** 3 hours. Vance.
 PIM 531. **Theory of Business Organization.** 3 hours. Miner, Seubert.
 PIM 532. **Problems in Business Policies.** 3 hours. Seubert, Vance.
 PIM 533. **Theory of the Industrial Work Group.** 3 hours. Miner, Shaffer.
 PIM 534. **Personnel Administration.** 3 hours. Shaffer.
 PIM 535. **Personnel Psychology.** 3 hours. Miner.
 PIM 536. **Organizational Conflict and Change.** 3 hours. Miner, Shaffer.

Chemistry

Professors: SIDNEY A. BERNHARD, VIRGIL M. BOEKELHEIDE, TERRELL L. HILL, LEROY H. KLEMM, ROBERT M. MAZO, RICHARD M. NOYES (department head), WARNER L. PETICOLAS, FRANCIS J. REITHEL, JOHN SCHELLMAN, WILLIAM T. SIMPSON, DONALD F. SWINEHART, PETER H. VON HIPPEL.

Associate Professors: LLOYD J. DOLBY, EDWARD HERBERT, RAYMOND G. WOLFE.

Assistant Professors: O. H. GRIFFITH, J. F. KEANA, C. E. KLOPFENSTEIN, THOMAS W. KOENIG, ALLAN R. LARRABEE, MICHAEL PHILPOTT, MARTIN L. SAGE.

Graduate work leading to the M.A., M.S., and Ph.D. degrees is offered in inorganic, organic, physical, and biochemistry. The master's degree may be earned with or without the presentation of a thesis. A qualified student may proceed directly to the Ph.D. without first taking the master's degree.

The University of Oregon is on the list of schools approved by the Committee on the Professional Training of Chemists of the American Chemical Society. The Department of Chemistry is housed in the modern Science Building, which has ample facilities for research and study, including a machine shop with four skilled instrument makers and a glass blower, and an adjoining "student" shop (directly

accessible to graduate students). Graduate students also benefit from the presence of chemistry postdoctoral research fellows on the staff.

Teaching and research assistantships and postdoctoral fellowships are available. The department also awards National Defense Education Act fellowships, National Institutes of Health traineeships, and National Science Foundation traineeships. Additional information on these awards may be obtained at the time the student applies for admission. Although subject to variation, stipends of assistants and fellows, who usually have summer employment, range up to \$3,300 for the calendar year. During 1966-67 research projects in the Department of Chemistry were sponsored by the Army Research Office, the American Chemical Society, the Atomic Energy Commission, the National Institutes of Health, the National Science Foundation, the Office of Naval Research, the Research Corporation, the DuPont Fellowship, the Texaco Fellowship, Dreyfus Foundation, and the Sloan Foundation.

Current research interests of the faculty include: enzyme purification and kinetics, intermediary and microbial metabolism, sugar phosphates, polynuclear carbocyclic compounds, chemistry of natural products, synthesis and fundamental chemistry of organic compounds, molecular rearrangements, stereochemistry and sterically hindered molecules, optical rotary power, structures of proteins, inorganic complex compounds, trace metal analysis, surface chemistry, physical biochemistry, kinetics of gas phase reactions, reaction at high temperatures, mass spectrometry, photochemistry, mechanisms of isotopic exchange reactions, diffusion controlled reactions in solution, thermodynamics of dilute electrolyte solutions, statistical mechanics, electron spin resonance studies.

A brochure giving complete details of the graduate program and degree requirements is available on request to the department.

Ch 409. **Special Laboratory Problems.** (G) Hours to be arranged.

Ch 411, 412. **Physical-Inorganic Chemistry.** (G) 3 hours each term, fall and winter.

Ch 416. **Kinetics in Solution.** (G) 3 hours.

Ch 419. **Advanced General Chemistry.** (g) 4 or 5 hours.

Ch 429. **Survey of Analytical Chemistry.** (g) 4 or 5 hours (summer sessions).

Ch 439. **Survey of Organic Chemistry.** (g) 4 or 5 hours (summer sessions).

Ch 441, 442, 443. **Physical Chemistry.** (g) 4 hours each term.

Ch 446, 447, 448. **Physical-Chemical Measurements.** (g) 2 hours each term.

Ch 461, 462, 463. **Biochemistry.** (G) 3 hours each term.

Ch 464. **Biochemistry Laboratory.** (G) 3 hours fall.

Ch 501. **Research.** Hours to be arranged.

Ch 503. **Thesis.** Hours to be arranged.

Ch 505. **Reading and Conference.** Hours to be arranged.

Ch 507. **Seminar.** 1 hour each term.

Organic Chemistry. Physical Chemistry. Biochemistry.

Ch 508. **Special Topics in Theoretical Chemistry.** 2 or 3 hours.

Ch 531, 532, 533. **Advanced Organic Chemistry.** 3 hours each term.

Ch 534, 535, 536. **Special Topics in Organic Chemistry.** 2 or 3 hours each term.

Ch 541, 542, 543. **Chemical Kinetics.** 3 hours each term.

Ch 544, 545, 546. **Quantum Chemistry.** 2 or 3 hours each term.

Ch 551, 552. **Chemical Thermodynamics.** 3 hours each term, fall and winter.

Ch 553, 554. **Statistical Thermodynamics.** 3 hours each term, fall and winter.

Ch 561, 562, 563. **Enzymes and Intermediary Metabolism.** 2 or 3 hours each term.

Ch 564, 565, 566. **Physical Biochemistry.** 2 or 3 hours each term.

College Teaching

The University offers instruction and supervised experience in college teaching for graduate students who plan careers in higher education; including a seminar in higher education, conducted through the Institute for College Teaching (see page 95), and programs of supervised teaching in special fields conducted by the several instructional divisions.

IS1 507. **Higher Education Seminar.** 1 hour. Jones, staff.

Comparative Literature

The University offers a program of graduate study in the field of comparative literature, leading to the M.A. and Ph.D. degrees. The program is administered by an interdisciplinary committee including members of the faculties of the Department of English and the Division of Modern and Classical Languages; Dr. Chandler B. Beall, professor of Romance languages, is chairman of the committee.

For admission to the program, a candidate should normally have an undergraduate major in one literature plus competence in two foreign languages. Candidates for both the master's and doctor's degrees are expected to take Introduction to Comparative Literature (AL 514, 515, 516) or equivalent.

M.A. Degree. The candidate must demonstrate competence in two languages, in addition to English (one either French or German), by examination or by completing literature courses in the language. The student's graduate course program must include a minimum of 9 term hours in comparative literature courses or seminars. Most or all of the remaining course work is selected from two fields of literature, a major and a minor.

For the M.A. degree, the writing of a thesis is optional. Both thesis and non-thesis candidates take written examinations covering reading lists of works from world literature and from their chosen literatures, followed by an oral examination over the reading lists and course work. The oral examination for thesis students also covers the thesis.

Ph.D. Degree. Before taking his comprehensive examinations, the candidate must demonstrate competence in two modern languages, normally French and German, and in an ancient language. In addition to AL 514, 515, 516, the program includes comparative literature courses in a period or genre and a course in literary criticism. For his total study program, each candidate chooses (1) a literature of specialization, from the Classical, English, German, and Romance fields; (2) a second literature; and (3) a period of Western literature for comparative study (five periods of nonclassical literature are recognized: mediaeval, Renaissance, Enlightenment, romantic, modern). Comprehensive written examinations cover the major and minor literatures and the period chosen for comparative study. The doctoral dissertation must be on a literary topic of a comparative nature.

The following courses provide literary study from a comparative viewpoint:

AL 477, 478, 479. **Dante and His Times.** (g) 3 hours each term. Beall.

AL 507. **Seminar.** Hours to be arranged.

Mediaeval Literatures: Hart. *Preromanticism and the Romantic Movement in Continental, English, and American Literature:* Ball. *Comparative Studies in Modern Literature:* Ball.

AL 514, 515, 516. **Introduction to Comparative Literature.** 3 hours each term. Hart.

AL 586, 587. **Comparative Literary Criticism.** 3 hours each term. Beall.

Dental Sciences

The University of Oregon Dental School in Portland offers graduate work leading to the M.S. degree for students planning careers in dental education and research. Graduate major programs have been arranged in the fields of anatomy, bacteriology, biochemistry, dental materials, oral pathology, pedodontics, pharmacology, and physiology. For requirements and courses, see the Dental School Catalog.

Economics

Professors: ROBERT CAMPBELL (department head), ROBERT L. ALLEN, RICHARD M. DAVIS, CORWIN D. EDWARDS, PAUL L. KLEINSORGE, H. T. KOPLIN, RAYMOND F. MIKESELL, BARRY N. SIEGEL, PAUL B. SIMPSON, MARSHALL D. WATTLES.

Associate Professors: GERALD O. BIERWAG, MYRON A. GROVE, ROBERT E. SMITH, JAMES N. TATTERSALL.

Assistant Professors: CHULSOON KHANG, JACK E. TRIPLETT, JR., W. E. WHITE-LAW.

The Department of Economics offers graduate work leading to the M.A., M.S., and Ph.D. degrees. Applicants for admission must submit the following to the department: (1) scores in the Graduate Record General Aptitude Examination and the Advanced Test in Economics; (2) three letters of recommendation; (3) complete transcripts of previous work. Applicants whose native language is not English must also submit their score in the Test of English as a Foreign Language.

All candidates for graduate degrees must have a basic knowledge of statistics. This requirement may be satisfied with Elements of Statistical Methods (Mth 425, 426, 427); *or* Introduction to Business Statistics (BS 232), Elementary Inference in Business Statistics (BS 333); *or* Statistics for Business Decisions (BS 511); *or* a satisfactory grade in the final examinations in one of these sequences.

Master's Degree. Economic Theory (Ec 375, 376, 377) *or* Advanced Economic Theory (Ec 558, 559, 560) are required preparation for work toward a master's degree in economics.

The master's candidate must prepare himself in a special field of economics, including 9 term hours of work in 500-level courses or seminars. The department offers work in the following special fields: economic theory, economic development, economic history, history of economic thought, industrial organization and control, international economics, labor economics, money and credit, public finance, quantitative economics, regional economics.

For the master's degree, the writing of a thesis is optional. If a thesis is written, the student is examined orally on economic theory, his special field, and his thesis. In lieu of a thesis, the student may write a research paper; the student electing to write a research paper takes written and oral examinations on economic theory, his special field, and his paper (the preliminary examinations for the Ph.D. may be substituted for the written examination).

Ph.D. Degree. The following courses are required of all candidates for the Ph.D. degree: (1) Quantitative Economic Analysis (Ec 464, 465, 466), or a satisfactory grade in the final examinations in the sequence; (2) Development of Industrial Economics (Ec 490, 491, 492). The departmental graduate committee may waive any of these requirements on submission of documentary evidence of the completion of equivalent work. The Ph.D. candidate is also expected to have a general knowledge of the historical development of economic thought; a reading

list in the field is available in the departmental office. The student is expected to complete these requirements during his first year of graduate study or as soon thereafter as possible.

A student working toward the Ph.D. must take preliminary examinations in economic theory (normally after the completion of the first full year of graduate work), and in three additional special fields. Ec 561, 562, 563, Ec 575, 576, 577 provide preparation for the examination in economic theory. As a part of his preparation for examination in each of the three optional fields, the student ordinarily will take 9 term hours of course or seminar work at the 500 level. The optional fields in economics are: economic development, economic history, history of economic thought, industrial organization and control, international economics, labor economics, money and credit, public finance, econometrics or mathematical economics, regional economics. The student may select one of the optional fields outside the department; the student who elects such a field works out his program in consultation with the departmental graduate committee.

The Ph.D. dissertation may be written in economic theory or in one of the optional fields listed above.

Ec 407. **Seminar.** (g) Hours to be arranged.

Ec 411, 412, 413. **Monetary and Banking Theory.** (G) 3 hours each term. Siegel, Simpson.

Ec 414, 415, 416. **Regional Economics.** (G) 3 hours each term. Tattersall, Allen, Whitelaw.

Ec 417. **Contemporary Economic Problems.** (g) 3 hours fall.

Ec 418. **Economy of the Pacific Northwest.** (g) 3 hours spring. Simpson, Tattersall.

Ec 429, 430, 431. **Public Finance.** (G) 3 hours each term. Grove, Whitelaw.

Ec 432, 433, 434. **The Economics of Public Policy.** (G) 3 hours each term. Mikesell, Smith.

Ec 440, 441, 442. **International Economics.** (G) 3 hours each term. Allen, Wattles, Mikesell.

Ec 444. **Labor Economics.** (G) 3 hours fall. Kleinsorge, Smith, Triplett.

Ec 445. **Organized Labor.** (G) 3 hours winter. Kleinsorge, Smith, Triplett.

Ec 446. **Labor Legislation.** (G) 3 hours spring. Kleinsorge, Smith, Triplett.

Ec 447, 448, 449. **Collective Bargaining.** (G) 2 hours each term. Kleinsorge, Triplett.

Ec 450, 451, 452. **Comparative Economic Systems.** (g) 2 hours each term. Smith, Wattles.

Ec 454, 455, 456. **Economic History of Modern Europe.** (G) 3 hours each term. Lorwin.

Ec 460, 461, 462. **Industrial Organization and Public Policy.** (G) 3 hours each term. Edwards, Smith.

Ec 463. **Economics of Regulated Industries.** (G) 3 hours winter. Smith.

Ec 464, 465, 466. **Quantitative Economic Analysis.** (G) 3 hours each term. Khang, Simpson.

Ec 470, 471, 472. **History of Economic Thought.** (G) 3 hours each term. Campbell, Davis.

Ec 480, 481, 482. **Mathematical Economics.** (G) 3 hours each term. Simpson.

Ec 483, 484, 485. **National Income and Business Cycles.** (G) 3 hours each term. Simpson.

Ec 487, 488, 489. **American Economic History.** (G) 3 hours each term. Peterson, Tattersall.

Ec 490, 491, 492. **Development of Industrial Economies.** (G) 3 hours each term. Tattersall.

Ec 501. **Research.** Hours to be arranged.

Ec 503. **Thesis.** Hours to be arranged.

Ec 505. **Reading and Conference.** Hours to be arranged.

Ec 507. **Seminar.** Hours to be arranged.

Industrial Organization and Control: Edwards, Smith. *Economic History*: Tattersall, Allen. *History of Economic Thought*: Campbell, Koplin. *Labor Economics*: Kleinsorge, Triplett. *International Economics*: Mikesell, Wattles. *Money and Credit*: Siegel. *Mathematical Economics*: Simpson, Khang. *Econometrics*: Bierweg, Khang. *Public Finance*: Grove.

Ec 514, 515, 516. **Regional Economic Analysis.** 3 hours each term. Allen, Tattersall.

Ec 524, 525, 526. **Economic Growth and Development.** 3 hours each term. Mikesell.

Ec 558, 559, 560. **Advanced Economic Theory.** 3 hours each term. Davis, Koplin, Siegel.

Ec 561, 562, 563. **Income and Employment Theory.** 3 hours each term. Davis, Koplin.

Ec 575, 576, 577. **Price and Distribution Theory.** 3 hours each term. Davis, Koplin.

Education

Professors: P. B. JACOBSON (dean), MAX G. ABBOTT, HAROLD ABEL, ISAAC B. BERKSON, FORREST L. BRISSEY, RICHARD O. CARLSON, W. W. CHARTERS, H. H. CLARKE, FRANK FARNER, KENNETH S. GHENT, KEITH GOLDHAMMER, GRACE GRAHAM, N. RAY HAWK, ARTHUR C. HEARN, CLARENCE HINES, PAUL E. KAMBLY, JOHN W. LOUGHARY, RAYMOND N. LOWE, HOSHANG P. MEHTA, ARTHUR MITTMAN, ROBERT E. NYE, ARTHUR PEARL, J. FRANCIS RUMMEL, A. A. SANDIN, P. B. SIMPSON, HAROLD W. STOKE, JAMES B. STROUD, DONALD E. TOPE, WENDELL VAN LOAN, HUGH B. WOOD.

Associate Professors: MARTIN H. ACKER, BARBARA BATEMAN, ROBERT L. BOWLIN, DOROTHY N. CANDLAND, JOHN DE JUNG, EUGENE W. DIJS, LAWRENCE D. FISH, ROBERT FUCHIGAMA, JOHN H. HANSEN, R. JEAN HILLS, JOHN E. LALLAS, LLOYD LOVELL, ESTHER MATTHEWS, ROBERT H. MATTSO, VERNICE T. NYE, DOUGLAS OLDS, HENRY OSIBOV, HERBERT J. PREHM, RICHARD J. RANKIN, OSCAR F. SCHAAF, CLARENCE W. SCHMINKE, FRANCES G. SCOTT, GUY SHELLENBARGER, JOHN E. SUTTLE, ANDREW THOMPSON, JORDAN B. UTSEY, RUTH A. WILLARD, MILDRED WILLIAMS, HARRY F. WOLCOTT.

Assistant Professors: ARTHUR F. BENSON, MELVIN B. BERRYHILL, GERALD K. BOGEN, HAZEL BRESLIN, CHESTER S. BUMBARGER, OSCAR C. CHRISTENSEN, BARTON E. CLEMENTS, JOHN C. CROFT, JAMES E. CROSSEN, V. KNUTE ESPESETH, SUSAN GILMORE, LEO A. HAMERLYNCK, RONALD W. HENDERSON, JAMES M. HOTCHKISS, EDNA KEHL, GREGORY P. MALTBY, MELTON C. MARTINSON, ROY P. NELSON, GEORGE P. PETESEN, VICTOR A. PERKES, GAYLORD RYBOLT, GEORGE SHEPERD, DIRK P. TEN BRINKE, SAUL TOOBERT.

Senior Instructors: HAZEL E. HOLBOKE, SUSAN J. MILLER, EVA O'NEIL, RUTH WAUGH.

Instructors: JACQUELINE BROCKWAY, KARL HARDIN, JAROLD A. KEITH, JOANNE LAMBETH, MELVIN MEAD, WALTER MILLER, MARGARET NIELSEN, HOWARD E. RICHARDSON, MONTANA H. RICKARDS, EMERY SKINNER, NONDA STONE.

Graduate work in the School of Education is offered for the preparation of teachers, supervisors, counselors, administrators, and other educational specialists, and leads to the M.A., M.S., M.Ed., Ph.D., and D.Ed. degrees.

Candidates for advanced degrees should plan to specialize in the field of their professional interest, preparing for some line of professional activity and at the same time securing a mastery of an organized body of knowledge. The programs of study in the various fields of concentration are somewhat flexible, allowing a graduate student, in consultation with his adviser, to place emphasis on those aspects of the field of education which represent his special interests and his professional objective.

The fields of concentration are: general administration, curriculum and supervision, elementary education, secondary education, remedial education, education of exceptional children, educational psychology, counseling psychology, human development, college student personnel administration, curriculum and instruction, educational foundations, and music education.

Master's Degree. In the master's degree programs all students are expected to complete, as early as possible, at least one course in each of the following foundational areas: psychological foundations; research and measurement; historical, philosophical, and social foundations.

Each student has complete freedom to elect the area of education in which he desires to specialize. However, within each selected area the student is expected to take a basic core of specified courses. The remaining courses for the completion of graduate work for a master's degree may be elected, but they must be selected with the aid of an adviser in order to provide for a rationally unified program of study. The requirement of a research project, field study, or thesis is optional, at the discretion of the adviser, depending on the student's area of specialization.

Work leading to the master's degree is offered in several areas of education. Students should write to the Graduate Personnel Office of the School of Education for specific information about requirements in these areas and the procedures for initiating graduate programs.

Doctor's Degree. In the programs leading to the doctor's degree, students are required to complete the equivalent of three years of full-time work beyond the bachelor's degree. Candidates for a doctor's degree are expected to organize their programs in conference with an adviser in their field of specialization. While there is considerable flexibility in the development of a program to meet the specific needs of each individual in terms of his professional objective, each program is expected to include work in the areas of study listed below. In all areas many courses outside the School of Education are recommended to the student to supplement his academic program in education.

Candidates for the doctor's degree are required to be in full-time residence for three consecutive terms. The satisfaction of the residence requirement begins with the term in which an approved program has been developed and filed in the Graduate Personnel Office of the School of Education.

Primary Areas. A core of work in a primary area consisting of a minimum of 45 term hours must be included in the doctoral program. It is important that a student take as much of this work as possible on campus, since the comprehensive written examination in the primary area will be based upon the content of the campus courses. Before taking off-campus courses in the primary or supporting areas, the student should secure the approval of his adviser.

At the present time the doctoral program provides for a choice of primary areas of concentration as follows:

General Administration	Educational Psychology
Curriculum and Supervision	School Psychology
Curriculum and Instruction	Special Education
Elementary Education	Remedial Education
Secondary Education	Counseling Psychology

Music Education
Health and Physical Education
(administered through the
School of Health, Physical
Education, and Recreation)

College Student Personnel
Administration
Educational Foundations
Human Development

Supporting Area. An approved supporting core of course work, a minimum of 30 term hours, must be included in the doctoral program. This core may be selected from one of the areas listed above, or from higher education, measurement and research, art education, music education, speech education, other professional school areas, or an appropriate liberal arts area.

Foundation Area. A minimum of one course from each of the following foundational areas is required: psychological theories and processes in education; structure and function of society in relation to education; nature of the American educational system; history and philosophy of education.

Research Area. The following are required: work in research techniques (a minimum of 9 hours for the Ph.D. and 3 hours for the D.Ed.); thesis seminar (minimum of three terms for the Ph.D. and one term for the D.Ed.); doctoral dissertation (a minimum of 18 hours for the dissertation).

The doctoral dissertation may be either a report of the result of research which makes a substantial contribution to knowledge (for the Ph.D. or D.Ed. degree), or a study in which the student deals effectively with knowledge already available and produces a constructive result of importance and value to educational practice (for the D.Ed. degree).

Complete information concerning the organization of graduate study in education may be secured from the Graduate Personnel Office of the School of Education.

Teacher Education

Foundations of Education

- Ed 407. **Seminar.** (G) Hours to be arranged.
- Ed 435. **Audio-Visual Aids.** (G) 4 hours.
- Ed 440. **History of Education.** (G) 3 hours.
- Ed 441. **History of American Education.** (G) 3 hours.
- Ed 445. **Modern Philosophies of Education.** (G) 3 hours.
- Ed 475. **Parent-Teacher Organizations.** 2 hours (extension and summer sessions).
- Ed 476. **School Law and Organization.** (G) 2 hours any term.
- Ed 478. **Improvement of Instruction in Reading.** (G) 3 hours (extension).
- Ed 491. **Social Education.** (G) 3 hours.
- Ed 501. **Research.** Hours to be arranged.
- Ed 503. **Thesis.** Hours to be arranged.
- Ed 505. **Reading and Conference.** Hours to be arranged.
- Ed 507. **Seminar.** Hours to be arranged.
- Ed 508. **Workshop.** Hours to be arranged.
- Ed 542. **Urbanization, the Pupil, and the School.** 3 hours.
- Ed 545. **School and Society in the Recent Past.** 3 hours.
- Ed 598. **Comparative Education.** 3 hours.

Elementary Education

- Ed 407. **Seminar.** (G) Hours to be arranged.
 Ed 451. **Early Childhood Education.** (G) 3 hours.
 Ed 501. **Research.** Hours to be arranged.
 Ed 503. **Thesis.** Hours to be arranged.
 Ed 505. **Reading and Conference.** Hours to be arranged.
 Ed 507. **Seminar.** Hours to be arranged.
 Ed 508. **Workshop.** Hours to be arranged.
 Ed 534. **Science in the Elementary School.** 3 hours.
 Ed 535. **Social Studies in the Elementary School.** 3 hours.
 Ed 536. **Language Arts in the Elementary School.** 3 hours.
 Ed 537. **Reading in the Elementary School.** 3 hours.
 Ed 538. **Mathematics in the Elementary School.** 3 hours.

Secondary Education

- Ed 407. **Seminar.** (G) Hours to be arranged.
 Ed 427. **School Activities.** (G) 3 hours.
 Ed 484. **The Junior High School.** (G) 3 hours.
 Ed 501. **Research.** Hours to be arranged.
 Ed 503. **Thesis.** Hours to be arranged.
 Ed 505. **Reading and Conference.** Hours to be arranged.
 Ed 507. **Seminar.** Hours to be arranged.
 Ed 508. **Workshop.** Hours to be arranged.
 Ed 593. **Methods in Secondary-School Language Arts.** 3 hours.
 Ed 594. **Methods in Secondary-School Mathematics.** 3 hours.
 Ed 595. **Methods in Secondary-School Science.** 3 hours.
 Ed 596. **Methods in Secondary-School Social Studies.** 3 hours.

School Psychological Services

Remedial Education

- Ed 407. **Seminar.** (G) Hours to be arranged.
Social-Emotional Problems: Hotchkiss. Careers in a Changing World: Pearl. Alienation of Youth from Education: Pearl. Working with Marginal Youth: Pearl.
 Ed 409. **Practicum.** (G) Hours to be arranged.
Diagnostic-Remedial Clinic: O'Neil. Diagnostic-Remedial Clinic: Bateman. Social-Emotional Problems: Hotchkiss.
 Ed 428. **Psychology of Reading Instruction.** (G) 3 hours.
 Ed 429. **Principles of Remedial Education.** (G) 3 hours. O'Neil.
 Ed 465. **Diagnostic Techniques in the Basic Skills.** (G) 3 hours. O'Neil.
 Ed 468. **Remedial Techniques in Basic Skills.** (G) 3 hours. O'Neil.
 Ed 469. **Reading in High School and College.** (G) 3 hours.
 Ed 501. **Research.** Hours to be arranged.
 Ed 503. **Thesis.** Hours to be arranged.

- Ed 505. **Reading and Conference.** Hours to be arranged.
- Ed 507. **Seminar.** Hours to be arranged.
Advanced Problems in Theory of Learning Disorders. Advanced Problems in Research in Learning Disorders. Advanced Problems in Diagnosis—Remediation of Learning Disorders.
- Ed 508. **Workshop.** Hours to be arranged.
- Ed 509. **Practicum.** Hours to be arranged.
Diagnosis and Treatment of Extreme Learning Problems: O'Neil. Extreme Learning Problems.
- Ed 549. **Principles and Practices in School Psychology.** 2 hours.
- Ed 562. **Issues in Extreme Learning Difficulty.** 3 hours.

Special Education

- Ed 407. **Seminar.** (G) Hours to be arranged.
Teaching—Mental Retardation: Espeseth. Teaching—Gifted: Stroud. Teaching—Physical Disability: Sheperd. Education of Exceptional Children: Stone. Research—Exceptional Children: de Jung. Physical Disability: Sheperd. Behavior Modification: Crossen. Behavior Problems in the Classroom: Christensen.
- Ed 409. **Practicum.** (G) Hours to be arranged.
Exceptional Children—Mental Retardation: Espeseth. Exceptional Children—Physical Disability: Sheperd. Administration of Programs for Exceptional Children: Martinson. Supervision of Special Educational Personnel: Martinson.
- Ed 439. **The Gifted Child.** (G) 3 hours. Lovell.
- Ed 462. **Psychology of Exceptional Children.** (G) 3 hours. Mattson.
- Ed 463. **The Maladjusted Child.** (G) 3 hours. Lowe, Christensen.
- Ed 464. **The Mentally Retarded Child.** (G) 3 hours. Espeseth.
- Ed 471. **Administration of Special Education.** (G) 3 hours. Martinson.
- Ed 489. **Curriculum for the Mentally Retarded.** (G) 3 hours. Espeseth, Sheperd.
- Ed 505. **Reading and Conference.** Hours to be arranged. Mattson.
- Ed 507. **Seminar.** Hours to be arranged.
Teaching—Mental Retardation: Espeseth, Sheperd. Teaching—Physical Disability: Sheperd. Counseling—Education of Exceptional Children: Hamerlynck. Extreme Learning Disability. Problems in Education of Exceptional Children: Stone. Research—Exceptional Children. Neurological Impairment: Myers. Physical Disability: Sheperd. Administration of Pupil Personnel Services: Martinson. Biomedical Aspects of Mental Retardation: Prehm. Psychological Aspects of Mental Retardation: Prehm. Sociological Aspects of Mental Retardation: Prehm. Utilization of Community Resources: Richardson. Advanced Curriculum for Mental Retardation: Sheperd.
- Ed 508. **Workshop.** Hours to be arranged.
- Ed 509. **Practicum.** Hours to be arranged.
Exceptional Children—Mental Retardation: Espeseth. Exceptional Children—Physical Disability: Sheperd. Administration of Programs for Exceptional Children: Martinson. Supervision of Special Educational Personnel: Martinson. Field Research for Administrators: Martinson.
- Ed 563. **Diagnosis in Mental Retardation.** 3 hours.

Educational Psychology

- Ed 407. **Seminar.** (G) Hours to be arranged.
Developmental Psychology—Child: Abel. Developmental Psychology—Ado-

lescent: Abel. *Developmental Psychology*—*Adult*: Abel. *Somato Psychology. Measurement and Nature of Intelligence*: Rankin. *Introduction to Design and Analysis of Experiments. Projective Techniques*: Toobert.

Ed 409. **Practicum.** (G) Hours to be arranged.

Individual Interests Test.

Ed 424. **Measurement in Education.** (G) 3 hours. Mittman.

Ed 501. **Research.** Hours to be arranged.

School Psychology: Lovell. *Problems in Learning*: Lovell, Mittman.

Ed 503. **Thesis.** Hours to be arranged.

Ed 505. **Reading and Conference.** Hours to be arranged.

Ed 507. **Seminar.** Hours to be arranged.

Abnormal Psychology. Learning. Theories of Personality. Advanced Statistics. Thesis. Advanced Research Procedures.

Ed 508. **Workshop.** Hours to be arranged.

Ed 509. **Practicum.** Hours to be arranged.

Ed 512. **Research Procedures in Education.** 3 hours. Mittman.

Ed 515, 516, 517. **Educational Statistics.** 3 hours each term. Mittman.

Ed 525. **Theory and Technique of Educational Measurement.** 3 hours. Lovell, Mittman.

Ed 529, 530, 531. **Advanced Educational Psychology.** 2 hours each term. Lovell.

Ed 564. **Mental Tests.** 4 hours.

Counseling

Ed 407. **Seminar.** (G) Hours to be arranged.

Introduction to Rehabilitation: Acker. *Research in Counseling*: Loughary. *Elementary Counseling*: Christensen. *Counseling Issues. Group Counseling*: Clements. *Occupational Information*: Matthews.

Ed 409. **Practicum.** (G) Hours to be arranged.

Secondary-School Counseling: Acker, Christensen, Clements, Dunn, Toobert, Thomas. *Elementary-School Counseling*: Christensen. *Family Counseling*: Lowe, Christensen. *Group Counseling*: Clements. *Rehabilitation Counseling*: Acker, Dunn, Rybolt. *Introduction to Counseling*: Clements. *College Counseling*: Gilmore, Thompson.

Ed 485. **Principles and Practices of Guidance Services.** (G) 3 hours. Clements.

Ed 488. **Educational and Vocational Guidance.** (G) 3 hours. Matthews.

Ed 492. **Functional Aspects of Physical Disability.** (G) 3 hours. Dunn.

Ed 501. **Research.** Hours to be arranged.

Problems in Rehabilitation Counseling. Problems in School Counseling. Counseling Functions.

Ed 503. **Thesis.** Hours to be arranged.

Ed 505. **Reading and Conference.** Hours to be arranged.

Ed 507. **Seminar.** Hours to be arranged.

Elementary School Guidance: Lowe. *Counseling Supervision*: Acker. *Research in Counseling*: Loughary, staff. *Evaluation of Work Potential*: Acker, staff. *Ethics and Moral Issues*: Gilmore. *Advanced Counseling Theory. Vocational Development Theory*: Matthews. *Professional Practicum*: Acker, staff.

Ed 508. **Workshop.** Hours to be arranged.

Ed 509. **Practicum.** Hours to be arranged.

Secondary-School Counseling: Acker, Christensen, Clements, Dunn, Matthews. *Elementary-School Counseling*: Christensen. *Family Counseling*:

Lowe, Christensen. *Rehabilitation Counseling*; Acker, Dunn, Rybolt. *Field Instruction*; Dunn, Rybolt. *Counseling Supervision*; Acker. *College Counseling*; Gilmore, Thompson, Toobert.

Ed 528. **Group Testing in Schools and Colleges.** 3 hours. Christensen, Hamerlynck.

Ed 570. **Advanced Functional Aspects of Physical Disability.** 3 hours. Thomas.

Ed 589. **Organization and Administration of Guidance Services.** 3 hours.

Educational Administration

Ed 501. **Research.** Hours to be arranged.

Ed 503. **Thesis.** Hours to be arranged.

Ed 505. **Reading and Conference.** Hours to be arranged.

Ed 507. **Seminar.** Hours to be arranged.

Administrative Problems: Jacobson, Tope, Carlson. *Advanced School Law*: Farner. *Change in Organizations*: Carlson. *Education and the Humanities*: Goldhammer. *Nature and Problems of Administrative Behavior*: Jacobson, staff. *Problems of Government Finance. Research Design*: Farner. *Scope and Method of the Social Sciences*: Tope, staff. *School Business Administration*: Hines.

Ed 508. **Workshop.** Hours to be arranged.

Ed 572. **Public School Administration.** 3 hours. Tope.

Ed 573. **Public School Organization.** 3 hours. Tope.

Ed 575. **School Finance.** 3 hours. Farner.

Ed 576. **School Buildings.** 3 hours. Hines.

Ed 580. **School Personnel Administration.** 3 hours.

Curriculum and Supervision

Ed 501. **Research.** Hours to be arranged.

Ed 503. **Thesis.** Hours to be arranged.

Ed 505. **Reading and Conference.** Hours to be arranged.

Ed 507. **Seminar.** Hours to be arranged.

Ed 508. **Workshop.** Hours to be arranged.

Ed 522. **Secondary-School Curriculum.** 3 hours. Hearn.

Ed 527. **Secondary-School Administration and Supervision.** 3 hours. Hearn.

Ed 552. **Elementary-School Problems.** 4 hours. Sandin.

Ed 553. **Elementary-School Curriculum.** 4 hours. Sandin.

Ed 554. **Elementary-School Administration and Supervision.** 4 hours. Sandin.

Ed 559. **Evaluation of Secondary-School Programs.** 3 hours. Hearn.

Ed 560. **Secondary-School Problems.** 3 hours. Hearn.

Ed 565. **Curriculum Foundations.** 4 hours. Wood.

Ed 566. **Curriculum Construction.** 4 hours. Wood.

Ed 567. **Curriculum Materials.** 4 hours. Wood.

Ed 571. **Junior High-School Curriculum.** 3 hours. Hearn.

Ed 574. **School Supervision.** 3 hours.

Higher Education

Ed 501. **Research.** Hours to be arranged.

Ed 502. **Supervised College Teaching.** Hours to be arranged. Lovell, Tope.

Ed 503. **Thesis.** Hours to be arranged.

Ed 505. **Reading and Conference.** Hours to be arranged.

Ed 507. **Seminar.** Hours to be arranged.

Administration of the Community College: Van Loan. *Adult Education:* Dahl. *College Student Personnel:* Hawk. *Education in Developing Countries:* Wood. *Programs in the Community College:* Van Loan.

Ed 508. **Workshop.** Hours to be arranged.

Ed 509. **Practicum.** Hours to be arranged.

Ed 590. **Higher-Education Survey.** 3 hours. Wood.

Ed 591. **Teacher-Education Survey.** 3 hours. Kambly.

Ed 592. **Administration of Colleges and Universities.** 3 hours. Stoke.

English

Professors: KESTER SVENDSEN (department head), ROLAND BARTEL, FRANK G. BLACK, STANLEY B. GREENFIELD, ROBERT D. HORN, SYLVAN N. KARCHMER, BENEDICT KIELY, ALBERT R. KITZHABER, WALDO F. MCNEIR, ERNEST G. MOLL, CARLISLE MOORE, JOHN C. SHERWOOD, CHRISTOF WEGELIN.

Associate Professors: ROLAND C. BALL, WILLIAM E. CADBURY, JOHN A. HAISLIP, WILLIAM J. HANDY, JOSEPH A. HYNES, STANLEY R. MAVEETY, RALPH J. SALISBURY, A. KINGSLEY WEATHERHEAD, OLIVER M. WILLARD.

Assistant Professors: LUCILE ALY, MERRITT CROSS, THELMA GREENFIELD, STODDARD MALARKEY, PASQUALE DI PASQUALE, WILLIAM C. STRANGE.

Lecturer: GARY L. AHO.

The Department of English offers graduate work in English literature, American literature, the English language, and comparative literature leading to the M.A. and Ph.D. degrees, and graduate work in imaginative writing leading to the M.A. and M.F.A. degrees. The department participates in interdisciplinary programs for the master's degree.

To become a candidate for an advanced degree the student must pass a three-hour written qualifying examination in which he is asked to demonstrate his critical judgment, taste, and general literacy. This examination is given early in the fall term to all entering graduate students and may be repeated in the spring and summer terms.

Requirements for the master's degree include: Problems and Methods of Literary Study (Eng 540); one of the following 9-hour sequences in linguistic background: Old English (Eng 511, 512, 513), History and Structure of the English Language (Eng 520, 521, 522), Middle English (Eng 517), Chaucer's *Troilus and Criseyde* (Eng 518), *The Pearl Poet* (Eng 519); 9 hours in formal courses at the 500 level or in seminars. Candidates must pass a three-hour written examination covering a departmental reading list and an oral examination on the 45 hours of course work offered for the degree. Except for candidates in imaginative writing, this is a no-thesis program; a candidate wishing to write a thesis may petition the Graduate Committee for permission. Candidates who present a thesis must pass an oral examination on the thesis and its field in place of the examination on course work offered for the degree.

For the M.F.A. degree the candidate must complete 72 term hours of graduate work, including 18 hours in English-American literature, 18 hours in writing, and 18 hours in Thesis, which must be a work of imaginative quality. The remaining 18 hours should be taken in related fine arts fields, such as art history, music his-

tory, drama and aesthetics, depending upon the candidate's individual program and interest. Upon completion of course work, candidates must pass a two-hour written examination covering a reading list on works of fiction, drama, or poetry. On oral examination is not required except in cases where the Creative Writing Committee indicates that such an examination should be held. (See also page 22.)

Candidates for the Ph.D. degree are required to take Old English (Eng 511, 512, 513), Problems and Methods of Literary Study (Eng 540), and three seminar courses (Eng 507). Transfer credit for equivalent work may be allowed upon approval by the Graduate Committee of the department. When he has passed his qualifying examination, the candidate, in conference with his graduate adviser, plans a program of courses which will satisfy the requirement of one year's work in residence and will prepare him, with private study, for written comprehensive examinations; this program is presented for approval to an advisory committee. With the permission of his advisory committee, a candidate may proceed directly from the baccalaureate to the doctorate.

The written comprehensive examinations, offered commonly in the spring and fall terms, cover eight fields, of which the candidate chooses five: (1) English language from the beginnings to the present, including American English; (2) English literature to 1500; (3) English literature 1500-1660; (4) English literature 1660-1800; (5) English literature 1800-c. 1890; (6) American literature from the beginnings to the Naturalists (c. 1890); (7) contemporary literature, English and American; (8) linguistics or comparative philology. The final oral examination for the degree covers the dissertation and its immediate fields, as defined above. If the dissertation ranges over several fields, the candidate selects the field he wishes to offer at this examination.

Literature

- Eng 407. **Seminar.** (G) Hours to be arranged.
- Eng 411, 412, 413. **English Drama.** (G) 3 hours each term. Horn, Strange.
- Eng 414, 415, 416. **History of Literary Criticism.** (G) 3 hours each term. Sherwood.
- Eng 420, 421, 422. **Modern Drama.** (G) 3 hours each term. Ball.
- Eng 423, 424. **Types of Prose Fiction.** (G) 3 hours each term (summer sessions).
- Eng 425. **Early English Literature.** (g) 3 hours. Di Pasquale, S. Greenfield, Toelken.
- Eng 428. **Chaucer.** (g) 3 hours. Brodeur, Di Pasquale, S. Greenfield, Malarkey.
- Eng 430, 431, 432. **Literature of the Renaissance.** (G) 3 hours each term. T. Greenfield, Maveety, McNeir.
- Eng 434. **Spenser.** (G) 3 hours. McNeir.
- Eng 436. **Advanced Shakespeare.** (g) 3 hours each term.
- Eng 440, 441, 442. **Seventeenth-Century Literature.** (G) 3 hours each term. G. Rockett, Svendsen.
- Eng 444. **Milton's Minor Poems and Prose.** (G) 3 hours. Svendsen.
- Eng 445. **Milton's Major Poems.** (G) 3 hours. Svendsen.
- Eng 450, 451, 452. **Eighteenth-Century Literature.** (G) 3 hours each term. Horn.
- Eng 455. **Pope.** (G) 3 hours. Sherwood.
- Eng 460, 461, 462. **The Romantic Poets.** (G) 3 hours each term. Bartel, Strange.
- Eng 463, 464, 465. **The Later Nineteenth-Century Poets.** (G) 3 hours each term. Cadbury.

- Eng 470, 471, 472. **Nineteenth-Century Prose.** (G) 3 hours each term. Moore.
- Eng 477, 478, 479. **Nineteenth-Century American Literature.** (G) 3 hours each term. Cross.
- Eng 481, 482, 483. **Major American Writers.** (G) 3 hours each term. Handy.
- Eng 487. **Yeats and Joyce.** (G) 3 hours. Sherwood.
- Eng 488. **Literary Analysis for Teachers.** (g) 3 hours. Bartel.
- Eng 491. **History of the English Language.** (g) 3 hours. Willard.
- Eng 492. **Modern English Grammar.** (g) 3 hours. A. Kitzhaber, Sloat, Willard.
- Eng 501. **Research.** Hours to be arranged.
- Eng 503. **Thesis.** Hours to be arranged.
- Eng 505. **Reading and Conference.** Hours to be arranged.
- Eng 507. **Seminar.** Hours to be arranged.
- Eng 508. **Workshop.** Hours to be arranged (summer sessions).
- Eng 511, 512, 513. **Old English.** 3 hours each term. S. Greenfield.
- Eng 514, 515, 516. **Old Icelandic.** 3 hours each term.
- Eng 517. **Middle English.** 3 hours. Di Pasquale.
- Eng 518. **Chaucer's Troilus and Criseyde.** 3 hours. Di Pasquale, S. Greenfield.
- Eng 519. **The Pearl Poet.** 3 hours. Di Pasquale, S. Greenfield, Malarkey.
- Eng 520, 521, 522. **History and Structure of the English Language.** 3 hours each term. Willard.
- Eng 530, 531, 532. **Shakespeare.** 3 hours each term. T. Greenfield, McNeir.
- Eng 540. **Problems and Methods of Literary Study.** 3 hours fall. Cadbury, Svendsen.
- Eng 585. **Modern English Literary Criticism.** 3 hours. Weatherhead.
- Eng 588, 589. **Modern Poetry.** 3 hours each term. Weatherhead.
- Eng 590, 591, 592. **Modern Fiction.** 3 hours each term. Wegelin.

Writing

- Wr 411. **English Composition for Teachers.** (g) 3 hours. Aly, Kitzhaber.
- Wr 420, 421, 422. **Novel Writing.** (G) 3 hours each term. Lacy.
- Sp 464, 465, 466. **History of the Theater.** (G) 3 hours each term. Cutler, De Chaine.
- Wr 494. **Theory of Fiction Writing.** (G) 3 hours. Haislip, Karchmer, Salisbury.
- Wr 503. **Thesis.** Hours to be arranged.
- Wr 504. **Writing and Conference.** Hours to be arranged.
- Sp 511. **Eighteenth-Century Rhetorical Theory.** 3 hours. Cohen.
- Wr 530, 531, 532. **Graduate Creative Writing.** 3 hours each term. Haislip, Karchmer, Salisbury.
- Sp 551, 552, 553. **Theory of Dramatic Production.** 3 hours each term. Robinson.

Geography

Professors: EDWARD T. PRICE, SAMUEL N. DICKEN, CLYDE P. PATTON (department head).

Associate Professors: GENE MARTIN, CARL L. JOHANNESSEN, EVERETT SMITH, ALVIN W. URQUHART.

Graduate work leading to both the M.A. and Ph.D. degrees is offered.

Although the department requires knowledge of the fundamentals of geography, it welcomes students whose undergraduate work has been in other disciplines and who can apply their previous training to geographic problems.

Work leading to the M.A. degree is aimed at familiarity with the main physical and cultural lineaments of the earth. In addition to basic preparation in physical and cultural geography, geographic field methods, aerial-photograph interpretation and cartography, the M.A. degree candidate will participate in at least three seminars, have a reading knowledge of one foreign language, and write a thesis.

The Ph.D. program requires a thorough knowledge of the geography of a major region of the world and a competent understanding of one of the systematic fields of geography. A minor field or fields is developed from departments that share interests with geography (e.g., anthropology, botany, economics, geology, history, mathematics, political science, sociology, urban planning).

A reading knowledge of two foreign languages is required. A doctoral dissertation showing ability to do individual research culminates the Ph.D. program.

Field studies, seminars, and the preparation of theses form the heart of advanced geographic training.

The University Library's collection of periodicals, maps, and books is adequate for most geographic research. The collections dealing with certain specific fields or areas are excellent, i.e. Latin America, Africa. The department maintains a large collection of maps used in teaching and field studies.

Summer field research and training opportunities in the United States and abroad are available to many students through financial support from the Department of Geography and the University's Institute of International Studies and Overseas Administration and other sources.

Geog 421, 422, 423. **Geographic Field Methods.** (G) 2 hours each term. Johannessen.

Geog 433. **Political Geography.** (G) 3 hours.

Geog 434. **Economic Geography.** (G) 3 hours.

Geog 435. **Urban Geography.** (G) 3 hours.

Geog 451. **Eastern and Southeast Asia.** (G) 3 hours.

Geog 452. **Southwestern Asia.** (G) 3 hours.

Geog 453. **Africa.** (G) 3 hours.

Geog 461. **Andean America.** (G) 3 hours.

Geog 462. **Brazil and Argentina.** (G) 3 hours.

Geog 463. **Middle America.** (G) 3 hours.

Geog 471. **Atlantic and Mediterranean Europe.** (G) 3 hours.

Geog 472. **Central and Eastern Europe.** (G) 3 hours.

Geog 473. **Soviet Union.** (G) 3 hours.

Geog 481, 482, 483. **Physical Geography.** (G) 5 hours each term.

Geog 484. **Interpretation of Aerial Photographs.** (G) 3 hours.

Geog 485, 486. **Cartography.** (G) 3 hours each term.

Geog 491, 492, 493. **Cultural Geography.** (G) 3 hours each term.

Geog 501. **Research.** Hours to be arranged.

Geog 502. **Supervised College Teaching.** Hours to be arranged.

Geog 503. **Thesis.** Hours to be arranged.

Geog 505. **Reading and Conference.** Hours to be arranged.

Geog 507. **Seminar.** Hours to be arranged.

Geomorphology: Dicken, Urquhart. *Climatology*: Patton. *Biogeography*: Johannessen. *Urban Geography*: Smith. *Rural Settlement*: Martin, Price. *Historical Geography*: Dicken, Price. *Middle America*: Johannessen. *Andean America*: Martin. *Africa*: Urquhart. *Europe*: Patton.

Geog 555. **History of Geographic Thought.** 3 hours.

Geology

Professors: LLOYD W. STAPLES (department head), EWART M. BALDWIN, JAMES C. STOVALL.

Associate Professors: G. G. GOLES, M. ALLAN KAYS, ERNEST H. LUND, A. R. MCBIRNEY, D. F. WEILL.

Assistant Professors: GILBERT T. BENSON, SAM BOGGS, JR.

Graduate work leading to the M.A., M.S., and Ph.D. degrees is offered in geology. Emphasis may be on either field studies or research problems conducted in the laboratory. A thesis is required for either degree. Upon entering the Department of Geology, all graduate students are required to take the Graduate Record Examination if they have not previously done so.

Students with adequate undergraduate training in geology can usually complete work for the master's degree in one academic year and one summer in the field.

The requirements for the Ph.D. degree are flexible and may be closely adapted to the needs and interests of the individual candidate. Ordinarily, the student takes from 60 to 70 term hours of formal course work, including 15 hours in related sciences.

Teaching assistantships and fellowships are awarded annually. Students may also, from time to time, obtain income and experience by participating in research conducted by faculty members of the department. Present research interests of the faculty include aspects of mineralogy, economic geology, petrology, regional stratigraphy, and invertebrate paleontology.

The state of Oregon has many areas that afford excellent opportunities for mapping. These areas present a variety of stratigraphic, paleontologic, and petrologic problems. Several mining regions provide materials for study and research in the field of economic geology. The department operates a summer camp as a base from which field investigations are made; when the camp is not in use its geological equipment is available to students working on special field problems in other areas.

Adequate laboratory facilities are available. Invertebrate paleontological, mineralogical, and petrological collections, and suites for the study of economic geology are housed in the department. Vertebrate materials from the John Day fossil beds of Oregon, as well as from other areas, are located in the Natural History Museum. Materials for study in volcanology and the related fields of volcanic geology, experimental petrology, geophysics, and geochemistry are available through the Center for Volcanology.

Available equipment includes facilities for rock cutting and the preparation of thin sections, dark-room facilities for special studies with the goniometer and other optical instruments, a high temperature laboratory, X-ray equipment, an isodynamic separator, sedimentary analysis equipment, a flame photometer, and a gravity meter.

Research is supported by excellent library materials including important geological journals and extensive sets of reference volumes.

The departments of Chemistry, Physics, Mathematics, and Biology offer supporting courses.

- Geol 408. **Workshop.** (g) Hours to be arranged.
- Geol 411. **Lithology.** (g) 3 hours. Lund.
- Geol 414, 415, 416. **Petrology and Petrography.** (G) 4 hours each term. Kays, Lund.
- Geol 421, 422, 423. **Economic Geology.** (G) 3 hours each term. Kays.
- Geol 440. **Micropaleontology.** (G) 3 hours. Youngquist.
- Geol 451. **Pacific Coast Geology.** (G) 3 hours. Baldwin.
- Geol 455. **Studies in Physical Geology.** (g) 3 hours (summer sessions).
- Geol 456. **Regional Geology of North America.** (g) 3 hours (summer sessions).
- Geol 473. **Photogeology.** (G) 3 hours. Benson.
- Geol 491. **Structural Geology.** (G) 4 hours. Benson.
- Geol 493. **Petroleum Geology.** (G) 3 hours. Boggs.
- Geol 501. **Research.** Hours to be arranged.
- Geol 503. **Thesis.** Hours to be arranged.
- Geol 505. **Reading and Conference.** Hours to be arranged.
- Geol 506. **Advanced Field Geology.** Hours to be arranged.
- Geol 507. **Seminar.** Hours to be arranged.
Regional Geologic Studies. Studies in Volcanology.
- Geol 511, 512, 513. **Advanced Microscopy and Instrumentation.** 4 hours each term. Kays, Staples.
- Geol 514, 515, 516. **Advanced Petrology and Petrography.** 3 hours each term. McBirney.
- Geol 520. **Advanced Economic Geology.** 3 hours. Kays.
- Geol 523. **Advanced Regional Stratigraphy.** 3 hours. Baldwin.
- Geol 524. **Advanced Sedimentation.** 3 hours. Boggs.
- Geol 525. **Advanced Sedimentary Petrography.** 3 hours. Boggs.
- Geol 531, 532, 533. **Advanced Paleontology.** 3 hours each term.
- Geol 551. **Advanced Physical Geology.** 3 hours.
- Geol 561, 562, 563. **Geochemistry and Geophysics.** 3 hours each term. Weill.
- Geol 591, 592, 593. **Advanced Structural Geology.** 3 hours each term. Benson.

Health, Physical Education, and Recreation

Professors: ARTHUR A. ESSLINGER (dean), H. HARRISON CLARKE, FRANCES M. DOUGHERTY, EUGENE EVONUK, FRANKLIN B. HAAR, WILLIAM P. RHODA, LYNN S. RODNEY, PETER O. SIGERSETH, VERNON S. SPRAGUE, PAUL R. WASHKE.

Associate Professors: WAYNE BRUMBACH, DORWIN GILLESPIE, JESSIE PUCKETT, WARREN SMITH, MIRIAM TUCK, EDNA WOOTEN.

Assistant Professors: JOHN BORCHARDT, JAN BROEKHOFF, PHYLLIS FORD, CORLEE MUNSON, ROBERT KIME, EDWARD REUTER.

Instructor: LARRY L. NEAL.

The School of Health, Physical Education, and Recreation offers graduate work leading to the M.A., M.S., Ph.D., and D.Ed. degrees.

A thesis is optional for the master's degree. Students writing a thesis must

have a 9-hour concentration in one of the following areas: (1) administration of programs, buildings and grounds; (2) school health education; (3) corrective activities and physical therapy; (4) physiological sciences; (5) child growth and development; or (6) history, principles, and philosophy of health and physical education. Students who do not write a thesis are required to have a 9-hour concentration in three of the above areas.

The program for candidates for the doctor's degree includes: (1) a strong emphasis on research methodology and research; (2) concentration or specialization in one area of health education or physical education (four areas are available; administration, health education, child growth and development, and corrective physical education) or education; and (4) cognate courses for their contribution to the cultural background and understanding of the candidate. The work must be distributed as follows: research methodology, 12-18 term hours; research, 15-30 term hours; area of concentration, 20-40 term hours; supporting work, 20-30 term hours; cognate courses, 20-48 term hours.

The School of Health, Physical Education, and Recreation has excellent facilities for research. A research laboratory is equipped with the most modern scientific instrument and equipment. An excellent library, supplemented by a comprehensive collection of microcards in health education, physical education, and recreation, is available.

Health Education

- HE 408. **Workshop.** (g) Hours to be arranged.
- HE 450. **Elementary-School Health Education.** (g) 3 hours. Tuck.
- HE 463. **Social Health.** (G) 3 hours. Tuck.
- HE 464. **Health Instruction.** (G) 3 hours fall. Gillespie.
- HE 465. **School Health Service.** (G) 3 hours winter. Haar, Tuck.
- HE 466. **Evaluation of School Health Education.** (G) 3 hours. Kime.
- HE 501. **Research.** Hours to be arranged.
- HE 503. **Thesis.** Hours to be arranged.
- HE 505. **Reading and Conference.** Hours to be arranged.
- HE 506. **Special Problems.** Hours to be arranged.
- HE 507. **Seminar.** Hours to be arranged.
- HE 508. **Workshop.** Hours to be arranged.
- HE 540. **Mental Health.** 3 hours. W. Smith.
- HE 542. **Basic Issues in Health Education.** 3 hours. Haar.
- HE 543. **Advanced Health Instruction.** 3 hours spring. Smith.
- HE 552. **Administration of School Health Education.** 3 hours winter. Haar.

Physical Education

- PE 408. **Workshop.** (g) Hours to be arranged.
- PE 421, 422, 423. **Foundations of Elementary-School Physical Education.** (g) 3 hours each term.
- PE 424. **Administration of Elementary-School Physical Education.** (g) 3 hours. Munson.
- PE 446. **Tests and Measurements in Physical Education.** (G) 3 hours. Reuter.
- PE 501. **Research.** Hours to be arranged.
- PE 503. **Thesis.** Hours to be arranged.

PE 505. **Reading and Conference.** Hours to be arranged.

PE 506. **Special Problems.** Hours to be arranged.

PE 507. **Seminar.** Hours to be arranged.

Anatomical, Physiological, and Kinesiological Bases of Physical Education. Body Growth and Development through Physical Education. Administration of Physical Education Service Programs. Philosophy of Physical Education. Advanced Study in Motor Learning. Current Literature in Physical Education.

PE 508. **Workshop.** Hours to be arranged.

PE 509. **Practicum.** Hours to be arranged.

PE 515. **History and Theories of Physical Education.** 3 hours fall. Washke.

PE 518. **Current Movements in Physical Education.** 3 hours. Washke.

PE 520. **Developmental Program in Physical Education.** 3 hours. Clarke.

PE 521. **Basic Procedures in Corrective Physical Education.** 3 hours. Wooten.

PE 522. **Advanced Corrective Procedures.** 3 hours. Wooten.

PE 523. **Physical Education of the Handicapped.** 3 hours. Wooten.

PE 527. **Techniques of Relaxation.** 3 hours. Wooten.

PE 531. **Muscle Testing and Therapeutic Exercise.** 3 hours.

PE 533. **Motor Skill Learning.** 3 hours. Brumbach.

PE 540. **Statistical Methods in Physical Education.** 3 hours fall. Clarke.

PE 541. **Statistical Methods in Physical Education.** 3 hours winter. Clarke.

PE 544. **Methods of Research.** 3 hours.

PE 545. **Experimental Design in Physical-Education Research.** 4 hours. Clarke.

PE 551. **Administration of Physical Education.** 3 hours winter. Esslinger, Rhoda.

PE 552. **Administration of Athletics.** 3 hours. Sprague.

PE 553. **Intramural Organization and Management.** 3 hours. Washke.

PE 556. **Administration of Buildings and Facilities.** 3 hours. Rhoda.

PE 557. **Supervision of Physical Education for City Supervisors.** 3 hours. Sprague.

PE 558. **Curriculum Construction in Physical Education.** 3 hours. Sprague.

PE 559. **Professional Preparation in Physical Education.** 3 hours. Sprague.

PE 561. **Foundations of Physical Growth.** 3 hours. Wooten.

PE 562. **Changes in Body Size and Form During Childhood and Adolescence.** 3 hours. Wooten.

PE 563. **Growth and Body Tissues and Organs.** 3 hours. Wooten.

PE 564. **Morphologic and Physiologic Appraisalment of School Children.** 3 hours.

PE 566. **Research Methodology for Child Growth.** 3 hours.

PE 567. **Motor Development in Infancy and Childhood.** 3 hours.

PE 572, 573. **Gross Anatomy.** 3 hours each term. Sigerseth.

PE 574. **Physiological Principles of Advanced Conditioning.** 3 hours. Sigerseth.

PE 575. **Mechanical Analysis of Motor Skills.** 3 hours. Sigerseth.

Recreation and Park Management

RM 408. **Workshop.** (g) Hours to be arranged.

- RM 490. **Principles of Outdoor Education.** (G) 3 hours. Ford.
- RM 492. **Recreation and Natural Resources.** (G) 3 hours. Ford.
- RM 497. **Recreation and Park Facilities.** (G) 3 hours fall.
- RM 499. **School and Community Recreation Programs.** (G) 3 hours. Rodney, Neal.
- RM 501. **Research.** Hours to be arranged.
- RM 503. **Thesis.** Hours to be arranged. Ford.
- RM 505. **Reading and Conference.** Hours to be arranged.
- RM 506. **Special Problems.** Hours to be arranged.
- RM 507. **Seminar.** Hours to be arranged.
Basic Issues in Parks and Recreation. Public Park Administration. Problems of Recreation Finance. Administrative Problems of Recreation. Foundations of Recreation. Youth and Leadership.
- RM 508. **Workshop.** Hours to be arranged.
- RM 552. **Problems of Recreation Supervision.** 3 hours. Rodney.
- RM 553. **Administration of Recreation.** 3 hours winter. Rodney.
- RM 554. **Problems of Camp Management.** 3 hours. Rodney, Ford.

History

Professors: EDWIN R. BINGHAM, QUIRINUS BREEN (emeritus), PAUL S. DULL, VAL R. LORWIN, EARL POMEROY, KENNETH W. PORTER, ROBERT W. SMITH, LLOYD R. SORENSON, WENDELL H. STEPHENSON.

Associate Professors: GUSTAVE ALEF, RAYMOND F. BIRN, WILLIAM S. HANNA (department head), STANLEY A. PIERSON.

Assistant Professors: PAUL S. HOLBO, ROBERT G. LANG, J. PENDLETON MADDEX, JOHN W. PERRIN, JOHN E. WOODHAM.

Instructors: ROBERT S. DILL, STEPHEN C. HUNTER, LINDA HUNTER.

Lecturer: GENNARO FALCONERI.

The Department of History offers graduate work leading to the M.A. and Ph.D. degrees. Basic undergraduate work in European and American history is prerequisite to entering graduate work in history. Preparation in foreign languages is strongly advised. Students with an undergraduate grade-point average below 3.00 in history are not advised to seek a graduate degree in history.

Admission. An undergraduate major in history or its equivalent, including basic work in European and American history and preparation in at least one foreign language, is ordinarily prerequisite to admission to graduate work in history. Results of either the Miller Analogies Test or the Graduate Record Examination, together with all undergraduate and graduate transcripts, should be sent to the department. Applicants for admission to the doctoral program should have three letters of recommendation sent to the department by persons acquainted with the student's academic qualifications.

Master's Degree. Each candidate must complete 9 term hours of work in courses, ordinarily research seminars, numbered 507-532. The candidate must prepare himself for examination in three fields chosen from different divisions of history. A program may be arranged with or without thesis. For the M.A. without thesis the candidate is required to submit two seminar papers and take a

written examination covering two of the three fields covered in the final oral examination.

Students working toward the M.A. or M.S. degree in the University's interdisciplinary master's program for teachers may select history as a field of subject concentration. See pages 20-21.

Ph.D. Degree. A candidate for the Ph.D. degree must pass comprehensive examinations in four fields of history or in three fields of history and a minor field outside the department. Every candidate must take either a minor or supporting work in one or more related fields outside the field of history. At least 18 hours of work in graduate research seminars are required.

Hst 411. **History of Greece.** (G) 3 hours fall. Dill.

Hst 412, 413. **History of Rome.** (G) 3 hours each term, winter and spring. Dill.

Hst 418, 419. **Studies in Western Civilization.** (g) 3 hours each term (summer sessions).

Hst 420. **Historical Method.** (G) 3 hours fall.

Hst 421, 422, 423. **Middle Ages.** (G) 3 hours each term. Perrin.

Hst 424, 425. **Early Modern Europe.** (G) 3 hours each term. Birn.

Hst 430, 431. **Renaissance.** (G) 3 hours each term, fall and winter.

Hst 432. **Reformation.** (G) 3 hours spring.

Hst 434, 435, 436. **Western Institutions and Ideas.** (G) 3 hours each term. Sorenson.

Hst 437, 438. **History of Germany.** (G) 3 hours each term.

Hst 439, 440. **Cultural and Intellectual History of Modern Europe.** (G) 3 hours each term. Pierson.

Hst 441, 442, 443. **History of France.** (G) 3 hours each term. Lorwin.

Hst 444, 445. **Twentieth-Century Europe.** (G) 3 hours each term.

Hst 447, 448, 449. **History of Russia.** (G) 3 hours each term. Alef.

Hst 450. **History of Spain.** (G) 3 hours. Woodham.

Hst 454, 455, 456. **Economic History of Modern Europe.** (G) 3 hours each term. Lorwin.

Hst 457. **The Era of American Sectional Conflict.** (G) 3 hours. Maddex.

Hst 458. **The Era of the Civil War.** (G) 3 hours. Maddex.

Hst 459. **The Era of Reconstruction.** (G) 3 hours. Maddex.

Hst 460, 461, 462. **History of American Thought and Culture.** (G) 3 hours each term. Bingham.

Hst 463. **History of Canada.** (G) 3 hours.

Hst 464. **History of Mexico.** (G) 3 hours. Woodham.

Hst 465. **British Empire.** (g) 3 hours. Smith.

Hst 466. **Tudor England.** (G) 3 hours. Lang, Smith.

Hst 468. **Victorian England.** (G) 3 hours. Smith.

Hst 469. **Twentieth-Century England.** (G) 3 hours. Smith.

Hst 470, 471. **Social Factors in American History.** (G) 3 hours each term. Porter.

Hst 473, 474, 475. **American Foreign Relations.** (G) 3 hours each term. Holbo.

Hst 476, 477. **History of the West.** (G) 3 hours each term. Porter, Pomeroy.

Hst 478. **History of the Pacific Northwest.** (G) 3 hours. Bingham, Porter.

Hst 479. **Forces and Influences in American History.** (G) 3 hours.

- Hst 480, 481, 482. **The United States in the Twentieth Century.** (G) 3 hours each term. Pomeroy.
- Hst 484, 485, 486. **Early History of the American People.** (G) 3 hours each term. Hanna.
- Hst 487, 488, 489. **American Economic History.** (G) 3 hours each term.
- Hst 490. **Problems of the Pacific.** (g) 3 hours (summer sessions).
- Hst 494, 495, 496. **History of China.** (G) 3 hours each term. Dull, Falconeri.
- Hst 497, 498, 499. **History of Japan.** (G) 3 hours each term. Dull, Falconeri.
- Hst 501. **Research.** Hours to be arranged.
- Hst 502. **Supervised College Teaching.** Hours to be arranged.
- Hst 503. **Thesis.** Hours to be arranged.
- Hst 505. **Reading and Conference.** Hours to be arranged.
- Hst 507. **Seminar.** Hours to be arranged.
Greek and Roman History: Dill. *European History:* Alef, Birn, S. Hunter, Lorwin, Perrin, Pierson, Sorenson. *European Social and Economic History:* Lorwin. *English History:* Lang, Smith. *American History:* Bingham, Hanna, Holbo, Maddex, Pomeroy, Porter, Stephenson. *History of the Far East:* Dull, Falconeri. *Latin American History:* L. Hunter, Woodham. *History of the Far East:* Dull, Falconeri. *Historical Theory:* Sorenson.
- Hst 508. **Colloquium.** Hours to be arranged.
Roman History: Dill. *Middle Ages:* Perrin. *English Historians:* Smith. *Seventeenth-Century England:* Lang. *Interpretations of American History:* Hanna, Porter. *Southern History:* Maddex. *American Diplomacy:* Holbo. *Interpretations of Latin-American History:* Woodham. *Japanese History:* Dull, Falconeri.
- Hst 530, 531, 532. **European History: Problems and Interpretations.** 3 hours each term. Birn, Breen, Lorwin, Pierson.
- Hst 591. **Japanese Political Evolution since 1912.** 3 hours. Dull.

Industrial and Labor Relations

The University offers an interdisciplinary program of graduate study in industrial and labor relations, leading to the Master of Arts or Master of Science degree. The program is administered by the Institute of Industrial and Labor Relations (see page 94), and requires 45 term hours of work with thesis in courses approved by the Institute, or 54 hours of work without thesis.

The student's program must include work in at least three disciplines, with at least 18 term hours in one of the three disciplines, and must include a minimum of 15 term hours in 500-level courses. The prerequisites for the program are a bachelor's degree and 27 hours of prior work in the subject areas represented in the graduate program. Before advancement to candidacy for a degree, a student must submit a satisfactory score on the Miller Analogies Test or a comparable objective test.

The following University courses are especially relevant to the graduate program in industrial and labor relations:

Economics—Contemporary Economic Problems (Ec 417); Labor Economics (Ec 444); Organized Labor (Ec 445); Labor Legislation (Ec 446); Collective Bargaining (Ec 447, 448, 449); Comparative Economic Systems (Ec 450, 451, 452); American Economic History (Ec 487, 488, 489); Development of Industrial Economics (Ec 490, 491, 492); Seminar: Labor Economics (Ec 507).

Education—Seminar: Work Evaluation (Ed 407); Educational and Vocational Guidance (Ed 488).

History—American Economic History (Hst 487, 488, 489).

Interdisciplinary Studies—Research (ISt 501), Thesis (ISt 503).

Journalism—Seminar: Industrial Editing (J 407); The Press and Society (J 450); Publicity and Public Relations (J 459); Public Relations Problems (J 483); Journalism and Public Opinion (J 494).

Law—Agency (L 427); Labor Law (L 476).

Political Science—Administrative Organization and Behavior (PS 412, 413); Theory of Democracy (PS 456, 457); The Supreme Court in American Government (PS 484, 485, 486); Seminar: Constitutional Law and the Judicial Process (PS 507); Seminar: Comparative Labor Movements (PS 507).

Production and Industrial Management—Personnel Management (PIM 412); Wage and Salary Administration (PIM 413); Problems in Personnel Management (PIM 414); Personnel Administration (PIM 534); Personnel Psychology (PIM 535); Organizational Conflict and Change (PIM 536).

Sociology—Seminar: Sociology of Professions (Soc 407); Theory of Small Groups (Soc 430); Group Dynamics (Soc 431); Sociology of Work (Soc 446); Industrial Sociology (Soc 447); Sociology of Occupations (Soc 448); Theory of Organization (Soc 541).

The Institute of Industrial and Labor Relations provides advice and assistance to doctoral candidates who are interested in work in industrial relations as a minor field or as a supplement to their major program.

Interdisciplinary Studies

Students pursuing a program of interdisciplinary studies leading to the M.A. or M.S. degree may supplement courses offered by the several departments and schools with individualized studies, for which they may enroll under the course numbers listed below. For regulations governing graduate interdisciplinary program, see pages 20-21.

ISt 501. **Research.** Hours to be arranged.

ISt 503. **Thesis.** Hours to be arranged.

Journalism

Professors: JOHN L. HULTENG (dean), CHARLES T. DUNCAN, WARREN C. PRICE, MAX WALES.

Associate Professors: BERNARD L. FREEMESSER, ROY P. NELSON, GALEN RARICK, CARL C. WEBB.

Assistant Professors: JACK D. EWAN, ROY K. HALVERSON, KARL J. NESTVOLD, DEAN F. REA.

Graduate work in the School of Journalism leads to the M.A. or M.S. degree. By special arrangement, the student may offer a journalism minor toward the Ph.D. degree in certain fields. Areas of study cover all major aspects of the press and the broadcast media except strictly technological aspects. Emphasis is placed upon the social significance and responsibilities of journalistic fields, rather than upon techniques. Basic skills and methods, however, are not ignored.

Two plans of study are available. Candidates elect the plan appropriate to their interests and needs after consultation with the dean.

Plan A is designed for the graduate student with a relatively extensive background of education or professional experience in journalism. A minimum of 24 term hours in graduate courses in journalism, including a thesis, is required.

Plan B is designed primarily for the graduate student with little or no background in journalism. The candidate may take a maximum of 40 term hours in the major field. A thesis is optional. (If the student elects not to write a thesis, he must submit, as a basis for the final oral examination, three term papers written for graduate courses.)

In either case, completion of 45 term hours in graduate courses with a B average is required for the master's degree in journalism. Under Plan A the work may be completed within an academic year. Candidates under Plan B are ordinarily required to take certain basic courses in journalism that do not carry graduate credit; they should therefore be prepared to spend an additional one or two terms in residence.

The graduate curriculum in journalism is thus sufficiently flexible to meet the needs of:

(1) The student who has an undergraduate major in the liberal arts, and who wishes a fifth-year concentration on journalism.

(2) The student who has had substantial professional experience and who wishes advanced study as preparation for specialized work or as a supplement to previous academic training.

(3) The student who has an undergraduate major in journalism and who, after several years' experience in the field, wishes a fifth year of advanced study. (The school does not recommend that students with undergraduate majors in journalism begin graduate work without first having had professional experience.)

(4) The student who contemplates a career in teaching or communications research.

Graduate students in journalism are expected to have a broad undergraduate background. Previous training and experience are weighed in planning the study program of each degree candidate.

The school is housed in Eric W. Allen Hall. Facilities include a reading-reference room with important newspapers and magazines, a division of communication research, and laboratories. The *Oregon Daily Emerald* and the University Press are also housed in Allen Hall.

J 407. **Seminar.** (G) Hours to be arranged.

Editorial Cartooning. Industrial Communications and Editing. Documentary Film in Television. Picture Editing. Radio-TV Station Management. Radio-TV Problems. History of Photography. Philosophy of Photography.

J 421. **Newspaper Management.** (G) 3 hours. Webb.

J 424. **The Community Newspaper.** (G) 3 hours. Webb.

J 432. **Radio-Television News II.** (G) 3 hours. Nestvold.

J 440. **Advertising Production.** (G) 3 hours. Webb.

J 441, 442, 443. **Media of Advertising.** (G) 2 hours each term. Ewan, Wales.

J 444. **Advertising Problems.** (G) 3 hours. Wales.

J 445. **Advertising Agencies and Departments.** (G) 3 hours. Ewan.

J 446. **Advertising Copy Writing.** (G) 3 hours. Ewan, Wales.

J 447. **Advertising Layout.** (G) 3 hours. Ewan, Nelson.

J 450. **The Press and Society.** (g) 3 hours. Nelson.

J 455. **Supervision of School Publications.** (G) 2-3 hours. Rea.

J 459. **Principles of Public Relations.** (G) 3 hours. Ewan, Nelson.

- J 462. **Reporting II.** (G) 4 hours. Price, Halverson.
- J 468. **Magazine and Feature Writing I.** (G) 3 hours. Nelson.
- J 469. **Magazine and Feature Writing II.** (G) 2 hours. Nelson.
- J 470. **Magazine Editing.** (G) 3 hours. Nelson.
- J 483. **Public Relations Problems.** (G) 3 hours. Nelson, Wales.
- J 485. **Law of the Press.** (G) 3 hours. Price.
- J 487. **History of Journalism.** (G) 3 hours. Price.
- J 494. **Journalism and Public Opinion.** (G) 3 hours. Rarick.
- J 495, 496. **Journalism and Contemporary Affairs.** (G) 2 hours each term.
Duncan, Hulteng.
- J 501. **Research in Journalism.** Hours to be arranged.
- J 503. **Thesis.** Hours to be arranged.
- J 505. **Reading and Conference.** Hours to be arranged.
- J 507. **Seminar.** Hours to be arranged.
Public Opinion Measurement. Advertising Research. Literature of Journalism. History of Journalism. Law of the Press. Propaganda. The Photo Essay. Visual Communication Research. Writing the Nonfiction Book.
- J 512. **Communication Theories and Research Methods.** 3 hours. Rarick.
- J 564. **Editorial Writing.** 3 hours. Hulteng.
- J 589. **Comparative Foreign Journalism.** (G) 3 hours. Price.

Librarianship

Professors: LEROY C. MERRITT (dean), ELIZABETH FINDLY, CARL W. HINTZ, PERRY D. MORRISON, ALAN W. ROECKER.

Associate Professors: HOLWAY JONES, ROBERT R. MCCOLLOUGH, IONE PIERRON.

Assistant Professors: CAROLINE FELLER, ROBERT E. KEMPER, CORINNE McNEIR, EDWARD P. THATCHER.

The School of Librarianship offers a program of graduate studies leading to the degree of Master of Library Science. The program is designed to provide: (1) graduate instruction in the basic principles and practices of library service and administration; (2) opportunities for in-service training; (3) leadership in the development of new and improved concepts and practices in librarianship.

Admission. Requirements for admission to the professional graduate program of the school include: (1) graduation from an institution of higher education whose requirements for the bachelor's degree are substantially equivalent to the requirements of the University of Oregon; (2) a grade-point average of 3.00 for the last two years of the student's academic preparation; (3) a satisfactory score on the Graduate Record Examination Aptitude Test or on the Miller Analogies Test; (4) two years of college-level study of one modern foreign language, or one year of college-level study of each of two modern foreign languages; (5) for foreign students, proof of proficiency in the English language as measured by the University of Michigan English Language Institute Test or the Princeton University Test of English as a Foreign Language, in lieu of the Aptitude Test or the Miller Analogies Test.

For application procedures for admission to graduate standing in the University, see page 17. Students applying for admission to the School of Librarianship

must also: (1) have three letters of recommendation (one preferably from a librarian) sent to the dean of the School of Librarianship; (2) arrange for an interview with the dean or member of the faculty of the school or with a representative of the school designated by the dean. All application procedures must be completed early in the term preceding the term in which the student wishes to enter the school.

Degree Requirements. The requirements for the M.L.S. degree are as follows: (1) 45 term hours of graduate work, including not less than 39 hours in librarianship and at least two graduate courses in another school or department totaling not less than 4 term hours; (2) completion of a 24-hour core curriculum, including Lib 411, Lib 421, Lib 431, Lib 442, Lib 512, Lib 521, Lib 571, Lib 572; (3) a 3.00 GPA covering all upper-division and graduate courses taken after admission to the school.

A maximum of 15 term hours of graduate work completed at another accredited institution or through the Division of Continuing Education of the Oregon State System of Higher Education may be accepted for transferred credit. Candidates who hold advanced degrees in another field may be considered to have satisfied the requirements for work outside the school, and may take additional courses in librarianship.

- Lib 411. **Cataloging and Classification.** (G) 3 hours. Kemper
- Lib 421. **Bibliography and Reference.** (G) 3 hours. Morrison.
- Lib 431. **The Library in Society.** (G) 3 hours. Kemper.
- Lib 432. **The School Library.** (G) 3 hours. Kemper.
- Lib 442. **Selection and Acquisition of Materials.** (G) 3 hours. Merritt, Pierron.
- Lib 445. **The Library and Audio-Visual Materials.** (G) 3 hours. Kemper.
- Lib 451. **Children's Literature.** (G) 3 hours. Feller.
- Lib 505. **Reading and Conference.** Hours to be arranged.
- Lib 507. **Seminar.** Hours to be arranged.
- Lib 508. **Workshop.** Hours to be arranged (summer sessions).
- Lib 509. **Practicum.** 3-5 hours. Merritt.
- Lib 512. **Advanced Cataloging and Classification.** 3 hours. Kemper.
- Lib 522. **Advanced Bibliography and Reference.** 3 hours. Morrison.
- Lib 523. **Government Publications.** 3 hours. McNeir.
- Lib 533. **The Public Library.** 3 hours. Merritt.
- Lib 534. **The Academic Library.** 3 hours. Morrison.
- Lib 538. **Library Administration.** 3 hours. Pierron.
- Lib 541. **History of the Book.** 3 hours. Hintz.
- Lib 543. **Instructional Materials: Resources and Services.** 3 hours. Kemper.
- Lib 555. **Young Adult Services.** 3 hours. Feller.
- Lib 558. **Storytelling.** 3 hours. Feller.
- Lib 561. **Literature of the Humanities.** 3 hours. McCollough.
- Lib 562. **Literature of the Sciences.** 3 hours. Thatcher.
- Lib 563. **Literature of the Social Sciences.** 3 hours. Jones.
- Lib 571. **Research in Librarianship.** 3 hours. Merritt, Kemper.
- Lib 572. **Library Automation.** 3 hours. Kemper.

Mathematics

Professors: ANDREW F. MOURSUND (department head), FRANK W. ANDERSON, FRED C. ANDREWS, PAUL CIVIN, CHARLES W. CURTIS, KENNETH S. GHENT, DAVID K. HARRISON, EINAR HILLE, IVAN M. NIVEN, ROBERT F. TATE, LEWIS E. WARD, JR., BERTRAM YOOD.

Associate Professors: HENRY L. LOEB, EUGENE A. MAIER, THEODORE K. MATTHES, KENNETH A. ROSS, KARL R. STROMBERG, GEORGE W. STRUBLE, DONALD R. TRUAX, CHARLES R. B. WRIGHT.

Assistant Professors: BRUCE A. BARNES, LARRY C. GROVE, JAMES E. HUMPHREYS, RICHARD M. KOCH, JOHN V. LEAHY, FRANKLIN LOWENTHAL, JAMES M. VAN BUSKIRK, HUGH E. WARREN.

The University offers graduate work in mathematics leading to the M.A., M.S., and Ph.D. degrees.

Two basic curricula are available for programs for the M.A. and M.S. degrees, one being designed for persons intending to continue toward the Ph.D. degree and the other designed for persons intending to terminate their study of mathematics upon receipt of the master's degree. No thesis is required in either program. Beginning graduate students are required to take placement examinations appropriate to their level of achievement in mathematics soon after they arrive on campus.

Work for the Ph.D. degree is offered in algebra, analysis, number theory, topology and mathematical statistics. Acceptance into the Ph.D. program is contingent upon passage of qualifying examinations over established syllabi in three general areas of mathematics chosen from several available options. The Ph.D. Qualifying examinations are given each fall and spring. A faculty advisory committee is assigned to each candidate accepted into the Ph.D. program to assist him in planning subsequent course and seminar programs, examination scheduling and research undertakings. The variety of seminar offerings is large and the content varies considerably from year to year according to the research interests of the faculty and Ph.D. students.

The department offers coordinated graduate programs for the training of secondary school and junior college teachers of mathematics. Such programs are available exclusively within the mathematics department, as well as in conjunction with other related areas, see pages 20-21, 47-49.

The University Library has an excellent collection of both mathematics books and journals. The University has two modern electronic computers and a well-equipped statistical laboratory.

Mth 407. **Seminar.** (g) Hours to be arranged.

Mth 411. **Introductory Linear Algebra.** (g) 3 hours.

Mth 412. **Linear Algebra.** (g) 3 hours.

Mth 413. **Geometric Algebra.** (G) 3 hours.

Mth 414. **Introduction to Hilbert Space.** (G) 3 hours.

Mth 415, 416, 417. **Introduction to Abstract Algebra.** (G) 3 hours each term.

Mth 418. **Differential Equations.** (g) 3 hours.

Mth 419. **Functions of Several Variables.** (g) 3 hours.

Mth 420. **Vector Analysis.** (g) 3 hours.

Mth 421. **Functions of a Complex Variable.** (g) 3 hours.

Mth 422. **Fourier Series.** (g) 3 hours.

Mth 425, 426, 427. **Elements of Statistical Methods.** (g) 3 hours each term.

- Mth 428. **Scientific and Statistical Computation.** (G) 3 hours.
- Mth 429, 430. **Numerical Analysis.** (G) 3 hours each term.
- Mth 431, 432, 433. **Advanced Calculus.** (G) 3 hours each term.
- Mth 438. **Introduction to Topology.** (G) 3 hours.
- Mth 441, 442, 443. **Introduction to Statistical Theory.** (g) 3 hours each term.
- Mth 444. **Computing.** (g) 3 hours.
- Mth 445. **System Programming.** (g) 4 hours.
- Mth 447, 448, 449. **Mathematical Statistics.** (G) 3 hours each term.
- Mth 457, 458, 459. **Foundations of Mathematics.** (g) 3-4 hours each term (summer sessions).
- Mth 468, 469. **Probability and Statistics.** (g) 3-4 hours each term (summer sessions).
- Mth 478, 479. **Algebra.** (g) 3-4 hours each term (summer sessions).
- Mth 487, 488, 489. **Geometry.** (g) 3-4 hours each term (summer sessions).
- Mth 498, 499. **Analysis.** (g) 3-4 hours each term (summer sessions).
- Mth 501. **Research.** Hours to be arranged.
- Mth 503. **Thesis.** Hours to be arranged.
- Mth 505. **Reading and Conference.** Hours to be arranged.
- Mth 507. **Seminar.** Hours to be arranged.
- Algebraic Geometry:* Humphreys, Leahy. *Applied Mathematics:* Lowenthal, Yood. *Approximation Theory:* Loeb. *Banach Algebras:* Civin, Yood. *Commutative Algebra:* Anderson, Harrison. *Complex Variable Theory:* Koch, Lowenthal. *Computing:* Struble. *Differential Geometry:* Koch, Leahy. *Fourier Analysis:* Ross. *Function Algebras:* Civin. *Groups and Representations:* Curtis, Grove, Wright. *Harmonic Analysis:* Ross, Stromberg. *Homological Algebra:* Anderson, Harrison. *Knot Theory:* Van Buskirk. *Lie Algebras and Algebraic Groups:* Curtis, Humphreys. *Noncommutative Rings:* Anderson, Curtis, Harrison. *Number Theory:* Niven. *Numerical Analysis:* Loeb, Struble. *Selected Topics for Mathematics Teachers:* Ghent, Maier, Moursund. *Statistics and Stochastic Processes:* Andrews, Matthes, Tate, Truax. *Topics in Functional Analysis:* Civin, Ross, Stromberg, Yood. *Topological Semi-Groups:* Ward. *Topology:* Van Buskirk, Ward.
- Mth 541, 542, 543. **Abstract Algebra.** 3 hours each term.
- Mth 544, 545, 546. **Structure of Rings and Algebras.** 3 hours each term.
- Mth 547, 548, 549. **Algebraic Number Theory.** 3 hours each term.
- Mth 551, 552, 553. **Theory of Functions of a Real Variable.** 3 hours each term.
- Mth 554, 555, 556. **Theory of Functions of a Complex Variable.** 3 hours each term.
- Mth 557, 558, 559. **Topics in Classical Analysis.** 3 hours each term.
- Mth 561, 562, 563. **Modern Theories in Analysis.** 3 hours each term.
- Mth 571, 572, 573. **Topology.** 3 hours each term.
- Mth 579, 580. **Algebra.** 3-4 hours each term (summer sessions).
- Mth 581, 582, 583. **Theory of Estimation and Testing Hypotheses.** 3 hours each term.
- Mth 584, 585, 586. **Theory of Probability.** 3 hours each term.
- Mth 587, 588. **Stochastic Processes.** 3 hours each term.
- Mth 589. **Geometry.** 3-4 hours (summer sessions).
- Mth 591, 592, 593. **Advanced Mathematical Statistics.** 3 hours each term.
- Mth 594. **Theory of Games.** 3 hours.

Mth 595, 596. **Statistical Decision Theory.** 3 hours each term.

Mth 598, 599. **Analysis.** 3-4 hours each term (summer sessions).

Medical Sciences

The University of Oregon Medical School in Portland offers graduate instruction leading to the M.A., M.S., and Ph.D. degrees in the medical sciences (anatomy, bacteriology, biochemistry, pathology, pharmacology, and physiology). Graduate degrees earned at the Medical School are conferred by the University of Oregon, upon recommendation by the faculty of the Medical School. In addition to opportunities for graduate study and research in the preclinical departments, arrangements may be made for special study of clinical problems by experimental methods, through the cooperation of the preclinical and clinical departments. In some cases, students doing work of this kind may qualify for graduate degrees. For graduate requirements and courses, see the Medical School Catalog.

Modern and Classical Languages

Professors: DAVID M. DOUGHERTY (division head), CHANDLER B. BEALL, FREDRICK M. COMBELLACK, THOMAS R. HART, JR., CARL L. JOHNSON, WOLFGANG A. LEPPMANN.

Associate Professors: PETER B. GONTRUM, WALTER L. HAHN, EMMANUEL S. HATZANTONIS, CARLOS LOZANO, THOMAS E. MARSHALL, ROGER A. NICHOLLS, P. WALTER NOBILE, C. BENNETT PASCAL, PERRY J. POWERS, DANIEL G. SIMONIN, THOMAS J. TOMANEK.

Assistant Professors: RANDI M. BIRN, CHRISTOPHER M. BLACK, RICHARD H. DESROCHES, EDWARD DILLER, EDNA LANDROS (emeritus), STANLEY L. ROSE, STEPHEN C. SHUCARD, VLADIMIR TOLSON.

Lecturer: ARTURO CAYUELA-MIRÓ.

The Division of Modern and Classical Languages offers programs of study leading to the M.A. degree in Classical languages, French, German, Spanish, and Romance languages, and to the degree of Doctor of Philosophy in German and Romance languages. See also COMPARATIVE LITERATURE, above.

The program for the master's degree is usually completed in from three to six terms, the time depending largely upon the candidate's preparation. The program may be planned to terminate formal education or to prepare for further advanced study.

The program for the doctorate in Romance languages includes work in the major fields of French and Spanish, a second literature as a minor field, and a minimum of one year's work in philology. The program is designed to provide a high degree of fluency in the major language, a thorough knowledge of its important literary works in all periods, and familiarity with relevant scholarship. The minor requires a reasonable command of a second Romance language, a knowledge of the major texts of its literature, and thorough familiarity with one period. Courses and seminars offered in the comparative literature program frequently form a part of a student's graduate program in Romance languages. Before taking their comprehensive examinations, doctoral students must possess a knowledge of German sufficient to enable them to use scholarly works. After successful completion of the comprehensive examinations, candidates present a prospectus of the dissertation to

their advisory committee. The dissertation must demonstrate the candidate's capacity for original investigation and effectiveness of presentation, and must be completed within three years after passing the comprehensive examination.

The program for the doctorate in German includes advanced work in German language and literature, and studies in Germanic Philology offered in cooperation with the Department of English.

The resources of the University Library are fully adequate for the department's graduate programs; in some fields they are outstanding. The holdings in learned journals are extensive; the quarterly journal, *Comparative Literature*, is edited in the department.

Graduate students who intend to teach may gain valuable experience in connection with the undergraduate program of the department. Those who hold assistantships serve as readers and supervisors in the language laboratory, and, if qualified, as regular teachers of elementary classes under the direction of senior members of the department.

Classics

Greek

- CL 407. **Greek Seminar.** (G) Hours to be arranged.
 CL 411. **Thucydides.** (G) 3 hours. Combella.
 CL 412. **Aeschylus.** (G) 3 hours. Pascal, Combella.
 CL 413. **Theocritus.** (G) 3 hours. Pascal, Combella.
 CL 414. **Plato's Republic.** (G) 3 hours. Pascal, Combella.
 CL 415. **Aristotle's Ethics.** (G) 3 hours. Combella.
 CL 416. **Greek Lyric Poetry.** (G) 3 hours. Combella.
 CL 503. **Thesis.** Hours to be arranged.
 CL 505. **Reading and Conference.** Hours to be arranged.
 CL 507. **Greek Seminar.** Hours to be arranged.
 CL 517, 518, 519. **Studies in Greek Literature.** Hours to be arranged. Combella.

Latin

- CL 408. **Latin Seminar.** (G) Hours to be arranged.
 CL 447, 448, 449. **Latin Prose Composition.** (G) 1 hour each term.
 CL 461. **Propertius and Tibullus.** (G) 3 hours. Combella.
 CL 462. **Juvenal.** (G) 3 hours. Pascal.
 CL 463. **Tacitus' Annals.** (G) 3 hours. Pascal.
 CL 503. **Thesis.** Hours to be arranged.
 CL 505. **Reading and Conference.** Hours to be arranged.
 CL 508. **Latin Seminar.** Hours to be arranged.
 CL 511, 512, 513. **Readings in Mediaeval Latin.** Hours to be arranged.
 CL 514, 515, 516. **Studies in Latin Literature.** Hours to be arranged. Combella, Pascal.

German and Russian

German

- GL 407. **Seminar.** (g) Hours to be arranged.
 GL 411, 412, 413. **The Age of Goethe.** (G) 3 hours each term. Leppmann.

- GL 414, 415, 416. **German Literature of the Nineteenth Century.** (G) 3 hours each term. Hahn.
- GL 424, 425, 426. **Advanced German Composition and Conversation.** (G) 2 hours each term. Hahn.
- GL 427, 428, 429. **German Romanticism.** (G) 3 hours each term. Hahn.
- GL 430, 431, 432. **The German Lyric.** (G) 3 hours each term. Gontrum.
- GL 503. **Thesis.** Hours to be arranged.
- GL 505. **Reading and Conference.** Hours to be arranged.
- GL 507. **Seminar.** Hours to be arranged.
Humanism and the Reformation. The German Baroque. History of the German Language.
- GL 514, 515, 516. **Middle High German.** 3 hours each term.
- GL 524, 525, 526. **German Literature 1500-1750.** 3 hours each term.
- GL 527, 528, 529. **Goethe and Schiller.** 3 hours each term. Nicholls.
- GL 530, 531, 532. **Germanic Philology.** 3 hours each term.
- GL 533, 534, 535. **History of the German Language.** 3 hours each term.
- GL 536. **Lessing.** 3 hours.
- GL 537. **Sturm und Drang.** 3 hours.
- GL 538. **Hölderlin and Jean Paul.** 3 hours.
- GL 540, 541, 542. **German Drama of the Nineteenth Century.** 3 hours each term. Nicholls.
- GL 543, 544, 545. **Contemporary German Lyric.** 3 hours each term.
- GL 546, 547, 548. **Modern German Novel.** 3 hours each term.
- GL 550, 551, 552. **Modern German Drama.** 3 hours each term.

Russian

- SL 407. **Seminar.** (g) Hours to be arranged.
- SL 411, 412, 413. **The Russian Novel.** (g) 3 hours each term.
- SL 414, 415, 416. **History of the Russian Language.** (g) 3 hours each term.
- AL 421, 422, 423. **Modern Russian Short Story, Poetry, Drama.** (g) 3 hours each term.
- SL 461, 462, 463. **Advanced Russian Composition and Conversation.** (g) 2 hours each term. Tolson.

Romance Languages

French

- RL 407. **Seminar.** (G) Hours to be arranged.
- RL 411, 412, 413. **Seventeenth-Century French Literature.** (G) 3 hours each term. Simonin.
- RL 417, 418, 419. **Nineteenth-Century French Literature.** (G) 3 hours each term. Johnson.
- RL 423, 424, 425. **Twentieth-Century French Literature.** (G) 3 hours each term. Birn, Marshall.
- RL 429, 430, 431. **French Culture and Civilization.** (G) 3 hours each term. Simonin.
- RL 467, 468, 469. **Advanced French Composition.** (G) 2 or 3 hours each term. Dougherty, Marlow.

- RL 503. **Thesis.** Hours to be arranged.
- RL 505. **Reading and Conference.** Hours to be arranged.
- RL 507. **French Seminar.** Hours to be arranged.
- RL 514, 515, 516. **Eighteenth-Century French Literature.** 3 hours each term. Desroches.
- RL 517, 518, 519. **Sixteenth-Century French Literature.** 3 hours each term. Beall.
- RL 538, 539, 540. **Old French Readings.** 2 hours each term. Dougherty.
- RL 544. **François Villon.** 3 hours. Johnson, Dougherty.
- RL 545. **Ronsard.** 3 hours. Beall.
- RL 546. **Molière.** 3 hours.
- RL 547. **Voltaire.** 3 hours. Beall.
- RL 548. **Baudelaire.** 3 hours. Johnson.
- RL 549. **Paul Valéry.** 3 hours. Marshall.

Italian

- AL 477, 478, 479. **Dante and His Times.** (g) 3 hours each term. Beall.
- RL 480, 481, 482. **Italian Renaissance Literature.** (G) 3 hours each term. Beall.
- RL 483, 484, 485. **Nineteenth-Century Italian Literature.** (G) 3 hours each term. Nobile.
- RL 486, 487, 488. **Twentieth-Century Italian Literature.** (G) 3 hours each term. Hatzantonis.

Portuguese

- RL 471, 472, 473. **Portuguese and Brazilian Literature.** (G) 3 hours each term. Rose.
- RL 474, 475, 476. **Brazilian Novel.** (G) 3 hours each term. Rose.

Spanish

- RL 407. **Seminar.** (G) Hours to be arranged.
- RL 432, 433, 434. **Hispanic Culture and Civilization.** (G) 3 hours each term. Cayuela-Miró.
- RL 438, 439, 440. **Nineteenth-Century Spanish Literature.** (G) 3 hours each term.
- RL 441, 442, 443. **Modern Spanish Literature.** (G) 3 hours each term. Beck.
- RL 444, 445, 446. **Spanish-American Literature.** (G) 3 hours each term. Tomanek.
- RL 451, 452, 453. **Spanish Literature of the Golden Age.** (G) 3 hours each term. Powers.
- RL 461, 462, 463. **Advanced Spanish Composition and Conversation.** (G) 2 or 3 hours each term. Cayuela-Miró, Nobile.
- RL 503. **Thesis.** Hours to be arranged.
- RL 505. **Reading and Conference.** Hours to be arranged.
- RL 508. **Spanish Seminar.** Hours to be arranged.
- RL 541, 542, 543. **Old Spanish Readings.** 2 hours each term. Hart.
- RL 554, 555, 556. **Drama of the Golden Age.** 3 hours each term. Powers.
- RL 557, 558, 559. **The "Modernista" Movement.** 3 hours each term. Tomanek.

RL 561, 562, 563. **Spanish-American Novel.** 3 hours each term. Tomanek.

RL 564. **The Enlightenment in Spain.** 3 hours fall.

RL 565. **Realismo.** 3 hours winter.

RL 566. **Romanticismo y Costumbrismo.** 3 hours spring.

Romance Philology

RL 520, 521, 522. **Old French.** 3 hours each term. Dougherty.

RL 523, 524, 525. **Vulgar Latin and Old Provençal.** 2 hours each term.

RL 535, 536, 537. **Old Spanish.** 3 hours each term. Hart.

Music

Professors: ROBERT M. TROTTER (dean), EDMUND CYKLER, GEORGE HOPKINS, HOMER KELLER, ROBERT E. NYE, ROBERT S. VAGNER.

Associate Professors: EXINE BAILEY, FRANCIS W. BITTNER, GEORGE BOUGHTON, FLOYD ELLEFSON, JOHN M. GUSTAFSON, JOHN HAMILTON, J. ROBERT HLADKY, IRA D. LEE, MAX RISINGER, ROYCE SALTZMAN, VIRGINIA WHITFIELD, NEIL E. WILSON, WILLIAM WOODS.

Assistant Professors: PETER BERGQUIST, ROBERT CUNNINGHAM, GARY MARTIN, LAWRENCE MAVES, JAMES MILLER.

Instructors: GABRIEL CHODOS, ROBERT HURWITZ, HAROLD OWEN, DAVID SHRADER, RICHARD TROMBLEY.

The School of Music offers degree programs leading to the M.Mus. degree (composition, music education, church music, and performance and music literature), the M.A. degree (music history, music theory, and music education), and the D.M.A. degree (music pedagogy). Options for master's degrees in music education are available in choral-general and in instrumental music. Performance and music literature specializations are available in piano, organ, harpsichord, voice, or any orchestral instrument; and a special group option is available in woodwind or brass instruments. Programs leading to an interdisciplinary M.S. degree may also be arranged for public school teachers who find it necessary to combine two teaching assignments, one of which is music. The School of Music also cooperates with the School of Education in arranging programs leading to the D.Ed. or the Ph.D. degree for students who wish to do a major part of their work in the field of music education.

For admission to the master's program, the student must satisfy the general requirements for admission to the Graduate School. Formal admission to candidacy is granted only after passing a qualifying examination in the theory, history, and performance of music, to be taken during the first term or summer session in residence. Further examinations are required in each area of concentration. Information concerning these examinations and concerning levels of performance competency required may be obtained from the dean of the School of Music.

All candidates for a master's degree in music must complete a core program, in addition to requirements in their areas of specialization. The core program is as follows: (1) participation in a large ensemble (Mus 395, Mus 396, Mus 397), three terms; (2) private instruction in performance, at a level to be determined by audition, three terms; (3) attendance at ten musical events each term in residence or five events each summer session in residence; (4) Introduction to Graduate Study (Mus 511 and either 512 or 513); (5) Seminar (Mus 507 or MuE 507), 6 term hours.

Information concerning requirements in the several areas of specialization of the master's program may be obtained from the dean of the School of Music.

The program leading to the Doctor of Musical Arts degree is designed to prepare college teachers of music who are qualified in two areas. Students elect either music education or performance as a primary area, with a supporting area chosen from among the following: performance or music education (whichever is not chosen as primary), or theory, or history-literature. For a detailed description of requirements for the doctor's degree, write to the dean of the School of Music.

The resources of the University Library and the instrumental and physical equipment of the School of Music provide excellent facilities for a wide variety of musical research. The Collegium Musicum is a vital adjunct to historical studies.

Music

- Mus 407. **Seminar.** (G) Hours to be arranged.
- Mus 433, 434. **Counterpoint II.** (G) 2 hours each term. Keller.
- Mus 436, 437. **Advanced Orchestration.** (G) 2 hours each term. Keller.
- Mus 438. **Band Arranging.** (G) 3 hours. Lewis, Vagner.
- Mus 439. **Choral Arranging.** (G) 3 hours. Keller.
- Mus 440, 441, 442. **Composition II.** (G) 2 hours each term. Keller.
- Mus 450. **Listening with Understanding.** (g) 3 hours fall or winter. Martin, Trombley.
- Mus 451. **The Music of Bach and Handel.** (g) 3 hours winter. Martin.
- Mus 452. **The Classic Symphony and Sonata.** (g) 3 hours spring.
- Mus 453. **Introduction to Opera.** (g) 3 hours winter. Maves.
- Mus 454. **Introduction to Twentieth-Century Music.** (g) 3 hours spring. Maves.
- Mus 455, 456, 457. **Orchestral Literature.** (G) 2 hours each term. Hladky.
- Mus 458. **Organ Literature.** (G) 3 hours. Hamilton.
- Mus 459. **Wind-Instrument Literature.** (G) 3 hours. Vagner.
- Mus 460. **Song Literature.** (G) 3 hours. Miller, Wilson.
- Mus 461, 462, 463. **Chamber-Music Literature.** (G) 2 hours each term. Hldaky.
- Mus 464, 465, 466. **Piano Literature.** (G) 2 hours each term. Woods.
- Mus 467. **Hymnology.** (G) 3 hours. Saltzman.
- Mus 468. **Liturgics.** (G) 3 hours. Saltzman.
- Mus 469. **Sacred Choral Music.** (G) 3 hours. Saltzman.
- Mus 470, 471. **Administration of Church Music.** (G) 2 hours each term. Saltzman.
- Mus 472. **Music in Worship.** (G) 2 hours.
- Mus 485, 486. **Advanced Conducting.** (G) 2 hours each term. Risinger, Vagner.
- Mus 493. **Collegium Musicum.** (G) 1 hour each term. Owen.
- Mus 501. **Research.** Hours to be arranged.
- Mus 503. **Thesis.** Hours to be arranged.
- Mus 505. **Reading and Conference.** Hours to be arranged.
- Mus 507. **Seminar.** Hours to be arranged.
Composition. Music History. Music Theory. Church Music.
- Mus 511, 512, 513. **Research Methods in Music.** 3 hours each term. Martin, Trombley.

- Mus 533, 534. **Twentieth-Century Counterpoint.** 2 hours each term. Keller.
- Mus 540, 541, 542. **Composition for Electronic Media.** 3 hours each term. Keller, Hunter.
- Mus 560. **Music in the Middle Ages.** 3 hours fall. Hamilton.
- Mus 561. **Music in the Renaissance.** 3 hours winter. Bergquist, Hamilton.
- Mus 562. **Music in the Baroque Era.** 3 hours spring. Bergquist, Hamilton.
- Mus 563. **Music in the Classical Period.** 3 hours fall. Bergquist.
- Mus 564. **Music in the Romantic Era.** 3 hours winter. Bergquist.
- Mus 565. **Music in the Twentieth Century.** 3 hours spring. Bergquist.
- Mus 590. **Performance Studies (Private Instruction).** 2-4 hours any term.
- Mus 591. **Performance Studies (Private Instruction).** 1 hour any term (3 hours maximum credit).
- Mus 592. **Performance Studies (Private Instruction).** (p) 1 hour any term (3 hours maximum credit).
- Mus 594. **Chamber Ensemble.** 1 hour any term.
- Mus 595. **Symphonic Band.** 1 hour any term.
- Mus 596. **Orchestra.** 1 hour any term.
- Mus 597. **Chorus.** 1 hour any term.
- Mus 598. **Opera Workshop.** 1 hour any term.

Music Education

- MuE 407. **Seminar.** (G) Hours to be arranged.
- MuE 444. **Choral Material for Schools.** (G) 2 hours. Risinger.
- MuE 445. **String Materials for Schools.** (G) 2 hours. Hladky.
- MuE 446. **Wind-Instrument Materials for Schools.** (G) 2 hours. Cunningham, Lee, Vagner.
- MuE 501. **Research.** Hours to be arranged.
- MuE 503. **Thesis.** Hours to be arranged.
- MuE 505. **Reading and Conference.** Hours to be arranged.
- MuE 507. **Seminar.** Hours to be arranged.
- MuE 532. **Basic Concepts in the Teaching of Music.** 3 hours. Gustafson, Nye, Whitfield.
- MuE 533. **Music in the Elementary School.** 3 hours. Nye.
- MuE 534. **Music in the Junior High School.** 3 hours. Whitfield.
- MuE 535. **Music in the Senior High School.** 3 hours. Gustafson.
- MuE 536. **Administration of School Music.** 3 hours. Ellefson, Gustafson, Nye.
- MuE 537. **Comparative Music Pedagogy.** 3 hours. Cykler.
- MuE 591. **Advanced Pedagogy.** 3 hours any term (9 hours maximum credit).

Nursing

The University of Oregon School of Nursing, on the campus of the Medical School in Portland, offers a graduate program leading to the M.S. degree, to prepare qualified professional nurses for teaching positions in nursing. For further information, see the School of Nursing Catalog.

Philosophy

Professors: BERTRAM JESSUP, JOHN WISDOM.

Associate Professors: FRANK EBERSOLE, HENRY ALEXANDER (department head).

Assistant Professors: JOHN COOK, DON LEVI, ARNULF ZWEIG.

Instructors: ROBERT PAUL, JOE STEPHENS.

The Department of Philosophy offers graduate work leading to the M.A. and Ph.D. degrees.

The department's graduate offerings are intended to meet the needs of three classes of students: (1) those preparing to work for the Ph.D. in philosophy with a view of teaching and research; (2) those interested in securing a master's degree but not intending to proceed to further graduate work in philosophy; (3) those interested in philosophy as part of a program with a major in some other department.

Phl 407. **Seminar.** (G) Hours to be arranged.

Wittgenstein: Cook. *Philosophy of Religion*: Cook. *Philosophy of Mathematics*: Levi. *Berkeley*: Levi. *Locke*: Cook. *Philosophy of History*: Paul. *Kierkegaard*: Jessup. *Leibniz*: Paul. *Kant*: Zweig.

Phl 411, 412. **Philosophy of Science.** (G) 3 hours each term.

Phl 413, 414. **Philosophy of Mind.** (G) 3 hours each term.

Phl 415. **Plato.** (G) 3 hours.

Phl 416. **Aristotle.** (G) 3 hours.

Phl 517. **Hume.** (G) 3 hours.

Phl 418. **Kant.** (G) 3 hours. Zweig.

Phl 431, 432. **Philosophy in Literature.** (G) 3 hours each term. Jessup.

Phl 435. **Existentialism.** (G) 3 hours. Jessup.

Phl 441, 442, 443. **Aesthetics.** (G) 3 hours each term. Jessup.

Phl 452. **Philosophy of Language.** (G) 3 hours. Ebersole.

Phl 453, 454. **Analytic Philosophy.** (G) 3 hours each term.

Phl 461, 462. **Symbolic Logic.** (G) 3 hours each term.

Phl 465. **Logical Theory.** (G) 3 hours.

Phl 466, 467. **History of Logic.** (G) 3 hours each term.

Phl 503. **Thesis.** Hours to be arranged.

Phl 505. **Reading and Conference.** Hours to be arranged.

Phl 507. **Seminar.** Hours to be arranged.

Aristotle: Levi. *Metaphysics*: Alexander. *Analytic Aesthetics*: Jessup.

Phl 511, 512, 513. **Problems of Knowledge.** 3 hours each term.

Phl 514, 515, 516. **Ethical Theory.** 3 hours each term.

Physics

Professors: RUSSELL J. DONNELLY (department head), SHANG-YI CH'EN, BERND CRASEMANN, FRANCIS E. DART, EDWIN G. EBBIGHAUSEN, RAYMOND T. ELLICKSON, IAN E. MCCARTHY, JOEL W. MCCLURE, MICHAEL J. MORAVCSIK, J. L. POWELL, G. H. WANNIER.

Associate Professors: M. D. GIRARDEAU, J. C. KEMP, H. W. LEFEVRE, D. K. Mc-DANIELS.

Assistant Professors: R. J. HIGGINS, G. D. MAHAN, KWANGJAI PARK, G. W. RAYFIELD, D. O. WELLS, R. L. ZIMMERMAN.

The Department of Physics offers a program of graduate work leading to the M.A., M.S., and Ph.D. degrees. Current research in the department is concerned with experimental and theoretical aspects of nuclear and atomic physics, optical spectroscopy, solid-state physics, and the physics of fluids.

Experimental research in solid-state physics includes electron spin resonance and optical properties of insulating crystals, as well as studies of the Fermi surfaces of metals and alloys using the de Haas-van Alphen effect. Theoretical research includes the study of the fundamentals of electronic motion in solids, calculations of various electronic properties for materials with unusual energy band structures, and solid-state statistical mechanics.

Experimental research is conducted on the properties of super fluid helium, especially the interactions of vortices. Theoretical work on the many-body problem emphasizes variational methods and exactly soluble models, with applications to equilibrium and nonequilibrium properties of helium, superconductors, and ferro magnets.

Nuclear physics research is centered around a 4-MeV Van de Graaff accelerator. In nuclear structure and reaction studies, work is carried out in neutron physics utilizing the pulsed beam, in captured gamma rays, charged particle reactions, and in beta- and gamma-ray spectroscopy, including atomic effects in beta decay. Research in theoretical nuclear physics concerns the use of nuclear reactions in obtaining information about nuclear structure, and the detailed study of reactions, particularly on the quasi-three-body type.

The perturbation of atomic energy levels under conditions of high temperature and pressure is being investigated through optical spectroscopy. In astronomy, research on the motions of double- and triple-star systems is in progress, and seminar work is offered; no advanced degrees are offered in astronomy.

The department is located in the modern Science Building, which includes well-equipped research laboratories and such auxiliary facilities as machine shops staffed by professional instrument technicians, available for graduate student use, and a glass blowing shop, liquid air plant, etc.

A qualifying examination for entering graduate students is given at the beginning of each fall term. This examination is restricted to questions in the fields of mechanics and electricity. Students who show a lack of preparation in either of these fields are required to take appropriate undergraduate courses.

Course requirements for a master's degree with a major in physics normally include, in addition to the substantial equivalent of the undergraduate physics degree: two year sequences in physics, at least one of which must be a 500 sequence; and one of the following sequences in mathematics—Advanced Calculus (Mth 431, 432, 433), seminar in applied mathematics (Mth 507), Theory of Functions of a Real Variable (Mth 551, 552, 553), Theory of Functions of a Complex Variable (Mth 554, 555, 556), Topics in Classical Analysis (Mth 557, 558, 559). The master's degree is offered with or without presentation of a thesis.

The Ph.D. qualifying examination, given in the spring, covers undergraduate physics and the content of core graduate courses in mechanics, electromagnetic theory, and quantum mechanics. This examination is followed by a comprehensive examination, which leads to admission to candidacy for the Ph.D. degree. After completion of his thesis, the candidate takes an oral Ph.D. final examination. A detailed description of examinations and requirements is available from the department.

Teaching and research assistantships are available. Research assistantships are offered in connection with projects sponsored by the Graduate School and

by such agencies as the National Science Foundation, the Office of Naval Research, the Air Force Office of Scientific Research, and the Tektronix Foundation. Several National Defense Education Act fellowships are awarded. Students from foreign countries wishing to apply for assistantships are required to submit results of the Graduate Record Examination. Further information on graduate work in physics at the University is available from the department.

- Ph 407. **Seminar.** (G) Hours to be arranged.
- Ph 411, 412, 413. **Modern Physics.** (G) 3 hours each term. Powell.
- Ph 417, 418. **Atomic and Nuclear Physics.** (g) 3 hours each term.
- Ph 427, 428, 429. **Electronics.** (g) 3 hours each term. Higgins.
- Ph 431, 432, 433. **Electricity and Magnetism.** (g) 3 hours each term. Wells.
- Ph 434, 435, 436. **Advanced Physical Measurements.** (G) 1 or 2 hours each term.
- Ph 441, 442, 443. **Advanced Optics.** (G) 4 hours each term. Kemp.
- Ph 444. **Spectrochemical Analysis.** (G) 3 hours. Ch'en.
- Ph 471, 472, 473. **Introduction to Theoretical Physics.** (G) 3 hours each term. McDaniels.
- Ph 481, 482, 483. **Introduction to Quantum Mechanics.** (G) 3 hours each term. Wells.
- Ph 501. **Research.** Hours to be arranged.
- Ph 503. **Thesis.** Hours to be arranged.
- Ph 505. **Reading and Conference.** Hours to be arranged.
- Ph 507. **Seminar.** Hours to be arranged.
Experimental Solid State Physics. Nuclear Physics. Advanced Quantum Theory. Elementary Particles. Liquid Helium.
- Ph 517, 518, 519. **Quantum Mechanics.** 3 hours each term. Girardeau.
- Ph 524, 525, 526. **Nuclear Physics.** 3 hours each term. McDaniels.
- Ph 538, 539, 540. **Theoretical Mechanics.** 3 hours each term. McClure.
- Ph 541, 542, 543. **Theoretical Nuclear Physics.** 3 hours each term.
- Ph 544, 545, 546. **Electromagnetic Theory.** 3 hours each term. Powell.
- Ph 551, 552, 553. **Atomic Spectra.** 3 hours each term. Ch'en.
- Ph 554, 555, 556. **Experimental Spectroscopy.** 1 hour each term. Ch'en.
- Ph 578, 579, 580. **Solid State Physics.** 3 hours each term.
- Ph 593, 594, 595. **Statistical Physics.** 3 hours each term. Wannier.

Political Science

Professors: ROBERT E. AGGER, JAMES C. DAVIES, ARTHUR S. FLEMMING, JOHN F. GANGE, THOMAS HOVET, JR., WILLIAM C. MITCHELL, ROBERT PRESTIUS, CHARLES P. SCHLEICHER, LESTER G. SELIGMAN.

Associate Professors: JAMES R. KLONOSKI (department head), DANIEL GOLDRICH, JAROLD A. KIEFFER, L. HARMON ZEIGLER.

Assistant Professors: JOSEPH M. ALLMAN, DAVID J. FINLAY, JOSEPH R. FISZMAN, ARTHUR M. HANHARDT, JR., JOYCE M. MITCHELL, M. GEORGE ZANINOVICH.

The Department of Political Science offers a graduate program of studies leading to the M.A., M.S., and Ph.D. degrees. The program is designed to prepare

a student for teaching, research, and governmental or other public service, as well as to enable him to understand and participate in public affairs. Regular members of the department, special lecturers, and occasional visiting faculty members offer advanced courses and seminars in most fields of political science. Joint faculty-student studies, interdepartmental research projects, and individual research are currently being conducted in such diverse areas as public administration in the United States and underdeveloped countries, political leadership, Congressional voting, local community and interest-group power structures, political socialization, revolution, and communications in international relations.

Members of the faculty and their students are associated with a variety of research and study enterprises in the Institute of International Studies and Overseas Administration, the Center for the Advanced Study of Educational Administration, and the Institute for Comparative Experimental Research on Behavioral Systems. Each of these programs provides a center of interdisciplinary and interdepartmental study, focused on aspects of political science. Individual faculty research projects, financed by foundations, the government, the University, and other agencies, provide further opportunities for the student to work closely with faculty members, and to share directly in the tasks of planning, designing, and conducting systematic studies of various kinds.

Graduate students come to the advanced study of political science with a variety of academic backgrounds. Each student is encouraged to advance as rapidly as possible toward his goals by developing a program suited to those goals. The department offers a wide variety of courses and seminars, but it also requires all graduate students to complete a core program of studies designed to increase their competence in theoretical and research skills. These core areas are: political theory and methodology; comparative politics, national systems; comparative politics, cross-national studies; and international relations. Examinations for both the master's and doctor's degrees test the student's preparation in these core areas and in the area of concentration he has selected for his principal studies.

Master's Degree. Ordinarily, full-time study for one calendar year beyond the bachelor's degree enables a student to prepare himself for the final comprehensive written examination for the master's degree. As a rule, four-fifths of the student's work is in political science and the remainder in related fields. The writing of a thesis is optional; for the thesis, candidates may substitute two shorter papers of outstanding quality.

Doctor's Degree. Two years of full-time study beyond the bachelor's degree are generally required in preparation for the preliminary comprehensive examination for the Ph.D. degree. During these years the student is expected to take regular courses and seminars and reading courses to prepare himself for the examination. After successful completion of the language and/or statistics requirement the student takes the preliminary general written examination and writes a dissertation.

Admission. Admission to graduate study is based upon an evaluation of the Miller Analogies Test, plus supporting documents including an individual statement of purpose, transcripts of grades, and letters of recommendation. Applicants are encouraged to make their applications direct to the department during the winter and spring terms before admission in the fall term.

Financial Assistance. Teaching and research assistantships and fellowships are available for qualified students. Application forms may be secured from the Office of Admissions; applications should be submitted to the department by February 15.

PS 412, 413. **Administrative Organization and Behavior.** (G) 3 hours each term, winter and spring. Presthus.

- PS 414, 415, 416. **Political Parties and Public Opinion.** (G) 3 or 4 hours each term. Seligman.
- PS 420, 421. **International Organization.** (G) 3 hours each term, fall and winter. Hovet.
- PS 422. **International Law.** (G) 3 hours spring. Hovet.
- PS 424. **Government and Politics of Great Britain.** (G) 3 hours.
- PS 425. **Government and Politics of France.** (G) 3 hours.
- PS 426. **Government and Politics of Germany.** (G) 3 hours. Hanhardt.
- PS 427, 428. **Government and Politics of the Soviet Union.** (G) 3 hours each term, fall and winter. Fiszman.
- PS 430. **Political Theory: General Issues.** (G) 3 hours fall. Zaninovich.
- PS 431. **Political Theory: Values and Utopias.** (G) 3 hours winter. Zaninovich.
- PS 432. **Political Theory Causes of Political and Social Change.** (G) 3 hours spring. Zaninovich.
- PS 433, 434, 435. **Political Theory: The American Tradition.** (G) 3 hours each term.
- PS 440, 441, 442. **Foreign Policies of the Major Powers.** (G) 3 hours each term. Hovet.
- PS 456, 457. **Theory of Democracy.** (G) 3 hours each term, fall and winter. W. Mitchell.
- PS 460, 461. **Government and Politics of the Far East: China.** (G) 3 hours each term. Fiszman.
- PS 463, 464. **Government and Politics of Latin America.** (G) 3 hours each term. Goldrich.
- PS 467, 468, 469. **Federal Public Administration.** (G) 3 hours each term. Kieffer.
- PS 470. **Political Behavior.** (G) 3 hours. Davies.
- PS 475. **Political Revolution.** (G) 3 hours. Davies.
- PS 482. **Legislative Politics.** (G) 3 hours. J. Mitchell.
- PS 483. **Allocation of Justice.** (G) 3 hours. Klonoski.
- PS 484, 485, 486. **The Supreme Court in American Government.** (G) 3 hours each term. Klonoski.
- PS 488, 489. **The Policy Process.** (G) 3 hours each term, winter and spring. J. Mitchell.
- PS 490, 491. **Community Politics.** (G) 3 hours each term, winter and spring.
- PS 492, 493. **Political Decision Making.** (G) 3 hours each term.
- PS 494. **Federal Education Policy.** (G) 3 hours. Flemming.
- PS 495. **Federal Welfare Policy.** (G) 3 hours. Flemming.
- PS 496. **National Security Policy.** (G) 3 hours. J. Mitchell.
- PS 501. **Research.** Hours to be arranged.
- PS 503. **Thesis.** Hours to be arranged.
- PS 505. **Reading and Conference.** Hours to be arranged.
- PS 507. **Seminar.** Hours to be arranged.

Africa: Finlay. Comparative Community Politics: Agger, Goldrich. Comparative Labor Movements: Fiszman. Comparative Communist Systems: Fiszman. Comparative Political Behavior: Davies. Comparative Political Elites: Seligman. Comparative Studies in Public Administration. Contemporary Political Theory: W. Mitchell. Constitutional Law and the Judicial Process: Klonoski. International Politics: Schleicher. International Relations Theory: Schleicher, Finlay. Policy Implementation Abroad: Gange. Political

Behavior: Presthus. *Political Development in the Newer Nations*: Davies, Goldrich. *Politics of Public Administration*: Presthus. *Political Revolution*: Davies. *The Political System*: W. Mitchell. *Scope of Political Science*: Seligman. *Methods of Political Science*: Zeigler, Davies. *Theory of American Politics*: W. Mitchell. *United States Foreign Policy*: Schleicher.

Psychology

Professors: RICHARD A. LITTMAN (department head), FRED ATTNEAVE, ROBERT F. FAGOT, FREDERICK R. FOSMIRE, RAY HYMAN, ROBERT W. LEEPER, GERALD R. PATTERSON, NORMAN D. SUNDBERG, PHILIP J. RUNKEL, LEONA E. TYLER, ROBERT L. WEISS, ROBERT C. ZILLER.

Associate Professors: JACOB BECK, HAROLD R. CROSLAND (emeritus), ROBYN DAWES, LEWIS R. GOLDBERG, MARVIN GREENBAUM, DANIEL P. KIMBLE, ROBERT W. LEARY, PETER M. LEWINSOHN, EDWARD LICHTENSTEIN, MICHAEL I. POSNER, COLIN M. SLADE.

Assistant Professors: JOEL W. ADKINS, BARRY F. ANDERSON, MARVIN E. LICKEY, BENSON SCHAEFFER, VELLO SERMAT.

The department offers graduate work leading to the degrees of Master of Arts, Master of Science, and Doctor of Philosophy. Candidates for graduate work are accepted in the following fields: general experimental, physiological and comparative, mathematical, clinical, developmental, social and personality, and assessment. The department maintains a general experimental laboratory, rat and monkey laboratories, a child-study center, and a psychological clinic.

Preparation for Graduate Study. Students should not undertake graduate work unless their grades in undergraduate psychology and related courses have averaged better than B.

Prospective graduate students in psychology are advised to take only the minimum of 36 hours in psychology required for an undergraduate major (a suggested maximum is 42 hours)—leaving time for work in such related fields as anthropology, biology, chemistry, mathematics, physics, and sociology. Preparation for graduate work should include courses in quantitative methods and foreign languages. All prospective graduate students should take the Quantitative Methods in Psychology (Psy 313) and at least one upper-division laboratory course and are strongly urged to take at least two terms of statistics in the Department of Mathematics. A student who intends to work for a Ph.D. degree should acquire a reading knowledge of two foreign languages; languages with particular relevance for psychologists are German, French, Russian, and Japanese.

Requirements. All students beginning graduate work in psychology, regardless of prior graduate training, are required to take a series of core seminars (see Psy 507, below) which provide a breadth of background in psychology as well as an introduction to research. A thesis is required for all advanced degrees. Further information concerning the core program and other requirements may be obtained on request to the department.

All students applying for admission for graduate work in psychology must provide scores on the Graduate Record Examination, including psychology, verbal, and qualitative scores (the score on the Miller Analogies Test is also desirable), and three letters of recommendation on special forms provided by the department. Detailed information on admission, including application forms and information on awards and assistantships may be obtained from the Department of Psychology.

Clinical Psychology. The department's clinical program stresses the model of a clinical psychologist as a producer of knowledge through research and writing.

Prospective clinical students should take Foundations of Clinical and Counseling Practice (Psy 530) and practicum work in the University Psychology Clinic during their first year to explore the strength of their interest and ability in clinical psychology. Formal admission to the clinical program is granted in the second graduate year, upon successful completion of the work of the first graduate year.

Beyond the core program, clinical students have great freedom in choosing a study program. Some may concentrate on physiological psychology; others find that work in anthropology and sociology will contribute more to their vocational goals. The clinical preliminary examination consists of two parts, a written and a field examination. The written examination samples personality theory, assessment and diagnostics, psychotherapy, psychopathology, and professional problems and ethics. The field examination, in diagnosis and therapy, may be scheduled any time after the written examination is passed. In the field examination the student is required to demonstrate that he has acquired practical clinical skills in addition to his academic knowledge.

Psy 407. **Seminar.** (g) Hours to be arranged.

Perception: Attneave. *Perception of Form*: Beck. *Thinking*: Anderson. *Human Performance*: Posner. *Neuropsychology*: Kimble. *Psychopathology*: Fosmire. *Group Processes*: Ziller. *Mathematical Models*: Fagot.

Psy 417, 418. **Laboratory in Advanced Psychological Statistics.** (G) 1 hour each term. Fagot.

Psy 421. **Principles and Methods of Psychological Assessment.** (g) 3 hours. Goldberg.

Psy 436. **Character and Personality.** (g) 3 hours. Leeper, Lewinsohn, Lichtenstein, Sundberg.

Psy 437. **Social Psychology.** (g) 3 hours. Fosmire, Runkel, Ziller.

Psy 439. **Somatopsychology.** (G) 3 hours.

Psy 441. **Group and Individual Differences.** (G) 3 hours. Sundberg, Tyler.

Psy 449. **Occupational Choice and Psychology of Careers.** (g) 3 hours. Sundberg, Tyler.

Psy 450. **Abnormal Psychology.** (g) 3 hours. Fosmire, Lewinsohn, Lichtenstein.

Psy 451. **Physiological Psychology.** (g) 3 hours. Adkins, Kimble, Lickey.

Psy 460. **Developmental Psychology.** (g) 3 hours. Schaeffer.

Psy 465. **Motivation.** (g) 3 hours. Adkins, Leeper, Littman.

Psy 470. **Animal Psychology.** (g) 3 hours. Adkins, Kimble, Leary.

Psy 471. **Laboratory in Animal Psychology.** (g) 2 hours. Adkins, Kimble, Leary.

Psy 490. **Psychology of Learning.** (g) 3 hours. Anderson, Littman, Posner.

Psy 491. **Laboratory in Learning.** (g) 2 hours. Adkins, Anderson, Posner.

Psy 492. **Psychology of Perception.** (g) 3 hours. Attneave, Beck.

Psy 493. **Laboratory in Perception.** (g) 2 hours. Attneave, Beck.

Psy 501. **Research.** Hours to be arranged.

Psy 502. **Advanced Psychology Laboratory.** Hours to be arranged.

Psy 503. **Thesis.** Hours to be arranged.

Psy 505. **Reading and Conference.** Hours to be arranged. Littman.

Psy 507. **Seminar.** Hours to be arranged.

Seminars vary depending upon faculty interests. Typical offerings are: *Human Performance*: Posner. *Neural Basis of Learning*: Lickey. *Theory of Choice Behavior*: Fagot. *Inferential Processes in Perception*: Beck. *Physiological Models in Motivation*: Adkins. *Learning Theory Approaches to Psychopath-*

ology: Schaeffer. *Behavior Modification*: Patterson. *Group Psychotherapy and Milieu Therapy*: Clinical Staff. *Game Theory*: Sermat.

The following Core Seminars are available for first-year graduate students: *Quantitative Methods I & II, Experimental Design, Comparative, Learning, Perception, Physiological, Developmental, History and Systems, Personality, Psychopathology, and Social.*

- Psy 508. **Clinical Work with Children.** 3 hours any term.
- Psy 509. **Practicum Experience.** Hours to be arranged.
- Psy 521. **History and Systems of Psychology.** 3 hours. Leeper, Littman.
- Psy 524. **Individual Intelligence Testing.** 4 hours.
- Psy 525. **Individual Intelligence Testing.** 2 hours.
- Psy 527. **The Counseling Process.** 3 hours. Sundberg.
- Psy 530, 531, 532. **Foundations of Clinical and Counseling Practice.** 3 hours.
- Psy 533. **Advanced Personality Assessment.** 3 hours. Goldberg, Lewinsohn, Lichtenstein, Sermat, staff.
- Psy 535. **Advanced Social Psychology.** 3 hours. Hyman, Runkel, Ziller.
- Psy 537, 538, 539. **Personality Theory and Research.** 4 hours fall; 2 hours each term, winter and spring. Patterson.
- Psy 543, 544. **Measurement: Theory and Application.** 3 hours each term. Fagot.
- Psy 545. **Theory and Construction of Tests.** 3 hours.
- Psy 546. **Factor Analysis.** 3 hours. Fagot.
- Psy 560. **Advanced Physiological Psychology.** 3 hours. Kimble, Lickey.
- Psy 566. **Advanced Psychology of Perception.** 3 hours. Attneave, Beck.
- Psy 570. **Advanced Animal Psychology.** 3 hours. Leary.
- Psy 572, 573, 574. **Advanced Psychology of Learning and Thinking.** 3 hours each term. Littman, Posner.

Public Affairs

The University offers an interdisciplinary program of graduate study in public affairs, leading to the master's degree. The major requirements include: a minimum of 18 term hours of work selected from the following core areas: personnel, fiscal administration and economic policy, law, social and political policy and policy decision making, research methods and use of research, organization and administration; a seminar in special problems of administration; a thesis.

The program is administered by an advisory committee, of which Jarold A. Kieffer, associate professor of political science, is chairman.

Religious Studies

Professors: P. B. MEANS (emeritus).

Associate Professors: DOUGLAS STRATON (department head), ALFRED BLOOM.

Assistant Professor: STEPHEN C. REYNOLDS.

The University of Oregon does not offer major graduate work in religion. However, the Department of Religious Studies offers several courses that carry graduate credit and that may partially satisfy the minor requirement for a graduate degree.

- R 405. **Reading and Conference.** (g) Hours to be arranged.
- R 407. **Seminar.** (g) Hours to be arranged.
Buddhist Philosophy in India: Bloom. *Religious Philosophy of China*: Bloom.
Religions in Japan: Bloom. *History of Christian Thought and Institutions*:
 Reynolds.
- R 419, 420. **Philosophy of Religion.** (g) 3 hours each term, fall and winter.
- R 421. **Contemporary Social Problems and Religion.** (g) 3 hours spring.
- R 422. **Psychology of Religion.** (g) 3 hours.
- R 423, 424, 425. **Contemporary Concepts of God.** (g) 3 hours each term.
- Anth 444. **Religion and Magic of Primitives.** (G) 3 hours.
- Soc 461. **Sociology of Religion.** (G) 3 hours.
- Hst 471. **Social Factors in American History.** (G) 3 hours.

Sociology

Professors: WALTER T. MARTIN (department head), HARRY ALPERT, THEODORE R. ANDERSON, JOEL V. BERREMAN, HERBERT BISNO, ROBERT DUBIN, ROBERT A. ELLIS, JOHN M. FOSKETT, JAY JACKSON, BENTON JOHNSON, ROLAND J. PELLEGRIN, WILLIAM S. ROBINSON.

Associate Professors: THEODORE B. JOHANNIS, JR., KENNETH POLK, ROY H. RODGERS.

Assistant Professors: JOAN ACKER, J. MICHAEL ARMER, STEVEN DEUTSCH, RICHARD GALE, JOHN R. HOWARD, GERALD KING, JOHN MACGREGOR, WALTER E. SCHAFER.

The graduate program of the Department of Sociology, leading to the M.A., M.S., and Ph.D. degrees, is designed to train professional sociologists for teaching, research, and administrative posts in sociology and related fields. Most candidates for the Ph.D. degree first obtain a master's degree, but qualified students who have completed one year of work in residence are occasionally permitted to develop programs leading directly to the Ph.D.

Although the department accepts students who are interested only in the master's degree, its program is primarily intended for doctoral candidates. All students of good academic ability are encouraged to follow a course of study leading to the Ph.D. degree.

The department offers two programs leading to the master's degree. The preparatory master's program, leading to the M.A. degree, is designed as a stepping stone to the Ph.D. degree. The second program leads to a terminal master's degree for students preparing to enter professional positions other than college or university teaching or research; no thesis is required in this program.

The department offers graduate study in five broad areas of concentration: theory, methodology, social psychology, social structure and processes, and social institutions. In each of these general areas a core curriculum is provided and all graduate students seeking advanced degrees are required to complete the core courses. Doctoral candidates must demonstrate a high level of competence in a specialized field within one of these broad areas. This competence is achieved through an intensive program of study culminating in the doctoral dissertation. The doctoral dissertation must embody the results of research and show evidence of originality and ability in independent investigation.

A broad range of research is in progress in the department, offering a variety of opportunities to graduate students for study on which master's theses and doctoral dissertations may be based. Graduate awards of various kinds are available

for well-qualified students. Considerable emphasis is placed on close working relationships between students and faculty.

Students are not advised to seek an advanced degree in sociology unless they have achieved a B average or better in their undergraduate work in the field. Students whose undergraduate major has been in another field should have at least a B average in all social science courses taken.

The department does not offer graduate study in social work.

Students interested in the graduate program in sociology should write directly to the head of the Department of Sociology for a brochure describing the program in detail, and for the necessary application materials to be submitted for evaluation. All application materials should be submitted at least two months before the student plans to begin graduate work, or by March 1 for those applying for graduate awards.

Soc 407. **Seminar.** (G) Hours to be arranged.

Economic Sociology: Deutsch. *Sociology of Educaiton*: Armer, Schafer. *Juvenile Delinquency*: Bisno. *Sociology of Illness and Health*: Bisno, Howard. *Migration*: Martin. *Sociology of Leisure*: Johannis. *Problems of Change in Underdeveloped Areas*: Deutsch.

Soc 411, 412, 413. **Sociological Research Methods.** (G) 3 hours each term. Ellis, Robinson.

Soc 415. **Theory and Methods in Population and Ecology.** (G) 3 hours. Martin.

Soc 423. **The Family.** (g) 3 hours. Rodgers.

Soc 425, 426. **Principles and Concepts of Social Work.** (g) 3 hours each term. Bisno.

Soc 430. **Theory of Small Groups.** (G) 3 hours. Jackson, Johannis.

Soc 431. **Group Dynamics.** (g) 3 hours. Jackson.

Soc 436. **Collective Behavior.** (g) 3 hours. MacGregor.

Soc 438. **Social Psychology of the Family.** (G) 3 hours. Johannis, Rodgers.

Soc 440, 441. **Criminology and Delinquency.** (g) 3 hours each term. Polk.

Soc 442. **Urbanization and the City.** (G) 3 hours. Martin.

Soc 443. **Social Control.** (G) 3 hours.

Soc 445. **Sociology of Race Relations.** (g) 3 hours. MacGregor.

Soc 446. **Sociology of Work.** (G) 3 hours. Deutsch, Gale.

Soc 447. **Industrial Sociology.** (G) 3 hours. Deutsch, Gale.

Soc 448. **Sociology of Occupation.** (G) 3 hours. Pellegrin.

Soc 449. **Social Change.** (G) 3 hours. Bisno.

Soc 451, 452. **Social Stratification.** (G) 3 hours. Ellis, Johnson.

Soc 460. **Social Institutions.** (G) 3 hours. Johannis.

Soc 461. **Sociology of Religion.** (G) 3 hours. Johnson.

Soc 462. **Sociology of the Family.** (G) 3 hours. Johannis, Rodgers.

Soc 465. **Political Sociology.** (G) 3 hours. Bisno, Deutsch, Howard.

Soc 467, 468, 469. **The Social Welfare Institution.** (g) 3 hours each term. Bisno.

Soc 470. **Development of Sociology.** (g) 3 hours. MacGregor.

Soc 490. **Sociology of Leisure.** (G) 3 hours. Johannis.

Soc 491. **Sociology of Education.** (G) 3 hours. Armer, Schafer.

Soc 501. **Research.** Hours to be arranged.

Soc 502. **Supervised College Teaching.** Hours to be arranged.

- Soc 503. **Thesis.** Hours to be arranged.
- Soc 505. **Reading and Conference.** Hours to be arranged.
- Soc 506. **Supervised Field Study.** 1 hour each term.
- Soc 507. **Seminar.** Hours to be arranged.
Comparative Family Systems: Johannis. *Contemporary Research on Family Sociology*: Johannis, Rodgers. *Population and Social Structure*: Martin. *Sociology of Professions*: Bisno. *Sociology of Religion*: Johnson. *Sociology of Science*: Alpert. *Sociology of Deviant Behavior. Social Stratification*: Ellis, Johnson. *Sociology of Education*: Armer, Schafer. *Primary Human Interaction*: Dubin. *Theory of Action*: Johnson. *Urbanization*. Martin. *Quantitative Sociology*: Robinson. *Sociology of Adolescence*: Polk. *College Teaching of Sociology*: Rodgers. *Role Theory and Research*: Jackson. *Social Influence*: Jackson. *Organizational Communication*: Jackson.
- Soc 508. **Workshop.** Hours to be arranged (summer sessions).
- Soc 518. **Experimental Sociology.** 3 hours. Dubin.
- Soc 530. **Analytical Problems in Social Psychology.** 3 hours. Jackson.
- Soc 532. **Propaganda and Social Control.** 3 hours.
- Soc 537. **Social Movements.** 3 hours.
- Soc 540. **Social Structure and Processes.** 3 hours. Pellegrin.
- Soc 541. **Theory of Organization.** 3 hours. Dubin.
- Soc 542. **Power and Influence in Community and Society.** 3 hours. Pellegrin.
- Soc 560. **Analytical Problems in Social Institutions.** 3 hours. Foskett.
- Soc 561. **Values and Social Structure.** 3 hours. Johnson.
- Soc 570. **Analytical Problems in Sociological Theory.** 3 hours. Dubin, Johnson.
- Soc 571. **History of Social Thought.** 3 hours. Foskett.
- Soc 572. **Development of American Sociology.** 3 hours. Foskett.
- Soc 573. **Contemporary Sociology.** 3 hours. Johnson.
- Soc 575. **Theory Building in Sociology.** 3 hours. Dubin.

Speech

- Professors: BOWER ALY, ROBERT P. FRIEDMAN, HORACE W. ROBINSON, JOHN R. SHEPHERD, D. GLENN STARLIN, KENNETH S. WOOD.
- Associate Professors: CHARLEY A. LEISTNER (department head), FABER DE CHAINE, E. A. KRETSINGER, KIRT E. MONTGOMERY, SCOTT NOBLES.
- Assistant Professors: CARL W. CARMICHAEL, NED J. CHRISTENSEN, JEAN V. CUTLER, ANTHONY L. KADLEC, BRUCE P. RYAN, RONALD E. SHERRIFFS.

The Department of Speech offers work leading to the M.A., M.S., M.F.A., and Ph.D. degrees. The fields of study are: rhetoric and public address, radio and television broadcasting, speech pathology and audiology, theater, and speech education.

Students concentrate their studies in one of these five fields, but also elect courses in the other subject fields of the department.

The activities and special services of the department provide laboratories in which students may gain experience in direction as well as in limited participation. The University Theater, one of the best-equipped in the West, has three producing areas: the main theater, the laboratory theater, and the arena theater. The University has its own television studios and FM radio station (KWAX), as well as local studios to provide programs for the state-owned radio and television stations

(KOAC and KOAC-TV) and for commercial radio and television stations. The University Speech and Hearing Clinic as well as other clinics in the community gives students opportunity to work with actual cases of speech-handicapped children and adults. The forensics program includes not only traditional debate and speech contests but also participation in the activities of the University Symposium, a group which takes the discussion of critical public issues to Oregon communities. Graduate students are given special responsibility in the direction of these activities, and find in them problems for their research projects.

The instruction and activities of the department are housed in Villard Hall and in the adjacent University Theater.

Rhetoric and Public Address

Sp 421. **Classical Oratory.** (G) 3 hours. Aly, Nobles.

Sp 422. **British Oratory.** (G) 3 hours. Aly.

Sp 423. **American Oratory.** (G) 3 hours. Aly, Leistner.

Sp 424. **Speech Forms and Techniques of Group Control.** (g) 3 hours (extension and summer sessions).

Sp 501. **Research.** Hours to be arranged.

Sp 503. **Thesis.** Hours to be arranged.

Sp 505. **Reading and Conference.** Hours to be arranged.

Sp 507. **Seminar.** Hours to be arranged.

Introduction to Graduate Study. Communication Research Methods. Small Group Behavior. Studies of Attitude Change. British Oratory from 1867. American Oratory to 1840. American Oratory, 1840 to 1912. American Oratory, 1912 to the present.

Sp 511. **Eighteenth Century Rhetorical Theory.** 3 hours.

Sp 512. **American Public Address.** 3 hours. Aly, Leistner.

Sp 513. **Recent Rhetorical Criticism.** 3 hours. Nobles.

Radio and Television Broadcasting

J 432. **Radio-Television News II.** (G) 3 hours.

Sp 444. **Radio-Television Direction.** (G) 3 hours. Shepherd.

Sp 445. **Radio-Television Production.** (G) 3 hours. Shepherd.

Sp 446. **Radio-Television Programming.** (G) 3 hours. Starlin, Sherriffs.

Sp 448. **Radio and Television and the Public.** (G) 3 hours spring. Kretsinger, Shepherd, Starlin.

Sp 469. **Lighting for Television.** (G) 2 hours. Hershberger.

Sp 470. **Methods in the Production of Educational Television.** (G) 3 hours. Sherriffs.

Sp 501. **Research.** Hours to be arranged.

Sp 503. **Thesis.** Hours to be arranged.

Sp 505. **Reading and Conference.** Hours to be arranged.

Sp 507. **Seminar.** Hours to be arranged.

Introduction to Graduate Study. Problems of Education by Television. British Broadcasting. Research in Broadcasting. Television and Politics. Educational Television Production.

Sp 541. **Theory and Criticism of Broadcasting.** 3 hours. Starlin.

Sp 544. **Radio-Television Program Evaluation.** 3 hours. Kretsinger, Mertz.

Speech Pathology

- Sp 472. **Experimental Phonetics.** (G) 3 hours. Wood.
- Sp 481, 482, 483. **Speech Pathology.** (G) 3 hours each term. Christensen, Ryan, Wood.
- Sp 484, 485, 486. **Clinical Speech Therapy.** (G) 2 hours each term. Christensen, Ryan, Wood.
- Sp 487, 488, 489. **Audiology.** (G) 3 hours each term. Christensen, Ryan, Wood.
- Sp 490. **Lip Reading for the Deaf and Hard-of-Hearing.** (G) 3 hours (extension).
- Sp 491. **Advanced Language Development for the Deaf.** (G) 3 hours (extension).
- Sp 492. **Voice and Speech for the Deaf.** (G) 3 hours (extension).
- Sp 501. **Research.** Hours to be arranged.
- Sp 503. **Thesis.** Hours to be arranged.
- Sp 505. **Reading and Conference.** Hours to be arranged.
- Sp 507. **Seminar.** Hours to be arranged.
Introduction to Graduate Study. Psychology of Speech. Auditory Disorders. Stuttering. Articulation. Speech and Language Development in Children. Voice Problems. Cleft Palate. Aphasia. Behavior Modifications in Speech Therapy. Advanced Speech Science.

Theater

- Eng 411, 412, 413. **English Drama.** (G) 3 hours each term.
- Eng 420, 421, 422. **Modern Drama.** (G) 3 hours each term.
- Sp 460. **Advanced Play Direction.** (G) 3 hours. Cutler, Robinson.
- Sp 461. **Introduction to Scene Design.** (G) 3 hours. Kadlec.
- Sp 462. **Styles in Scene Design.** (G) 3 hours. Kadlec.
- Sp 463. **Advanced Problems in Scene Design.** (G) 3 hours. Kadlec.
- Sp 464, 465, 466. **History of the Theater.** (G) 3 hours each term. Cutler, De Chaine.
- Sp 467, 468. **Lighting for the Stage.** (G) 2 hours each term. Kadlec.
- Sp 501. **Research.** Hours to be arranged.
- Sp 503. **Thesis.** Hours to be arranged.
- Sp 505. **Reading and Conference.** Hours to be arranged.
- Sp 507. **Seminar.** Hours to be arranged.
Introduction to Graduate Study. Interpretation. Cinematography. Theater Structure. Theater Management. History of the American Theater. Producing the New Play. Advanced Technical Practice. Avante-Garde Theater. Scandinavian Drama.
- Sp 551, 552, 553. **Theory of Dramatic Production.** 3 hours each term. Cutler, Robinson.

Research Institutes

Several interdisciplinary institutes administered through the Graduate School provide opportunities for graduate training and research in addition to those offered by schools and departments. Institute staff members hold joint appointments in related teaching departments. Graduate students who intend to do thesis research work in one of the institutes must also satisfy the graduate degree requirements of the related department through which they will receive their degree.

Students who wish to work in any of these fields may obtain detailed information concerning the programs and available financial aid from the institute directors.

Institute of Molecular Biology

AARON NOVICK, Ph.D., Director of Institute of Molecular Biology; Professor of Biology.

SIDNEY A. BERNHARD, Ph.D., Associate Professor of Chemistry.

JOHN R. MENNINGER, Ph.D., Associate Professor of Biology.

WILLIAM T. SIMPSON, Ph.D., Professor of Chemistry.

FRANKLIN W. STAHL, Ph.D., Professor of Biology.

GEORGE STREISINGER, Ph.D., Professor of Biology.

ASSOCIATES

EDWARD HERBERT, Ph.D., Associate Professor of Chemistry.

FRANCIS J. REITHEL, Ph.D., Professor of Chemistry.

EDWARD NOVITSKI, Ph.D., Professor of Biology.

JOHN A. SCHELLMAN, Ph.D., Associate Professor of Chemistry.

WILLIAM R. SISTROM, Ph.D., Associate Professor of Biology.

RAYMOND G. WOLFE, Ph.D., Associate Professor of Chemistry.

The Institute of Molecular Biology is a center for research and research instruction in areas of biology where understanding is found in terms of the properties of macromolecules, particularly nucleic acids and proteins. Staff members hold joint appointments in a department (biology, chemistry, or physics).

Current research projects in the institute are concerned with such topics as genetic recombination and mutation in bacteria and bacterial viruses, the genetic control of protein synthesis, the regulation of the rate of protein formation, molecular structural aspects of biological specificity, biocatalysis, and biological coding.

The institute sponsors seminars, special lectures, visiting professorships, and instruction in research, but does not conduct a formal teaching program. Members of the institute staff offer courses in their fields of competence through the departments with which they are affiliated.

Research instruction is offered at both the graduate and postdoctoral levels. With the approval of the department concerned, graduate students in biology, chemistry, or physics may do research in the institute as a part of their programs leading to graduate degrees. Research advisers may be members either of the institute staff or of a departmental faculty.

Institute of Theoretical Science

ROBERT M. MAZO, Ph.D., Director of Institute of Theoretical Science; Professor of Chemistry.

MARVIN D. GIRARDEAU, JR., Ph.D., Associate Professor of Physics.

IAN E. MCCARTHY, Ph.D., Professor of Physics.

MARTIN L. SAGE, Ph.D., Assistant Professor of Chemistry.

WILLIAM T. SIMPSON, Ph.D., Professor of Chemistry.

ROBERT L. ZIMMERMAN, Ph.D., Assistant Professor of Physics.

ASSOCIATES

TERRELL L. HILL, Ph.D., Professor of Chemistry.

JOEL W. McCLURE, Ph.D., Professor of Physics.

JOHN L. POWELL, Ph.D., Professor of Physics.

GREGORY H. WANNIER, Ph.D., Professor of Physics.

The Institute of Theoretical Science provides a center for research leading to the understanding of natural processes in terms of logically constructed conceptual systems, and to the synthesis of the specialized research of physicists, chemists, and other natural scientists.

Theoretical science may be defined to include: (1) the discovery and description of the fundamental laws which govern the behavior of the elementary constituents of natural systems; (2) the theoretical description of complex systems, arising through the mutual interaction of a large number of simple systems of which we have a basic theoretical understanding; and (3) the utilization of the conceptual and analytic tools of the theoretical scientists in applied research.

Graduate students with adequate preparation in one of the science departments may elect thesis research in the institute. The institute also sponsors postdoctoral fellowships and visiting professorships.

Statistical Laboratory and Computing Center

FRED C. ANDREWS, Ph.D., Director of Statistical Laboratory and Computing Center; Associate Professor of Mathematics.

GEORGE W. STRUBLE, Ph.D., Associate Director; Assistant Professor of Mathematics.

GERALD KING, Ph.D., Research Associate; Assistant Professor of Sociology.

HENRY L. LOEB, Ph.D., Research Associate; Visiting Associate Professor of Mathematics.

TED K. MATTHES, Ph.D., Assistant Professor of Mathematics; Research Associate.

ROBERT F. TATE, Ph.D., Associate Professor of Mathematics; Research Associate.

DONALD R. TRUAX, Ph.D., Associate Professor of Mathematics; Research Associate.

The Statistical Laboratory and Computing Center conducts research in the development of new statistical and numerical procedures, and provides a consulting service for graduate students and members of the faculty in the fields of statistical and numerical analysis. Computing facilities include an IBM 360, Model 50, and an IBM 1620. The electronic computers are available to the faculty and students of the University for research and instruction. The staff offers seminars in programming for these machines.

Institute of International Studies and Overseas Administration

JOHN F. GANGE, M.A., Director, Institute of International Studies and Overseas Administration; Professor of Political Science.

CLARENCE E. THURBER, Ph.D., Deputy Director.

EDWARD G. CALE, Ph.D., Research Associate; Visiting Professor of Economics.

JOHN E. DEVINE, M.A., Diplomat in Residence; Visiting Professor of Economics.

The Institute of International Studies and Overseas Administration is responsible for the development and coordination of University activities in the field of international affairs. Its primary functions are: (1) to develop programs of research, teaching, and administration, in cooperation with private and governmental agencies, and to arrange for the conduct of these programs by University personnel, both on the campus and overseas; (2) to assist the Committee on International Studies and Overseas Administration in the administration of graduate study in international affairs and to provide research training for graduate students; and (3) to serve as the University's center for other faculty and student activities concerned with international affairs.

The institute supervises a graduate study program leading to the Master of Arts in international studies (a two-year degree program) and cooperates with major departments in supervising Ph.D. programs for students who elect an emphasis on international affairs within their chosen disciplines.

The institute sponsors and encourages faculty research in international affairs and assists in providing opportunities for joint faculty and student research projects on campus and overseas. Research assistantships are available in the institute; research and research training bases have been established in foreign countries.

The institute also conducts graduate seminars to provide opportunities for students and members of the faculty to share ideas and experiences with visiting lecturers, special consultants, and among themselves. In addition to its campus programs, the institute arranges for advanced students opportunities for overseas study and for administrative experience on foreign projects.

Institute for Community Studies

ROLAND J. PELLEGRIN, Ph.D., Director, Institute for Community Studies and the Center for the Advanced Study of Educational Administration; Professor of Sociology.

MAX G. ABBOTT, Ph.D., Deputy Director, Center for the Advanced Study of Educational Administration; Professor of Education.

ROBERT A. ELLIS, Ph.D., Director, Center for Research on Occupational Planning; Professor of Sociology.

KEITH GOLDHAMMER, Ph.D., Associate Director, Center for the Advanced Study of Educational Administration; Professor of Education.

PHILIP J. RUNKEL, Ph.D., Associate Director, Center for the Advanced Study of Educational Administration; Professor of Psychology.

The Institute for Community Studies conducts and encourages research in the behavioral and social sciences, education, and related areas. Most projects carried on under the auspices of the institute have a community orientation, focusing on the structure and functioning of the community as a social and political system.

Emphasis is on the policy-formulation processes in the economy, government, education, and other institutional areas of the community.

The institute provides facilities for individual research by members of the faculty and for cooperative projects, together with opportunities for continuing communication, criticism, and reports of progress by participating scholars. It also provides research training for graduate students in connection with institute projects, with emphasis on the development of specific research designs as a basis for graduate dissertations.

The Center for the Advanced Study of Educational Administration, a division of the institute, was established in 1964 with funds granted by the Research and Development Program of the United States Office of Education. The program of the center is concerned with the internal organization and functioning of public educational institutions and educational systems and with the relationships of these institutions and systems to the larger environments in which they are located.

The Center for Research on Occupational Planning, also a division of the institute, was established in 1965 under contract with the Division of Vocational and Technical Education of the United States Office of Education. This center conducts nationwide research on occupational choice and planning.

Bureau of Business and Economic Research

DONALD A. WATSON, Ph.D., Acting Director, Bureau of Business and Economic Research; Associate Professor of Finance.

PAUL L. KLEINSORGE, Ph.D., Associate Director; Director of Institute of Industrial and Labor Relations; Professor of Economics.

JEANETTE F. LUND, M.A., Research Assistant.

ROBERT B. FISCHER, B.A., Graduate Research Assistant.

EDWARD M. SIENKIEWICZ, M.S., Research Assistant.

W. THOMAS TRULOVE, B.S., Graduate Research Assistant.

The Bureau of Business and Economic Research conducts and encourages research in business, economics, and related fields. Studies undertaken by the bureau or for which it provides assistance in research design and facilities are financed through University funds and through grants from foundations, government agencies, and the business community.

The bureau publishes the monthly *Oregon Business Review*, the annual *Oregon Economic Statistics*, and monographs reporting the results of business and economic research.

Institute of Industrial and Labor Relations

PAUL L. KLEINSORGE, Ph.D., Director of Institute of Industrial and Labor Relations; Associate Director of Bureau of Business and Economic Research; Professor of Economics.

DONALD A. WATSON, Ph.D., Acting Director, Bureau of Business and Economic Research; Associate Professor of Finance.

ROBERT DUBIN, Ph.D., Research Professor of Sociology.

EATON H. CONANT, Ph.D., Associate Director; Associate Professor of Management.

JACK E. TRIPLETT, JR., Ph.D., Assistant Director; Assistant Professor of Economics.

The Institute of Industrial and Labor Relations conducts a program of research, public service, and graduate study in the field of industrial relations. The institute's research program includes studies in manpower resources, labor mobility, wage structures, personnel problems, management and labor organizations, communications in labor relations, labor legislation, and collective bargaining. The approach is interdisciplinary, involving the cooperative efforts of scholars in the several social sciences and related professional schools.

Center for Social Service Training and Research

MARTIN H. ACKER, Ph.D., Co-Director of the Center for Social Service Training and Research; Associate Professor of Education.

KENNETH POLK, Ph.D., Co-Director of the Center for Social Service Training and Research; Assistant Professor of Sociology.

The Center for Social Service Training and Research administers programs of graduate instruction and research conducted by the University in the fields of juvenile correction, rehabilitation counseling, and related areas.

Rehabilitation Counseling. The program in rehabilitation counseling includes a two-year program of graduate work leading to a master's degree. The program, offered through the School of Education, is designed to provide the student with a well-rounded background for professional employment as a counselor in a state or private agency concerned with the problems of physically or mentally handicapped persons. Courses in psychology, education, and sociology are supplemented by study of medical, legal, and other aspects of rehabilitation and by supervised experience in rehabilitation agencies.

Juvenile Correction. In the field of juvenile correction, the University offers, through the Center for Social Service Training and Research, a two-year interdisciplinary program of graduate study, leading to the master's degree, to prepare students for professional careers in the prevention and correction of juvenile delinquency in a variety of institutions and agencies. The research program includes studies of the causes, prevention, and correction of juvenile behavioral problems.

Institute for College Teaching

WILLIAM C. JONES, Ph.D., Director of the Institute for College Teaching; Dean of Administration; Professor of Higher Education.

The programs of the Institute for College Teaching include: (1) the conduct of research on various problems relating to college teaching, the improvement of the quality of college teaching, the preparation of college teachers, and related professional problems of direct concern to college teachers; (2) the organization, supervision, and coordination of systematic programs of carefully supervised teaching experiences for students preparing for college teaching careers; (3) the preparation and presentation of courses and seminars dealing with the nature, structure, history, philosophy, and organization of institutions of higher learning.

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