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UNIVERSITY OF OREGON
GRADUATE SCHOOL

EUGENE, OREGON



CATALOG ISSUE
1971-72

BULLETIN



OREGON STATE SYSTEM OF HIGHER EDUCATION

NOTICE

Users of this catalog are advised to consult the 1973-74 University Catalog, available July 1, for current information.

Revised tuition rates for 1972-73 and the current academic calendar appear below.

1972-73 tuition and fees for graduate students, both residents of Oregon and nonresidents, enrolled for a total of 9 to 16 term hours, are \$251.50 a term or \$754.50 for the three-term academic year. For each additional term hour over 16, there is a \$20.00 surcharge. Students holding graduate or research appointments or fellowships which involve teaching or research duties pay fees of \$41.50 a term or \$124.50 for the three-term academic year. Graduate tuition rates for 1973-74 are under review.

Calendar

Winter Term 1973

January 3-4, <i>Wednesday-Thursday</i>	Registration
January 5, <i>Friday</i>	Classes begin
January 5, <i>Friday</i>	Last day to pay fees without penalty
January 19, <i>Friday</i>	Last day to register
January 26, <i>Friday</i>	Last day to file degree application
March 9, <i>Friday</i>	Winter-term Commencement
March 16, <i>Friday</i>	Winter term ends

Spring Term 1973

March 26-27, <i>Monday-Tuesday</i>	Registration
March 28, <i>Wednesday</i>	Classes begin
<i>Continued on back cover</i>	

UNIVERSITY OF OREGON BULLETIN

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JULY 1971

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UNIVERSITY
OF OREGON
GRADUATE
SCHOOL

1971-72 CATALOG

EUGENE, OREGON



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Oregon State System of Higher Education

The Oregon State System of Higher Education was organized in 1932 by the State Board of Higher Education following a survey of higher education in Oregon by the U.S. Office of Education. Member institutions are elements of an articulated system, parts of an integrated whole. The educational program is so organized as to distribute as widely as possible throughout the state the opportunities for general education and to center on a particular campus specialized, technical, and professional curricula closely related to one another.

The institutions of the State System of Higher Education are the University of Oregon at Eugene, Oregon State University at Corvallis, Portland State University at Portland, Oregon College of Education at Monmouth, Southern Oregon College at Ashland, Eastern Oregon College at La Grande, and Oregon Technical Institute at Klamath Falls. The University of Oregon Medical School and the University of Oregon Dental School are located in Portland. The Division of Continuing Education, representing all the institutions, has offices in Ashland, Corvallis, Eugene, La Grande, Monmouth, Portland, Roseburg, and Salem.

An interinstitutional booklet, *Your Education*, which outlines the curricula of the several institutions and contains other information, is available. For a copy, write to Division of Publications, P.O. Box 3175, Eugene, Oregon 97403.

State Board of Higher Education

	Term Expires
JOHN D. MOSSER, Portland.....	1972
CHARLES R. HOLLOWAY, JR., Portland.....	1973
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Office of State Board of Higher Education
Post Office Box 3175
Eugene, Oregon 97403

Board members are appointed by the Governor of Oregon
with confirmation by the State Senate.

Calendar

Fall Term, 1971-72

August 15, *Sunday*.....Last day to apply for fall-term admission without penalty
September 23-24, *Thursday-Friday*.....Regular registration
September 27, *Monday*.....Classes begin
October 8, *Friday*.....Last day to register
November 12, *Friday*.....Last day to apply for degree for
December graduation convocation
November 5, *Friday*.....Last day for submitting doctoral theses to committee and
scheduling final oral examinations in Graduate School Office
November 26, *Friday*.....Last day for submitting "Statement of Completion of
Requirements for Master's Degree" to Graduate School Office
December 3, *Friday*.....Last day for doctor's final oral examinations
December 7, *Tuesday*.....Last day for turning in master's theses and doctoral
dissertations to Graduate School Office
December 10, *Friday*.....Fall-term graduation convocation

Winter Term, 1971-72

January 3-4, *Monday-Tuesday*.....Regular registration
January 5, *Wednesday*.....Classes begin
January 14, *Friday*.....Last day to register
February 4, *Friday*.....Last day for submitting doctoral theses to committee and
scheduling final oral examinations in Graduate School Office
February 11, *Friday*.....Last day to apply for degree for
March graduation convocation
February 25, *Friday*.....Last day for submitting "Statement of Completion of
Requirements for Master's Degree" to Graduate School Office
March 3, *Friday*.....Last day for doctor's final oral examinations
March 7, *Tuesday*.....Last day for turning in master's theses and doctoral
dissertations to Graduate School Office
March 10, *Friday*.....Winter-term graduation convocation

Spring Term, 1971-72

March 27, 28, *Monday-Tuesday*.....Regular registration
March 29, *Wednesday*.....Classes begin
April 7, *Friday*.....Last day to register
May 5, *Friday*.....Last day for submitting doctoral theses to committee and
scheduling final oral examinations in Graduate School Office
May 12, *Friday*.....Last day to apply for degree for June Commencement
May 26, *Friday*.....Last day for submitting "Statement of Completion of
Requirements for Master's Degree" to Graduate School Office
June 2, *Friday*.....Last day for doctor's final oral examinations
June 6, *Tuesday*.....Last day for turning in master's theses and doctoral
dissertations to Graduate School Office
June 11, *Sunday*.....Spring-term Commencement

Summer Session, 1972

June 19, *Monday*.....Registration
June 20, *Tuesday*.....Classes begin
July 14, *Friday*.....Last day to apply for degree for Summer Session
graduation convocation
July 28, *Friday*.....Last day for submitting doctoral theses to committee and
scheduling final oral examinations in Graduate School Office
August 11, *Friday*.....Last day for submitting "Statement of Completion of
Requirements for Master's Degree" to Graduate School Office
August 12, *Saturday*.....Summer Session graduation convocation
August 25, *Friday*.....Last day for doctor's final oral examinations
August 29, *Tuesday*.....Last day for turning in master's theses and doctoral
dissertations to Graduate School Office
September 1, *Friday*.....Eleven-week session ends

University of Oregon

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 ROBERT S. HARRIS, GENE E. MARTIN, ARTHUR MITTMAN, ROY H. RODGERS, DON-
 ALD A. WATSON.

General Information

The Graduate School, coordinating the graduate efforts of nine professional schools and colleges 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 some 4,000 students in the regular sessions and nearly 5,000 in the summer session, 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 4,426 degrees conferred by the University of Oregon during the 1969-70 year, 41 per cent were graduate degrees.

History of the Graduate School

The Graduate School was organized in 1900. Before 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. The Ph.D. degree is now authorized in thirty departments of the University.

University Campus

The University of Oregon is fortunate in its location, equidistant from the Pacific Ocean and the Cascade Mountains. It is at the head of the Willamette Valley, 109 miles south of Portland on the interstate highway, and is served by two airlines. The city of Eugene, with a population of more than 75,000, lies in a 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 of less than 38 inches is 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.

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 building to 1,300,000 volumes and 2,341 readers.

Holdings on the Eugene campus now total more than 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, the 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 1,200,000 manuscripts, 189,000 photographs, pictures, and prints, and other collections of unusual material, is a major resource for graduate research.

Summer Session

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. For summer session work to be credited toward a degree, formal admission to graduate status in a school or department is required. (See page 17.)

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 fellowships and are otherwise considered as an integral part of the graduate student body. The Test of English as a Foreign Language is required of all students from non-English-speaking countries 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 Services. An effective knowledge of English is required as a condition of admission to graduate study; but foreign students wishing to improve their English may use the services and facilities offered by the Language Laboratory of the ESL (English as a Second Language) program in the Department of English.

Tuition, Fees, and Deposits

Regular tuition and fees for graduate students, both residents of Oregon and nonresidents, enrolled for a total of 9 to 16 term hours of work are estimated tentatively at \$225 a term or \$675 for the three-term academic year. Students holding graduate or research appointments or fellowships which involve teaching or research duties pay fees estimated at \$41 a term or \$123 for the three-term academic year. Graduate students registered for less than 9 term hours pay, per hour, one-ninth of the tuition for normal programs with a minimum charge of two-ninths of normal tuition. Graduate students registered for more than 16 term hours pay, in addition to normal tuition, one-ninth of normal tuition for each hour in excess of this maximum.

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. In some departments a student who is applying for a teaching or research fellowship may defer formal application for admission and payment of the application fee until negotiations for the fellowship are completed; in others, he must be formally admitted before his application is considered. During the period of time that the Graduate School is operating under an enrollment limitation, an advance registration deposit may be required. The amount of the deposit and the time of payment will be furnished with the advance notice of admission.

A special fee of \$20.00 is paid by all students who are granted doctor's degrees, to cover the cost of 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, in privately owned apartments, or in rooms in private homes. The University maintains six dining halls for students.

Board and room costs in University dormitories (exclusive of \$3 for student-government hall dues each term) are: (1) multiple-occupancy room: \$432 for the fall term, \$288 for the winter term, and \$240 for the spring term—a total of \$960 for the academic year; (2) single-occupancy room: \$540 for the fall term, \$360 for the winter term, and \$300 for the spring term—a total of \$1,200 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 of the school year, on an official form supplied by the Housing Office, Carson Hall, and must be accompanied by a room deposit of \$50. 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 \$47.50 to \$91.00. Application should be made to the Housing Office, Carson Hall.

Fellowships

Teaching and research fellowships are available to well-qualified graduate students. Application 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 Fellowships. Nearly all schools and departments award graduate teaching fellowships. Stipends range from \$2,300 to \$6,000 for an academic year. Graduate students holding appointments at 30 per cent of full time or less may register for a maximum of 15 term hours. Those holding half-time appointments

may register for a maximum of 12 hours. Tuition for graduate teaching fellows is waived.

Research Fellowships. A number of departments and schools employ graduate students to work on research projects under the supervision of faculty members for up to 15 hours a week. Funds come from research grants and contracts. Stipends, fees, and enrollment limitations are about the same as for graduate students with teaching fellowships. Tuition is generally waived for graduate research appointments. It is sometimes possible to extend these fellowships through the summer, thus increasing the total stipend.

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, NSF Traineeship Program, and the NSF Summer Traineeship Program. Information concerning these programs may be obtained in the office of the Graduate School.

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

Loan Funds

Funds held in trust by the University and funds from Federal and state governments make possible substantial financial aid to students through loans.

University Trust Loan Funds. Funds held in trust by the University provide for regular long-term loans for periods of up to two years at a time and for emergency loans of small amounts for periods of up to ninety days. These funds are governed by uniform principles and policies. Except in the case of a few funds which are specifically restricted to University students at Eugene, students at the Medical School, the Dental School, and the School of Nursing are eligible for loans from University student loan funds on the same basis as students on the campus at Eugene.

Limited assistance is available through emergency loans to help students meet short-term University-related expenses for a period of not more than ninety days. In no instance may this assistance exceed term tuition and fees.

Long-term loans permit borrowing up to a maximum of two years. Limits are: freshmen, \$200; sophomores, \$400; juniors, \$600; seniors and graduates, \$800. Interest is four per cent per year.

National Defense Student Loans. Under the National Defense Education Act of 1958, long-term postgraduate repayment loans are available to students who qualify. The amount of the award is determined by individual need, but will not exceed \$1,000 for an academic year. Repayment begins ten months after termination of full-time enrollment. Three per cent interest is charged.

Guaranteed Student Loans. Banks and other lenders provide low-cost long-term loans to students through a system of reserve funds held by state agencies or by private nonprofit agencies for the guarantee of such loans against loss by the lender. The interest rate on these loans is generally seven per cent. Borrowers who qualify may apply to have the interest paid by the Federal government until repayment begins.

Further information about financial assistance through loans, and application forms for loans, may be obtained from the Office of Financial Aids, Emerald Hall.

Health Service

The services of the Student Health Center are available to graduate students on the same basis as to other students. Through the Student Health Center the University strives to safeguard the health of its students by health education, medical treatment of disease, and limited psychiatric and counseling services.

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 Center. The Student Health Center is not open during the intervals between terms except for administrative functions.

The Student Health Center facility consists of an out-patient department, a 44-bed infirmary, including a modern isolation unit of four private beds, and the necessary laboratory 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, intensive medical care, and specialists' services are referred); (2) 15-day free hospitalization in the Student Health Center facility during one academic year if recommended by a Health Center physician; (3) 24-hour limited emergency service during regular school terms (major emergencies are referred to the general hospital located near the campus); (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) limited physical therapy.

Visits to the Student Health Center are by appointment, except for emergencies. An appointment can be made by telephone or by a visit to the Student Health Center. Appointments are not necessary for the Saturday morning clinic.

Charges 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. This includes the services of a special nurse, where deemed necessary, and medical or surgical specialists who see patients in consultation in the Student Health Center or elsewhere. Under no circumstances will the Health Center pay or be responsible for bills from private physicians or private hospitals. Ambulance service is not available through the Student Health Center; the expense of such service must be borne by the patient.

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

Physical Examination and Immunizations. For protection of the public health, the Board of Higher Education requires of all students, as a condition for admission to the University: (1) a physical examination by a licensed M.D. or D.O. chosen by the student, and presentation of a record of this examination on an official form provided by the University; (2) an intradermal tuberculin test within six months of registration unless there is a history of a previous positive test, in which case a chest X-ray is required; and (3) proof, to the satisfaction of the University physician, of (a) immunization against smallpox and (b) diphtheria-tetanus immunization within ten years unless medically contraindicated.

If the student is enrolled in the University at the close of a five-year period following his entrance physical examination, a second examination may be required; a second examination may be required after a shorter interval, at the discretion of the University physician. The physical examination, immunization, and tuberculin test requirements apply to students returning to the University after a period of absence. These students should consult the Student Health Center concerning possible deficiencies.

Students who decline immunizations because of religious conviction may be admitted, but only on the condition that they or (in the case of minor students) their parents or guardians agree in writing to assume all expenses incidental to their care or quarantine, should they acquire smallpox, diphtheria, or tetanus while students in the University. This does not exempt them from the physical examination or the intradermal tuberculin test. However, the student may choose to have a chest X-ray in lieu of the skin test but must submit an annual chest X-ray report to remain in school.

Placement Services

Through a Student Placement Service, the University assists its students in obtaining part-time and vacation employment. Through a Graduate Placement Service, the University endeavors to help those seeking professional employment after graduation.

Cultural and Recreational Programs

The University of Oregon maintains comprehensive cultural and recreational programs of high quality, 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 two museums, the Museum of Art and the Museum of Natural History. 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.

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

The primary aim of undergraduate education is to prepare the student for cultured living and intelligent citizenship, and to acquaint him with techniques leading to a professional career. In graduate study, the dominant aim is the development of the scholar, capable of original thinking and of creative achievement in the advancement and extension of knowledge. Hence, a graduate degree indicates more than the mere completion of a prescribed amount of advanced study; it indicates that the student has shown both promise and performance in some field of independent scholarship.

At the University of Oregon, all study beyond the bachelor's degree, except strictly professional work in law, medicine, and dentistry, is administered through the Graduate School. The formulation of the graduate programs of individual students and the working out and direction of these programs are the responsibilities of the instructional departments, subject, however, to the general rules and requirements of the Graduate School.

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, library science, medical sciences (at the Medical School in Portland), music, and nursing (at the School of Nursing in Portland). The degrees granted are listed below with the departments offering programs of study leading to advanced degrees.

College of Liberal Arts: Anthropology—M.A., Ph.D.; Biology—M.A., M.S., Ph.D.; Chemistry—M.A., M.S., Ph.D.; Classics—M.A.; Comparative Literature—M.A., Ph.D.; Computer Science—M.A., M.S.; Economics—M.A., M.S., Ph.D.; English—M.A., M.F.A., D.A., Ph.D.; Geography—M.A., M.S., Ph.D.; Geology—M.A., M.S., Ph.D.; Germanic Languages—M.A., Ph.D.; History—M.A., Ph.D.; Mathematics—M.A., M.S., Ph.D.; Philosophy—M.A., Ph.D.; Physics—M.A., M.S., Ph.D.; Political Science—M.A., M.S., Ph.D.; Psychology—M.A., M.S., Ph.D.; Romance Languages—M.A., Ph.D.; Russian—M.A.; Sociology—M.A., M.S., Ph.D.; Speech—M.A., M.S., M.F.A., Ph.D.

School of Architecture and Allied Arts: Architecture—M.Arch.; Art Education—M.A., M.S., Ph.D.; Art History—M.A., Ph.D.; Fine and Applied Arts—M.A., M.S., M.F.A.; Landscape Architecture—M.L.A.; Urban Planning—M.U.P.

College of Business Administration: Accounting and Quantitative Methods—M.A., M.S., M.B.A., D.B.A.; Finance and Business Environment—M.A., M.S., M.B.A., D.B.A.; Marketing, Insurance and Transportation—M.A., M.S., M.B.A., D.B.A.; Personnel and Industrial Management—M.A., M.S., M.B.A., D.B.A.

College of Education: Counseling—M.A., M.S., M.Ed., D.Ed., Ph.D.; Curriculum and Instruction—M.A., M.S., M.Ed., D.Ed., Ph.D.; Educational Administration—D.Ed., Ph.D.; Educational Foundations—D.Ed., Ph.D.; Educational Psychology—M.A., M.S., M.Ed., D.Ed., Ph.D.; Higher Education—D.Ed., Ph.D.; Special Education—M.A., M.S., M.Ed., D.Ed., Ph.D.

School of Health, Physical Education and Recreation: Health Education—M.A., M.S., D.Ed., Ph.D.; Physical Education—M.A., M.S., D.Ed., Ph.D.; Recreation and Park Management—M.A., M.S., D.Ed., Ph.D.

School of Journalism: Journalism—M.A., M.S.

School of Librarianship: Library Science—M.L.S.

School of Music: Music—M.A., M.Mus., D.M.A.

Interdisciplinary Studies: Asian Studies—M.A., M.S.; Dance—M.A., M.S.; Industrial and Labor Relations—M.A., M.S.; International Studies—M.A., M.S.; Juvenile Correction—M.A., M.S.; Linguistics—M.A., M.S.; Public Affairs—M.A., M.S.; Teaching—M.A., M.S.

Dental School: Dental Surgery—D.D.S.; Dental Sciences—M.S.

Medical School: Medicine—M.D.; Medical Sciences—M.S., Ph.D.

School of Nursing: Nursing—M.S.

General Regulations

Students wishing to earn a graduate degree at the University must be admitted to the Graduate School in accordance with the procedures described below.

Admission to the Graduate School. To be admitted to the Graduate School for the purpose of seeking an advanced degree, a student must be a graduate of an accredited four-year college or university and must also be accepted by the professional school or major department in which he proposes to study,* subject to the approval of the dean of the Graduate School. The schools and departments of the University determine their own specific requirements for graduate admission, with which the student should familiarize himself before applying. Initial admission may be either *conditional* or *full*. If a student who has been conditionally admitted has not been granted full admission after he has completed 36 term hours of graduate course work, the Graduate School will inquire of his school or department as to the reason and recommend that a decision on the student's status be made as soon as possible.

Former University of Oregon students must be formally admitted to the Graduate School in the same way as students from other colleges and universities. A student who wishes to change his major must be formally admitted to the school or department in which he wishes 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 to the Graduate School 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. The individual school or department may require other materials, such as scores on the Graduate Record Examination or Miller Analogies Test, or letters of recommendation. The applicant should ascertain from the school or department what additional material, if any, is expected.

Admission to the University for Post-Baccalaureate Study. A student who holds a bachelor's degree or its equivalent and who wishes (1) to earn another undergraduate degree or (2) to take additional undergraduate or graduate work

* Students from unaccredited institutions or from those which offer the equivalent of baccalaureate instruction but not the degree itself may be admitted under special procedures if they are accepted by a school or department.

for professional or cultural reasons, without entering a degree or certification program, must submit two copies of the application form, and an official transcript of all previous college work, both undergraduate and graduate, to the Office of Admissions, University of Oregon, Eugene, Oregon 97403.

Admission to post-baccalaureate status is usually made for a specific term or program but for no more than an academic year. A satisfactory grade record is a factor in determining re-enrollment privileges during an academic year. Graduate credits earned by post-baccalaureate students are so recorded on these students' transcripts by the Registrar's Office, but may not be applied toward an advanced degree at the University of Oregon. Post-baccalaureate status may not be used to gain entry to Graduate School programs.

Continuous Enrollment. A student who has been admitted to the Graduate School to work toward an advanced degree or to pursue a specific program of graduate course work with a nondegree objective must enroll continuously in the University from the time he first registers until he has completed all requirements for his degree or other program. (Registration in extension courses taken in the Division of Continuing Education does not satisfy the continuous enrollment requirement.)

In any term in which the student is making use of University services or facilities, he must enroll for a minimum of 3 term hours of graduate course work and pay the appropriate fees. Ordinarily the student is expected to take this work in residence, but he may register by proxy for course work to be taken *in absentia*, when for example he is living elsewhere and writing his thesis or dissertation, sending chapters of it to his adviser for criticism.*

If the student interrupts his program of graduate study for one or more terms (excluding summer term), he must register for on-leave status to insure that a place will be kept open for him by the Graduate School and his school or department when he returns. When the student registers for on-leave status, he is not required to pay fees, but he is not permitted to place any demands on University staff or facilities while he is on leave. If the student fails to register for on-leave status when he interrupts his program, it will be assumed that he has decided to discontinue his graduate program, and his Graduate School standing will be cancelled. In this event, if he should later wish to return to must apply for permission to re-register in the Graduate School and is subject to quota limitations that are in force for the term requested.

On-leave status is granted for a stated period of time, normally not to exceed one calendar year. During the time graduate programs are subject to enrollment limitations, a leave of absence in excess of one year will not be granted. If the student's request for on-leave status is denied, he must submit a "Permission to Re-register" form for the term when he intends to return. Students who are able to pursue their master's degree work only in the summer term must apply for leave status for each ensuing school year; they may request extensions of leave up to but not beyond the seven-year limitation on credit earned toward a master's degree.

A student may not apply for on-leave status unless he is a graduate student in good standing in the school or department to which he has been admitted.

If a student has completed all degree requirements but so late in the term that the degree cannot be awarded until the following term, he need not register for further course work to qualify for the degree but he must register for on-leave status in the term when he expects to receive the degree.

Reservation of Graduate Credit. The Graduate School encourages superior students to begin their graduate studies as early in their careers as feasible. A stu-

* Proxy and on-leave registration will be permitted only during the normal registration period for the term in question and must be completed by the date indicated in the catalog as the last date to register for that term.

dent at the University of Oregon who needs not more than 48 term hours in order to complete requirements for a bachelor's degree and who has a cumulative GPA of 3.00 or higher in the field in which he proposes to do his graduate work may petition the dean of the Graduate School to reserve credit in specified graduate courses. A graduate adviser, assigned to him by his school or department, must endorse his petition and *help him begin planning his graduate work*. A "Reservation of Graduate 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 more than a total of 15 credits in a 45-hour master's degree program, nor for courses taken during a period of more than three terms. Approval of a petition to reserve graduate credit does not necessarily mean that the graduate credits reserved will be accepted in a particular advanced degree program.

Course Registration Requirements. 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. This rule applies also to students taking comprehensive or final examinations for advanced degrees. If all requirements, including examinations, have been met in the term before that in which the degree is awarded, the student should register only for on-leave status and need not pay any fees.

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. With school or department approval, up to 3 of the 9 hours of thesis required for the master's degree and up to 6 of the 18 required for the doctorate may be in Research (501) instead.

Graduate students holding half-time teaching or research appointments are required to enroll in a minimum of 6 term hours of graduate course work; students holding three-tenths appointments must enroll in a minimum of 9 term hours.

Students who do not hold graduate teaching or research appointments are not limited in the number of graduate-credit hours for which they may register in a term of the academic year, except for summer term, and except as they may be affected by the regulations under "Residence Requirement" for the master's degree (see page 20).

All students enrolling in the summer session are limited in the number of graduate credit hours for which they may register. In the eight-week term, the maximum is 13 term hours; in the eleven-week term, the maximum is 16.

A student holding a half-time graduate teaching or research appointment may register for a maximum of 12 graduate-credit hours in any one term of the academic year; a student holding a three-tenths graduate teaching or research appointment may register for a maximum of 15.

(Faculty and staff members wishing to take graduate courses should refer to the University's Administrative Manual for information about maximum hours and permission to enroll.)

Graduate students and advisers are reminded that various agencies and offices, both on and off campus, have their own course-load requirements. For example, a graduate student who has a loan must register for the number of hours necessary to meet the loan agency requirements. The Registrar's Office cannot certify a student for registration except for the hours indicated on his official registration card. The above stated minimum requirements of the Graduate School do not affect the student's responsibility to register for the number of hours he must take to meet the criteria of the agencies to which he may be obligated.

Grade Requirement. To qualify for an advanced degree a graduate student is required to earn at least a B grade-point average in all graduate courses taken in his degree program at the University of Oregon. A grade-point average of less than 3.00 at any time during the student's graduate studies is considered unsatis-

factory, and may result in disqualification by the dean of the Graduate School after consultation with the student's major department or school. Disqualification means that the student's degree program is terminated, and he is dropped from the Graduate School. Of the 45 term hours the Graduate School requires for a master's degree, at least 24 must be in pass-differentiated University courses.

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 or as graduate service courses, or, in certain circumstances, as part of an interdisciplinary master's program (see pages 21-23). 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 any of the other institutions in the Oregon State System of Higher Education. Students register for these courses with the University of Oregon Registrar. 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, a student must complete an integrated program of study totaling not less than 45 term hours in courses approved for graduate credit, at least 24 of these hours being earned in pass-differentiated University courses. Integration may be achieved either through a departmental major or through a program of interdisciplinary studies (see pages 21-23). For the master's degree with a departmental major, a minimum of two-thirds of the work (30 term hours) must ordinarily be in the major. A student earning a second master's degree in a different field is required to take not less than 30 term hours in his new major. Schools and departments may require more than this minimum in individual cases.

Residence Requirement. The minimum residence requirement for the master's degree is 30 term hours of graduate credit earned as a Graduate School student on the Eugene campus or at the Medical School, Dental School, or School of Nursing in Portland. When all work for the degree is taken at the University of Oregon, or when less than 12 graduate credit hours are accepted for transfer toward the degree, the required residence hours must be distributed over a minimum of three terms of full-time study. When 12 to 15 graduate credit hours are approved for transfer toward the degree, the residence hours must be distributed over at least two terms of full-time study. The residence requirement for the M.F.A. in studio arts is two academic years (six terms).

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 in a 45-hour master's degree program; (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, B, or P. 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).

Distinction Between the M.A. and M.S. Degrees. For the M.A. degree, the student must show a competence in one foreign language; the level of proficiency and the method of determining that level are decided by his school or major department. There is no language requirement 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 term hours in 500-599 courses are required.

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

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 or not required.

A student who writes a thesis should apply to his school or department for information on the various steps involved and the standards expected. The student should also call at the Graduate School to obtain a current copy of the *Style Manual for Theses and Dissertations*, which sets forth the requirements governing format, number of copies required, abstracts, etc. Copies of theses will not be accepted by the Graduate School unless they meet the standards of form and style specified in the *Style Manual*.

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.

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

Public Affairs.

Industrial Relations.

IS^t 507. **Seminar.** Hours to be arranged.

Public Affairs.
Industrial Relations.
International Studies.
Juvenile Correction.

The established interdisciplinary programs approved by the Graduate Council are listed below. A student interested in one of these programs should direct his inquiry to the chairman, whose name is also listed: International Studies, John Gange; Asian Studies, (chairman to be named); Juvenile Correction, Martin H. Acker; Public Affairs, Richard C. Collins; Industrial and Labor Relations, Eaton H. Conant; Dance, M. Frances Dougherty; Linguistics, Clarence D. Sloat.

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 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 is expected to have satisfied the requirements for the Oregon Basic Teacher's Certificate. He must have a reasonable background of undergraduate study in education and 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:

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 one of the following fields: computer science, English, foreign language, geography, history, mathematics, and school librarianship.

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 must include work in at least three of the following fields: anthropology, economics, geography, history, political science, psychology, and sociology. A program in science must include work in at least three of the following fields: 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 remaining courses may include, with some restrictions, both the 400 (G) and 400 (g) series. The student's program must be planned to provide well-rounded knowledge, and must not be made up of scattered, unrelated courses.

A student electing either option 1 or option 2 must have had at least 18 term hours of undergraduate course work in the subject field involved. A student electing option 3 must have had at least 12 term hours of undergraduate course work in each of the three subject fields 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.

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

Master of Business Administration

The requirements for the degree of Master of Business Administration are listed under *MANAGEMENT AND BUSINESS*.

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 College 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. It is currently offered by the Department of Fine and Applied Arts, the Department of English, and the Department of Speech. The primary requirement is the satisfactory completion of a creative project of high quality, but all candidates must satisfy minimum requirements of residence and study. Inquiries about additional departmental requirements for the degree should be addressed to the department concerned.

Every candidate for the M.F.A. degree must submit an extended creative work or project of high professional character. If the work is a verbal composition, the candidate must deposit with the Graduate School three clear copies that have been approved by the candidate's adviser and major department.

Master of Architecture

The requirements for the degree of Master of Architecture are listed under *ARCHITECTURE AND ALLIED ARTS*.

Master of Landscape Architecture

The requirements for the degree of Master of Landscape Architecture are listed under *ARCHITECTURE AND ALLIED ARTS*.

Master of Library Science

The requirements for the degree of Master of Library Science are listed under *LIBRARIANSHIP*.

Master of Music

The requirements for the degree of Master of Music are listed under *MUSIC*.

Master of Urban Planning

The requirements for the degree of Master of Urban Planning are listed under ARCHITECTURE AND ALLIED ARTS.

Doctor of Philosophy

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.

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 academic year (three consecutive terms) must be spent in continuous residence on the Eugene campus of the University of Oregon or at the University of Oregon Medical School in Portland,

Language Requirement. Knowledge of a foreign language or of other specialized disciplines such as computer science or statistics may be required by individual schools or departments as part of a Ph.D. program. For information on such requirements, the student should consult the school or department directly.

Comprehensive Examinations. The student working toward the Ph.D. degree must pass a group of comprehensive examinations (oral or written or both). These examinations are expected to cover major areas in the student's program of graduate study and may cover any supporting area if the school or department wishes. The student will be held responsible not merely for material directly covered in the graduate courses he has taken, but also for additional independent study in his field, with the object of demonstrating a comprehensive and integrated command of his discipline.

Advancement to candidacy is contingent upon passing these examinations. The student is not eligible to take the examinations until he has satisfied substantially all other requirements except the completion of the dissertation and the final examination.

Within two weeks after the student has passed his comprehensive examinations, his school or department will submit a report to the dean of the Graduate School recommending advancement to candidacy. The date of advancement is that on which the recommendation is received by the Graduate School.

Advisory Committee. The advisory committee of the candidate for the Ph.D. degree determines the amount of work the student is to do for his degree, in light of his background and objectives. This committee is appointed by the head of the department or dean of the school in which the student is working. Its membership need not be approved by the Graduate School. The committee normally is made up of four members, with the student's adviser serving as chairman. It may or may not have an outside member, depending on the wishes of the department or school, which also may determine the time at which the committee is to be appointed.

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 office of the Graduate School. Copies of the thesis will not be accepted by the Graduate School unless they meet satisfactory standards of form and style. The student should obtain from the Graduate School a copy of the *Style Manual for Theses and Dissertations*, which defines these standards. Seven copies of an abstract of the approved thesis (not longer than 600 words) must be filed in the office of the Graduate School four weeks before the examination.

Final Examination Committee. The doctoral candidate's final examination committee must approve his dissertation and conduct his final oral examination. This committee normally is composed of the members of the advisory committee (see above), with the chairman being the candidate's dissertation adviser. It must include at least three members from the graduate faculty of the candidate's major department or school, as well as an additional member not affiliated with that department or school. This member is regarded as the representative of the Graduate School. If he is nominated from the University of Oregon faculty, he must be a member of a different school or department from that of the candidate and represent a different discipline. If he is nominated from the faculty of another university or from professional life, he may (but need not) represent the same discipline as that of the candidate.

The membership of the committee must be proposed to the dean of the Graduate School at least four weeks before the date of the final examination. The dean officially appoints the committee, after approving its membership. The dean may appoint additional members; or the school or department may nominate additional members, including representative of supporting or related disciplines, subject to the dean's approval.

Final Examination. The final examination for a doctoral degree (whether Ph.D. or professional doctorate) must be taken not later than three calendar years after advancement to candidacy. Failure to complete requirements for the degree within this period will invalidate the student's comprehensive examinations.

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 must be publicly announced by the Graduate School at least one week before it is held.

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 Arts

The requirements for the degree of Doctor of Arts are listed under ENGLISH.

Doctor of Business Administration

The requirements for the degree of Doctor of Business Administration are listed under MANAGEMENT AND BUSINESS.

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, physical education, and recreation. 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.

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 substantially all of the total course work in his program, and (3) 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 under Music.

Procedure for Doctor's Degrees

Procedure	Responsible Agency	Chronology
1. <i>Admission</i> —see page 18.	Department or school.	First step.
2. <i>Course work and residence</i> —Student's advisory committee, appointed by school or department, determines the program, which must include three years of work beyond the bachelor's degree, at least one of which must be spent on the Eugene campus or at the Medical School or Portland.	Department or school.	After appointment of advisory committee.
3. <i>Foreign languages</i> — Where required.	Advisory committee; school or department.	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 virtually all other requirements for the degree have been satisfied except the completion of the dissertation and the final examination.
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 at least three members from the graduate faculty of the candidate's major department or school, as well as a faculty member from another department or school of the University and representing a discipline different from the candidate's major field.	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.	Gifts and Exchange (Library).	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> .	Registrar.	Dated as of Commencement.

Instruction

Anthropology

Professors: THEODORE STERN (department head), HOMER G. BARNETT (emeritus), LUTHER S. CRESSMAN (emeritus), V. R. DORJAHN, DON E. DUMOND, ALFRED G. SMITH.

Associate Professors: C. MELVIN AIKENS, MALCOLM MCFEE, PAUL E. SIMONDS, PHILIP D. YOUNG.

Assistant Professors: RICHARD P. CHANEY, DAVID L. COLE, PHILIP G. GRANT, CHARLES J. HOFF, LE ROY JOHNSON, C. GARTH SAMPSON, RICHARD C. SCHMIDT, ANN G. SIMONDS, ROBERT TONKINSON.

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.

Ordinarily two years are required for completion of the work leading to the master's degree and four for the Ph.D. A general examination is taken near the completion of the fifth term of graduate study. The M.A. degree is granted upon passage of this examination and fulfillment of course and skills requirements.

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 well 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.

Kinship and Society: A. Simonds. *Anthropology and Linguistics:* Schmidt. *Science in Archaeology:* Sampson. *Human Adaptation:* Hoff. *Archaeology:* Dumond. *Stone-Age Laboratory:* Sampson. *History of Anthropology:* Smith. *Unification Movements:* Sackett.

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

Anth 411, 412, 413. World Prehistory. (g) 3 hours each term. Sampson, Aikens.

Anth 414. Race and Culture. (G) 3 hours. P. Simonds.

Anth 415. Socialization in Primitive Society. (G) 3 hours. McFee.

Anth 416. History of Anthropology. (G) 3 hours. Smith.

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

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

- 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. Schmidt.
- 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. **Communication and Culture.** (G) 3 hours each term. Smith.
- Anth 475. **Primate Behavior.** (G) 3 hours. P. Simonds.
- Anth 476. **Primate Anatomy.** (G) 3 hours. Grant.
- Anth 477. **Principles of Taxonomy.** (G) 3 hours. Hoff.
- Anth 478. **Laboratory in Primate Anatomy.** (G) 2 hours.
- Anth 479. **Paleoprimatology.** (G) 3 hours. Grant.
- *Anth 501. **Research.** Hours to be arranged.
- Anth 502. **Research Methods in Anthropology.** Hours to be arranged. Chaney.
- *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.
- Scientific Inquiry:* Chaney. *Anthropology and Education:* Wolcott. *Archaeology and Anthropology:* Dumond. *Modern Latin America:* Young. *Anthropological Theory:* Chaney. *Cross-Cultural Studies:* Chaney. *Social Organization (Cont.):* Young. *Peasant Societies:* Young. *Stone-Age Laboratory:* Sampson. *Science in Archaeology:* Sampson. *Basic Physical Graduate Anthropology:* Hoff. *Primate Behavior:* P. Simonds. *Ethnohistory of Pacific:* A. Simonds. *Problems in Prehistory:* Dumond. *Physical Anthropology:* Grant. *Human Adaptation:* Hoff. *Survey of Linguistics:* Schmidt.
- *Anth 509. **Supervised Tutoring Practicum.** Hours to be arranged.
- Anth 511. **Culture, Society, and the Individual.** 3 hours. Barnett.
- Anth 512. **The Beginnings of Civilization.** 3 hours. Aikens.
- Anth 514. **Primitive Social Organization.** 3 hours. Chaney.
- Anth 515. **Primitive Political Systems.** 3 hours. Dorjahn.
- Anth 516. **Primitive Economic Systems.** 3 hours. Dorjahn.
- Anth 520. **Speciation and Natural Selection.** 3 hours.
- Anth 521. **Functional Anatomy.** 3 hours.
- Anth 522. **Comparative Morphology and Human Evolution.** 3 hours.
- Anth 523, 524, 525. **Archaeology of the New World.** 3 hours each term. Aikens, Dumond.
- Anth 530, 531, 532. **Cultural Ecology.** 3 hours each term. Dumond.

* No-grade course.

Architecture and Allied Arts

Professors: ROBERT S. HARRIS (dean), GEORGE F. ANDREWS, WALLACE S. BALDINGER, THOMAS O. BALLINGER, JOHN L. BRISCOE, STANLEY W. BRYAN, JACK W. BURGNER, PHILIP DOLE, ROBERT R. FERENS, DAVID G. FOSTER, WALLACE S. HAYDEN, GEORGE M. HODGE, JR., ROBERT C. JAMES, GEORGE S. JETTE, WILLIAM KLEINSASSER, BUNJI KOBAYASHI, VINCENT LANIER, JUNE KING MCFEE, C. MAX NIXON, MARION D. ROSS, WALLACE M. RUFF, CHARLES B. RYAN, STEPHEN J. Y. TANG, JAN ZACH.

Associate Professors: PAUL BUCKNER, TING-LI CHO, MARIAN C. DONNELLY, JERRY FINROW, DAVID FOSTER, JANE A. GEHRING, WILMOT G. GILLAND, JOHN F. GILLHAM, PHILIP GILMORE, WILLIAM H. HAVENS, LYMAN T. JOHNSON, GORDON L. KENSLE, LA VERNE KRAUSE, PATRICIA LAWRENCE, RONALD J. LOVINGER, A. DEAN MCKENZIE, EARL E. MOURSUND, CARL NIEDERER, DONALD L. PETING, RICHARD L. RAGATZ, JOHN S. REYNOLDS, DAVID N. RINEHART, RICHARD A. SMITH, JAY V. SOEDER, DAVID STANNARD.

Assistant Professors: DONALD L. BERGER, MALCOLM CAMPBELL, WILLIAM R. DAVENPORT, ROBERT R. DVORAK, THOMAS FAWKES, MARVIN E. GLOEGE, MYRON A. GURAN, ARTHUR W. HAWN, HARLOW E. HUDSON, E. FULLER MOORE, RICHARD C. PAULIN, PASQUALE M. PICCIONI, GUNTIS PLESUMS, CHARLES A. RAPP, WILLIAM N. ROY, JUDITH BERG SOBRÉ, JOHN E. STAFFORD, RICHARD L. UNRUH, LAWRENCE L. WALKER, ROLF WINKES.

Lecturer: ESTHER J. LEONG.

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 fields 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, at least 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.

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 fellows 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 architecture requiring presentation of a terminal creative project in design, selected and developed by the student; this project may be integrated with a parallel architectural or planning 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.)

(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 23).

(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 with emphasis on theoretical aspects of any of the visual arts.

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

(c) *Master of Science or Master of Arts (in Art Education)*. For programs of graduate study in art education on the elementary and secondary levels.

(d) *Doctor of Philosophy or Doctor of Education (granted by the School of Education) with a major in Art Education*. For programs of advanced graduate study in art education.

(4) For students desiring advanced work in the history of art.

(a) *Master of Arts*. An undergraduate major in art history or its equivalent is ordinarily prerequisite to graduate work in the department. A written qualifying examination is required before not more than 15 hours of graduate study are completed. A reading knowledge of French or German, demonstrated in a written examination, 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 9 term hours of credit is allowed. An oral examination will be given on the thesis.

(b) *Doctor of Philosophy*. In addition to the requirements for the degree listed on pages 24-26 the following should be noted. The qualifying examination for admission to the program may be waived only for students who have taken their M.A. in this department with a superior record. The student must have passed written examinations in both French and German by the end of the first year; demonstration of competence in other necessary languages may be required. The comprehensive examination includes three areas in art history: (i) two adjacent areas of which one is that in which the dissertation will be written, and (ii) a third unrelated area. These areas are selected from an established list. The comprehensive examination should be taken before the completion of 45 term hours beyond the M.A.

A reference library of 10,000 volumes is maintained in the school, along with a collection of 102,000 slides and 16,000 photographs. 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 411. **Research Methods**. (G) 3 hours.

Arch 414. **Architectural Education**. (G) 3 hours.

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

*Arch 429. **Ethics and Practice (Architecture)**. (G) 2 hours fall or spring.

Arch 465, 466, 467. **Theory of Structures II**. (G) 3 hours each term.

Arch 499. **Architecture Workshop**. (G) 2-4 hours any term.

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

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

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

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

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

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

Arch 565, 566, 567. **Theory of Structures III**. 4 hours each term.

Interior Architecture

Arch 424. **Furniture and Accessories**. (G) 3 hours.

Arch 425, 426. **Custom Cabinet and Furniture Design**. (G) 5 hours each term.

Arch 449. **Specification Documents in Interior Design**. (G) 1 hour.

*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. **Office Practice (Interior)**. 3 hours.

*Arch 588. **Interior Design**. 1-12 hours any term. Hawn.

* No-grade course.

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) 3-6 hours each term. Jette.

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

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

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

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

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

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

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

LA 511. **Urban Open Spaces.** 1-6 hours. Havens.

LA 512. **Landscape Planning Analysis.** 4 hours. Lovinger.

LA 513. **The Urban Region.** 1-8 hours. Gillham.

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

Urban Planning

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

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

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

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

Planning Administration.

UP 508. **Community Planning Workshop.** 2-6 hours any term.

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

UP 510. **Introduction to Urban Planning.** 6 hours.

UP 515. **Planning Theory.** 3 hours.

UP 521. **Planning Administration.** 3 hours.

UP 522. **The Community General Plan.** 3 hours.

UP 523. **Plan Implementation.** 3 hours.

UP 530. **Planning Analysis I.** 3 hours.

UP 531. **Planning Analysis II.** 3 hours.

UP 540. **Land-Use Planning I.** 3 hours.

UP 541. **Land-Use Planning II.** 3 hours.

UP 545. **Urban Design.** 2 hours.

UP 550. **Social Issues in Planning.** 3 hours.

UP 555. **Housing and Urban Renewal.** 3 hours.

UP 560. **Environmental Issues in Planning.** 3 hours.

UP 599. **Synthesis.** 2 hours.

Fine and Applied Arts

Painting and Printmaking

Art 480. **Lithography.** (g) 2-4 hours any term. Paul.

* No-grade course.

- Art 483. **Intaglio Printing Methods.** (G) 2-4 hours any term. Krause.
- Art 490. **Advanced Painting.** (g) 2-4 hours any term. Fawkes, Okada.
- Art 491. **Advanced Drawing.** (g) 1-4 hours any term. Ryan, Soeder.
- Art 492. **Composition and Visual Theory.** (G) 2-4 hours any term. Baker.
- Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
- *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 Printmaking.** Hours to be arranged. Krause, Paul, McCosh, Miller.
- Art 590. **Graduate Studies in Painting.** Hours to be arranged. Fawkes, Okada, Baker, Ryan, Soeder.
- Art 591. **Graduate Studies in Drawing.** Hours to be arranged. Ryan, Soeder.

Sculpture

- Art 489. **Advanced Metal Casting.** (G) 3 hours. Buckner.
- Art 494. **Advanced Sculpture.** (G) 2-4 hours any term. Buckner, Zach.
- Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
- *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 594 **Graduate Studies in Sculpture.** Hours to be arranged. Buchner, Zach.

Graphic Design

- Art 493. **Visual Continuity.** (G) 1-3 hours any term. Foster.
- Art 495. **Cinmagraphics.** (G) 2-4 hours any term. Foster.
- Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
- *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 592. **Graduate Studies in Visual Theory and Design.** Hours to be arranged. Foster.

Ceramics

- Art 455. **Advanced Ceramics.** (G) 2-4 hours any term. Stannard, James.
- Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
- *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.

* No-grade course.

Jewelry and Metalsmithing

- Art 457. **Advanced Jewelry and Metalsmithing.** (G) 2-4 hours any term. Nixon.
 Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
 *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.

Weaving

- Art 456. **Advanced Weaving.** (G) 2-4 hours any term. Nixon.
 Art 458. **Textile Printing.** (G) 2-4 hours.
 Art 498. **Terminal Creative Project.** (G) Hours to be arranged.
 *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 411, 412, 413. **Early Mediterranean Art.** (G) 3 hours each term. Lawrence.
 ArH 414, 415, 416. **Greek and Roman Art.** (G) 3 hours each term. Lawrence.
 ArH 421, 422, 423. **Eastern Mediaeval Art.** (G) 3 hours each term. McKenzie.
 ArH 424, 425, 426. **Western Mediaeval Art.** (G) 3 hours each term. McKenzie.
 ArH 431, 432, 433. **Renaissance Art.** (G) 3 hours each term. Sobré.
 ArH 434, 435, 436. **Northern European Art 1400-1600.** (G) 3 hours each term. Sobré.
 ArH 437, 438, 439. **History of Architecture II.** (G) 3 hours each term. Ross.
 ArH 440, 441, 442. **American Architecture.** (G) 3 hours each term. Donnelly.
 ArH 446, 447, 448. **Japanese Art.** (G) 3 hours each term.
 ArH 450, 451, 452. **Art in Latin America.** (G) 3 hours each term. Ross.
 ArH 461, 462, 463. **Chinese Art.** (G) 3 hours each term. Leong.
 ArH 464. **Russian Art.** (G) 3 hours. McKenzie.
 ArH 476, 477, 478. **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.
Classical Greek Sculpture: Lawrence. *Greek Vase Painting:* Lawrence.
Carolingian Painting: McKenzie. *Scandinavian Art:* Donnelly. *Spanish Art:* Sobré. *El Greco:* Sobré. *Japanese Architecture:* Kobayashi. *Art History Bibliography and Methods:* Sobré. *Art History Photography:* McKenzie.
 ArH 511, 512, 513. **The Art Museum.** 3 hours each term. Paulin, staff.
 *ArH 514. **Art History Bibliography.** 1 hour. Lawrence.

* No-grade course.

Art Education

ArE 492. **Teaching Art History in Secondary School.** (G) 3 hours winter. Ballinger.

ArE 495. **Newer Media in Art Education.** (G) 3 hours. Lanier.

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

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

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

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

Foundations of Art Education: McFee. *Art in Society:* McFee. *Curriculum Development in Art:* McFee. *Newer Media in Art Education:* Lanier. *Research Methodology in Art Education:* Kensler. *Teaching Art History in Secondary School:* Ballinger. *Comparative Art Education:* Gehring. *Behavioral Objectives in Art Education:* Kensler.

ArE 512. **Research Methodology in Art Education.** 3 hours spring.

ArE 532. **Supervision of Children's Art Laboratory.** 3 hours any term. Burgner.

ArE 535. **Art and Architecture for the School Administrator.** 3 hours.

ArE 545. **Foundations of Art Education.** 3 hours fall. McFee.

ArE 566. **Curriculum Development in Art Education.** 3 hours winter. McFee.

Asian Studies

The University offers an interdisciplinary program in Asian studies, leading to the Master of Arts degree. Students may elect one of two options: (1) a program of studies without thesis; or (2) a program with thesis. The program is administered by an advisory committee.

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 seminars offered within the program. 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 seminars offered within the program, including an Asian studies interdisciplinary seminar offered once annually. Not more than 18 hours of credit in Japanese or Chinese may be counted toward the degree.

In addition to the above two options, students enrolled in graduate programs of the disciplinary departments represented in the program may earn a second master's degree in Asian studies. Such students must complete 30 term hours in Asian studies, including at least 3 hours in the Asian studies interdisciplinary seminar, and must also satisfy the master's degree requirements set by their individual disciplinary departments. A thesis, applying the methodology of the student's departmental field to an Asian studies subject, is required. The requirements for both the Asian studies program and the disciplinary department must be completed simultaneously. A student completing this program is granted two Master of Arts 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

* No-grade course.

major in one of the departmental disciplines represented in the Asian studies program or in interdisciplinary Asian studies; 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 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).

Architecture. Special Studies: Japanese Architecture (Arch 401, Arch 501).

Art History. Seminar: Ming Painting (ArH 407, ArH 507); Seminar: China Painting (ArH 407, ArH 507); Seminar: Indian Art (ArH 407, ArH 507); Seminar: Chinese Art (ArH 407, ArH 507); Seminar Himalayan Art (ArH 407, ArH 507); Japanese Art (ArH 446, 447, 448); Chinese Art (ArH 461, 462, 463).

Community Service and Public Affairs. Seminar: Southeast Asia Development (CSPA 407); Seminar: Development of India (CSPA 407).

Economics. Economic Development (Ec 459).

Geography. Geography of East Asia (Geog 451); Geography of Southeast Asia (Geog 455).

History. Seminar: China (Hst 407); Colloquium: Ideology of Mao Tse-tung (Hst 408, Hst 508); Seminar: Modern Sino-Japanese Relations (Hst 407); Colloquium: Feudalism in East Asia (Hst 408, Hst 508); History of Japan (Hst 497, 498, 499); History of China (Hst 494, 495, 496); Seminar: East Asian History (Hst 507); Seminar: East Asian Historiography (Hst 507); Colloquium: Japanese History (Hst 508); Colloquium: Chinese History (Hst 508); Japanese Political Evolution Since 1912 (Hst 591).

Chinese. Reading and Conference (OL 405); Seminar: Chinese Literature (AL 407); Proseminar in Chinese Literature (OL 409); Literary Chinese (OL 414, 415, 416); Advanced Readings in Modern Chinese Literature (OL 420, 421, 422); Tang Poetry (OL 423, 424, 425); The Chinese Classics (AL 430, 431, 432); Chinese Bibliography (OL 453).

Japanese. Seminar: Japanese Literature (AL 407); Proseminar in Japanese Literature (OL 408); Literary Japanese (OL 411, 412, 413); Advanced Readings in Modern Japanese Literature (OL 417, 418, 419); Japanese Poetry (OL 433, 434, 435); Japanese Bibliography (OL 450).

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

Religious Studies. Oriental Philosophies of Religion (R 430, 431, 432); Seminar: Religions of Japan (R 407).

Biology

Professors: FREDERICK W. MUNZ (department head), ANDREW S. BAJER, RICHARD W. CASTENHOLZ, CLARENCE W. CLANCY, PETER W. FRANK, PHILIP GRANT, GRAHAM HOYLE, JAMES KEZER, DONALD M. MAYNARD, ROBERT W. MORRIS, AARON NOVICK, EDWARD NOVITSKI, BRADLEY T. SCHEER, J. ARNOLD SHOTWELL, WILLIAM R. SISTROM, ARNOLD L. SODERWALL, FRANKLIN W. STAHL, GEORGE STREISINGER, SANFORD S. TEPFER, DONALD E. WIMBER.

Associate Professors: HOWARD T. BONNETT, STANTON A. COOK, JOHN C. FENTRESS, JANE GRAY, BAYARD H. MCCONNAUGHEY, PAUL P. RUDY, JAMES A. WESTON.

Assistant Professors: DAVID L. BARKER, WILLIAM E. BRADSHAW, GEORGE C. CARROLL, DONALD R. HAGUE, CHARLES B. KIMMEL, JOHN R. MENNINGER, JOHN H. POSTLETHWAIT, ROBERT C. TERWILLIGER, WAYNE A. WIITANEN.

Instructors: RUDY DAM, CLIFTON L. GASS, HARRISON M. HOWARD, ERIC SCHABTACH.

The department offers graduate work leading to the Doctor of Philosophy degree, and to the degrees of Master of Arts and Master of Science for students primarily interested in teaching careers in high school and junior college. The master's degree programs are terminal in nature and usually are not taken as work preliminary to the doctoral program.

Candidates for advanced degrees are expected to have met undergraduate major requirements or their equivalents before or as soon as possible after beginning graduate study. These requirements include year-long courses in Cell Biology (Bi 301, 302, 303) and Biology of Organisms (Bi 304, 305, 306), as well as one term of General Ecology (Bi 372), and two terms of electives. Also required are general chemistry, organic chemistry, general physics, and one year of college-level mathematics. Graduate study is offered in most of the basic areas of biology, both plant and animal, including cytology, development, ecology, genetics, marine biology, microbiology, morphology, neurobiology, physiology (comparative, general, mammalian, and plant), and systematics. Interdisciplinary programs are offered in developmental biology, neurobiology, and molecular biology, involving the three departments of biology, chemistry, and psychology, as well as the Institute of Molecular Biology.

Excellent facilities and equipment are available for research and study in the areas listed above ranging from ultracentrifuges, equipment for chromatography and amino-acid analysis, to an electron-microscope laboratory with three instruments, an herbarium in the Museum of Natural History, greenhouses, growth chambers, constant-temperature rooms, and photographic darkrooms. In a rich collecting area on the coast, the University operates the Oregon Institute of Marine Biology, providing instructional and research facilities throughout the year. The Institute of Molecular Biology (see page 115) is a center for research and research instruction in areas of biology where understanding can be found in terms of the properties of macromolecules. Staff members hold joint appointments in a department (biology, chemistry, or physics).

Bi 408. **Laboratory Projects.** (G) Hours to be arranged.

Bi 414, 415. **General and Comparative Physiology.** (G) 4 hours each term.

Bi 423. **Genetics.** (G) 5 hours.

Bi 424. **Human Genetics.** (G) 3 hours. Novitski.

Bi 426. **Evolution.** (G) 3 hours.

Bi 428. **Cell Organelles.** (G) 3 hours. Bajer.

Bi 429. **Nuclear Cytology.** (G) 4 hours. Wimber.

Bi 432. **Mycology.** (G) 5 hours. Carroll.

Bi 433. **Algae.** (G) 5 hours. Castenholz.

Bi 435. **Methods of Pollen Analysis.** (G) 3 hours, alternate years. Gray.

*Bi 436. **Cenozoic Paleobotany.** (G) 3 hours, alternate years. Gray.

* Not offered 1971-72.

- Bi 438. **Systematic Botany.** (G) 5 hours.
- Bi 439. **Field Botany.** (G) 4 hours (summer session).
- Bi 440, 441, 442. **Biology of Vascular Plants.** (G) 5 hours each term.
- Bi 450, 451, 452. **Developmental Biology.** (G) 3 hours each term.
- Bi 453, 454. **Developmental Biology Laboratory.** (G) 2 hours each term.
- Bi 455. **Histology.** (G) 4 hours. Kezer.
- Bi 456. **Vertebrate Embryology.** (G) 4 hours.
- Bi 458. **Marine Birds and Mammals.** (G) 4 hours (marine institute).
- Bi 459. **Field Ornithology.** (G) 3 hours (summer session).
- Bi 461. **Invertebrate Zoology.** (G) 5 hours.
- Bi 463. **Parasitology.** (G) 4 hours. McConnaughey.
- Bi 465. **Comparative Biochemistry.** (G) 8 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. **Limnology.** (G) 4 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) 3 hours winter, 5 hours spring. Sistrom.
- *Bi 487. **Molecular Biology of Bacteriophage.** (G) 3 hours.
- Bi 488. **Molecular Biology of Bacteria.** (G) 3 hours.
- *Bi 489. **Membrane Structure and Function.** (G) 3 hours.
- *Bi 491, 492, 493. **Historical Biogeography.** (G) 3 hours each term. Shotwell.
- Bi 494. **Laboratory and Field Methods in Biology.** (G) 4 hours fall (summer session).
- Bi 495. **History of Biological Ideas.** (G) 3 hours.
- †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. Aspects of Aging. Botany. Cytology. Developmental Biology. Ecology. Genetics. Molecular Biology. Plant Culture Techniques.
- †Bi 509. **Supervised Tutoring Practicum.** 1-3 hours any term.
- Bi 510. **Endocrinology Laboratory.** 1-3 hours.
- Bi 511. **Vertebrate Endocrinology.** 3 hours. Soderwall.
- *Bi 512. **Physiology of Reproduction.** 3 hours. Soderwall.
- *Bi 513. **Comparative Endocrinology.** 3 hours. Scheer.
- Bi 514. **Environmental Physiology.** 4 hours.
- Bi 516, 517. **Neurobiological Basis of Behavior.** 3 hours each term. Fentress, Hoyle, D. Maynard, E. Maynard.
- Bi 518, 519. **Neurobiology Laboratory.** 3 hours each term. Hoyle, D. Maynard, E. Maynard.

* Not offered 1971-72.

† No-grade course.

- *Bi 520, 521, 522. **Advanced Genetics.** 2 hours each term. Novitski.
 Bi 523, 524, 525. **Principles of Microscopic Technique.** 2-4 hours each term.
 *Bi 526. **Developmental Genetics.** 3 hours.
 *Bi 537, 538, 539. **Advanced Systematic Botany.** 3 hours each term.
 *Bi 541. **Advanced Plant Physiology.** 3 hours.
 *Bi 545. **Physiology and Ecology of Algae.** 3 hours. Castenholz.
 *Bi 551. **Biology of Fishes.** 4 hours. Morris.
 Bi 590. **Recent Advances in Biology.** 3 hours (summer session).
 Bi 597, 598, 599. **Advanced Biology.** 3 hours each term. Gass.

Chemistry

Professors: VIRGIL C. BOEKELHEIDE (department head), JOHN E. BALDWIN, SIDNEY A. BERNHARD, LLOYD J. DOLBY, EDWARD HERBERT, LEROY H. KLEMM, ROBERT M. MAZO, RICHARD M. NOYES, WARNER, L. PETICOLAS, FRANCIS J. REITHEL, JOHN A. SCHELLMAN, WILLIAM T. SIMPSON, DONALD F. SWINEHART, PETER H. VON HIPPEL, RAYMOND G. WOLFE.

Associate Professors: GORDON G. GOLES, O. HAYES GRIFFITH, JOHN F. KEANA, THOMAS W. KOENIG, MICHAEL PHILPOTT.

Assistant Professors: ROBERT S. COOKE, RICHARD J. FIELD, CHARLES E. KLOPFENSTEIN, ALLAN R. LARRABEE.

Graduate work leading to the M.A., M.S., and Ph.D. degrees is offered in organic, physical, biochemistry, and geochemistry. 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 a modern science complex, 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 fellowships 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 fellows, with summer research work, are currently \$3,600 for the calendar year. During 1970-71, research projects in the Department of Chemistry were sponsored by the American Chemical Society, the Atomic Energy Commission, the National Institutes of Health, the National Science Foundation, the Research Corporation, the DuPont Corporation, the Texaco Fellowship, the Cities Service Corporation, Dreyfus Foundation, the Hoffmann La Roche Foundation, and the Sloan Foundation.

For convenience, current research interests of the faculty are grouped as biochemistry, organic chemistry, and physical chemistry programs:

Biochemistry. Modern research into the chemistry of the living cell involves studies of macromolecules, their organization, and their functional regulation. Current areas of interest include the structure and function of DNA, DNA-protein

* Not offered 1971-72.

complexes and transfer RNA, protein structure and function and the assembly of subunits, enzyme catalytic mechanisms, lipid-protein interactions, and the physiological significance and biosynthesis of alkaloids.

The interaction of these programs with the departments of biology and physics is greatly strengthened by ties with the Institute of Molecular Biology. For example, a protein X-ray crystallographic facility is located in the Institute of Molecular Biology, under the direction of a member of the physics faculty, and is available to interested students in chemistry.

In 1967 the Department of Chemistry joined with the departments of biology and psychology and the Institute of Molecular Biology in launching a major interdisciplinary program in the areas of macromolecular chemistry, developmental biology, and neurobiology. Entering graduate students in chemistry are in an excellent position to take advantage of this molecularly oriented avenue to biological problems.

Organic Chemistry. Research problems in organic chemistry under active investigation cover a broad spectrum of interests ranging from structural elucidation and physiological activity, problems in synthesis, mechanistic studies, applications of both established and new physical methods, and the use of theory in calculations and predictions of the properties of organic molecules. Specific problems in the area of natural products and physiologically-active compounds include studies of the total synthesis of gibberellic acid, tetrodotoxin, echitamine, mavacurine and certain other indole alkaloids, lignans, and potential new anti-malarials.

Mechanistic studies embrace the use of kinetics, isotopic labeling, secondary isotope effects, configurational changes, and photochemical, electrochemical and thermal behavior as probes for examining cycloaddition reactions, various free radical reactions, rules governing conservation or orbital symmetry, nitroxide chemistry, the role of solvent, diffusion control of fast reactions in solution, and heterogeneous catalysis. Synthesis of unusual molecules having substituents within the cavity of the pi-electron cloud are being made to provide data for a better theoretical understanding of aromaticity. Computer methods are being applied both to facilitate routine spectral measurements as well as to extend the range and enhance the power of these established methods.

Physical Chemistry. Research interests include molecular spectroscopy, theoretical chemistry, chemical dynamics, biophysics, and physical geochemistry. Current interests extends from reactions of diatomic molecules to the conformations of complex biological macromolecules. Specific theoretical work includes the study of molecular electronic state spectra, equilibrium and nonequilibrium statistical thermodynamics, bond-excitons, charge transfer and conducting states of large hydrocarbon molecules, statistical theories of transport processes, theory of very fast chemical reactions, second quantization treatment of molecular exciton Hamiltonians, spin Hamiltonians, theory of vibronic mixing in two and three photon processes, and the theory of optical rotatory dispersion. Interdisciplinary cooperation with the departments of physics and mathematics is encouraged and actively supported through ties with the Institute of Theoretical Sciences. In addition, a chemical physics program is available for interested graduate students.

Current experimental studies include vacuum ultraviolet spectroscopy, the reaction mechanisms of diatomic molecules, gas phase kinetics and mass spectroscopy of small molecules, Raman and two- and three-photon spectroscopic processes involving the scattering and absorption of laser light, flash photolysis, neutron activation analysis of lunar and terrestrial volcanic samples, experimental studies of factors which determine the three-dimensional structure of proteins and nucleic acids, electron spin resonance of spin labeled macromolecules, fluorescence spectroscopy and energy transfer in aromatic molecules and nuclear magnetic resonance of membrane models.

A booklet 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 419. **Advanced General Chemistry.** (g) 4 or 5 hours (summer session).
- Ch 429. **Survey of Analytical Chemistry.** (g) 4 or 5 hours (summer session).
- Ch 439. **Survey of Organic Chemistry.** (g) 4 or 5 hours (summer session).
- Ch 441, 442, 443. **Physical Chemistry.** (g) 4 hours each term.
- Ch 446, 447, 448. **Physical Chemistry Laboratory.** (g) 3 hours each term.
- Ch 451. **Principles of Chemical Thermodynamics.** (G) 3 hours.
- Ch 453. **Principles of Statistical Mechanics.** (G) 3 hours.
- Ch 455. **Principles of Quantum Chemistry.** (G) 3 hours.
- Ch 457. **Principles of Chemical Kinetics.** (G) 3 hours.
- Ch 461, 462, 463. **Biochemistry.** (G) 3 hours each term.
- Ch 464. **Biochemistry Laboratory.** (G) 4 hours winter.
- *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.
- Ch 508. **Special Topics in Physical Chemistry.** 3 hours.
- Ch 509. **Special Topics in Organic Chemistry.** 3 hours.
- Ch 510. **Special Topics in Biochemistry.** 3 hours.
- Ch 531, 532, 533. **Advanced Organic Chemistry.** 3 hours each term.
- Ch 541, 542, 543. **Chemical Kinetics.** 3 hours each term.
- Ch 545, 546. **Quantum Chemistry.** 3 hours each term.
- Ch 553, 554. **Statistical Thermodynamics.** 3 hours each term, fall and winter.
- Ch 562, 563. **Advanced Biochemistry.** 3 hours each term, winter and spring.
- Ch 564, 565. **Physical Biochemistry.** 3 hours each term, winter and spring, alternate years.

Classics

Professor: F. M. COMBELLACK (department head).

Associate Professors: ANGELA J. PALANDRI, C. B. PASCAL.

Assistant Professors: MICHAEL B. FISH, ALLEN M. HANLEY, JAMES R. MORITA, STEPHEN C. SHUCARD.

Graduate programs are offered in the field of classical studies leading to the degree of Master of Arts in (1) Greek, (2) Latin, and (3) Classics. The first two indicate that the student has concentrated his graduate work in either Greek or Latin. The degree in (3) Classics indicates that he has taken graduate work in both Greek and Latin. All three programs require 45 term hours of graduate work.

* No-grade course.

Students taking the degree in (1) Greek or (2) Latin will ordinarily be expected to take some work in the other language unless they have already done so. Students who have not already had a year course in ancient history will be expected to include ancient history in their graduate program and may include work in classical art and archaeology. Students have the option of writing a thesis or of making a special study of a Greek or Latin author.

Greek

- CL 407. **Greek Seminar.** (G) Hours to be arranged.
 CL 411. **Thucydides.** (G) 3 hours. Combellack.
 CL 412. **Aeschylus.** (G) 3 hours. Combellack, Pascal.
 CL 413. **Theocritus.** (G) 3 hours. Combellack, Pascal.
 CL 414. **Plato's Republic.** (G) 3 hours. Combellack, Pascal.
 CL 415. **Aristotle's Ethics.** (G) 3 hours. Combellack.
 CL 416. **Greek Lyric Poetry.** (G) 3 hours. Combellack, Shucard.
 *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. Combellack, Shucard.

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. Combellack.
 CL 462. **Juvenal.** (G) 3 hours. Pascal.
 CL 463. **Tacitus' Annals.** (G) 3 hours. Pascal.
 CL 464. **Horace's Satires and Epistles.** (G) 3 hours.
 CL 465. **Ovid's Metamorphoses.** (G) 3 hours.
 CL 466. **Petronius' Cena Trimalchionis.** (G) 3 hours.
 CL 467. **Cicero's Philosophical Works.** (G) 3 hours.
 CL 468. **Lucretius.** (G) 3 hours.
 *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. Combellack, Pascal.

Chinese and Japanese

- OL 408. **Proseminar in Japanese Literature.** (g) 2 hours.
 OL 409. **Proseminar in Chinese Literature.** (g) 2 hours.
 OL 411, 412, 413. **Literary Japanese.** (g) 3 hours each term.

* No-grade course.

- OL 414, 415, 416. **Literary Chinese.** (g) 3 hours each term.
- OL 417, 418, 419. **Advanced Readings in Modern Japanese Literature.** (g) 3 hours each term.
- OL 420, 421, 422. **Advanced Readings in Modern Chinese Literature.** (g) 3 hours each term.
- OL 423, 424, 425. **Tang Poetry.** (g) 3 hours each term.
- AL 430, 431, 432. **The Chinese Classics.** (g) 3 hours each term.
- OL 433, 434, 435. **Japanese Poetry.** (g) 3 hours each term.
- OL 450. **Japanese Bibliography.** (g) 2 hours.
- OL 453. **Chinese Bibliography.** (g) 2 hours.

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 departments of English, German and Russian, and Romance Languages; Dr. Roland Ball, professor of English, 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, by examination or by completing literature courses in the languages. At least one of the languages must be chosen from the following list: French, German, Greek, Italian, Latin, Russian, Spanish. 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.

For the M.A. degree, the candidate takes written examinations covering two periods from his chosen literatures.

Ph.D. Degree. Before taking the comprehensive examination, candidates must demonstrate competence in two languages. At least one must be chosen from the list prescribed for M.A. candidates. 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 English, German, Greek, Italian, Latin, Romance, and Russian literatures; (2) one or more other literatures. Comprehensive written examinations cover the literatures and the period chosen for comparative study.

The following courses provide literary study from a comparative viewpoint:

- AL 507. **Seminar.** Hours to be arranged.
Mediaeval Literature: Hart. *Preromanticism and the Romantic Movement in Continental English, and American Literature:* Ball. *Comparative Studies in Modern Literature:* Ball. *Dante:* Hatzantonis.
- AL 514, 515, 516. **Introduction to Comparative Literature.** 3 hours each term.
 Hart.
- AL 586, 587. **Comparative Literary Criticism.** 3 hours each term.

Computer Science

Associate Professors: DAVID G. MOURSUND (department head), CLARK T. BENSON, GEORGE W. STRUBBLE.

Assistant Professors: W. TERRY BEYER, PETER MOULTON.

Instructors: GORDON ASHBY, FRED BEISSE, KATHLEEN BEYER, ROBERT HEILMAN, SHARON SALVETER.

The University offers graduate work in computer science leading to the M.A. and M.S. degrees. (A Ph.D. program in numerical analysis is offered through the Department of Mathematics.)

Applicants for admission to the master's degree program will be judged on the basis of their overall undergraduate record and their previous work in computer science.

A number of programs are available, and can be adjusted to the student's individual needs and background. Programs vary in length from four to six terms depending upon the student's previous training. A thesis is not required. Computer facilities available for instructional use include an IBM 360/50, a PDP-10 with remote terminals, and a number of small computers.

- CS 407. **Seminar.** (g) Hours to be arranged.
- CS 412. **Scientific Computation.** (g) 4 hours.
- CS 421. **Fortran in an Operating Environment.** (g) 4 hours.
- CS 423. **Programming Practicum.** (g) 4 hours.
- CS 424. **Assembly Language Programming.** (g) 4 hours.
- CS 425. **Assembly Language Programming.** (G) 4 hours.
- CS 427, 428, 429. **Data Structures and Computer Systems.** (G) 4 hours each term.
- CS 441. **Systems Programming.** (G) 4 hours.
- CS 447. **Computer-Assisted Experimentation.** (g) 4 hours.
- CS 451. **Information Retrieval.** (G) 4 hours.
- *CS 501. **Research.** Hours to be arranged.
- *CS 503. **Thesis.** Hours to be arranged.
- CS 505. **Reading and Conference.** Hours to be arranged.
- CS 507. **Seminar.** Hours to be arranged.
Computer Graphics. Discrete Structures. Coding Theory. Pattern Recognition. Computer-Assisted Instruction.
- CS 521, 522. **Theory of Computation.** 4 hours each term.
- CS 524. **Structure of Programming Languages.** 4 hours.
- CS 544. **Compiler Construction.** 4 hours.
- CS 571. **Artificial Intelligence.** 4 hours.

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,

* No-grade course.

bacteriology, biochemistry, dental materials, operative dentistry—dental materials, oral pathology, orthodontics, pedodontics, pharmacology, and physiology. For requirements and courses, see the Dental School Catalog.

Economics

Professors: ROBERT CAMPBELL (department head), GERALD O. BIERWAG, RICHARD M. DAVIS, MYRON A. GROVE, PAUL L. KLEINSORGE, H. T. KOPLIN, RAYMOND F. MIKESSELL, BARRY N. SIEGEL, PAUL B. SIMPSON, JAMES N. TATTERSALL, MARSHALL D. WATTLES.

Associate Professors: HENRY N. GOLDSTEIN, CHULSOON KHANG, ROBERT E. SMITH, W. E. WHITELAW.

Assistant Professor: THOMAS B. WIENS.

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 with courses agreed to by the department.

Master's Degree. The Department of Economics has two master's degree programs, one designed for students wishing to teach in two-year or other colleges, and another designed for students who want research careers. Both programs require a minimum of 45 term hours of graduate credit, and students must expect to spend at least two years in residence. Both programs require students to register in Economic Analysis (Ec 558, 559, 560).

(1) Students in the teaching master's degree program must demonstrate knowledge in mathematics equivalent to that contained in Mth 104, 105, 106 or Mth 107, 108, 109 and knowledge in statistics equivalent to that in Mth 425, 426, 427. Students in the teaching master's degree program must take a minimum of 45 hours of graduate-credit course work (exclusive of Ec 558, 559, 560) distributed as follows: 9 hours of supervised teaching (typically in the second year), 3 hours of research seminar, 9 hours of 500-level work in economics, and 24 hours of work in economics or related disciplines at the 400(G) level, as approved by the student's adviser. Students in the teaching master's degree program will not be required to write a research paper or thesis; however, they will be required to pass a comprehensive examination in order to qualify for the degree.

(2) Students in the research master's degree program must demonstrate knowledge in mathematics equivalent to Mth 201, 202, 203 (sophomore-level calculus) and in computer science equivalent to CS 233 or CS 428. In addition, students in the research program must take 45 hours of graduate course work (exclusive of Ec 558, 559, 560) consisting of: 6 hours of Econometrics (Ec 493, 494) or 9 hours of Business Statistics (BS 432, 433, 434); 9 hours in 500-level course work in economics; 9 hours of research seminar work in economics; and 18 (or 21) hours of course work at the 400(G) (g) level in economics or related fields as approved by the student's adviser. Completion of the research master's degree also requires a research paper which, in the opinion of the economics faculty, demonstrates the ability of the student to do acceptable research work for a

government agency or business enterprise. No more than 3 of the minimum 45 hours required will be allowed as credit for the research paper. There is no comprehensive examination for students in the research master's degree program.

Students must select at least one of the two master's programs in economics. They may switch programs; however, in doing so they must satisfy the requirements of the program into which they move.

Ph.D. Degree. Every graduate student seeking the Ph.D. degree must satisfactorily complete 24 term hours of graduate credit in a set of core courses. These consist of 6 hours of growth and dynamics, 6 hours of optimization procedures, 3 hours of general equilibrium theory, 3 hours of capital theory, 3 hours of macrostatics, and 3 hours of welfare economics. The student must fulfill this core obligation during his first year of graduate study. An examination, covering the core courses and reading list, will be administered during the final week of the spring term. Passing of this examination is necessary before the student will be permitted to undertake the second year of his Ph.D. program. In addition to the core requirements, the student must pass Econometrics (Ec 493, 494, 495). After he passes the core examination an advisory committee is appointed for each student. This committee will advise the student on the preparation of his remaining work and on his dissertation prospectus. In addition to the core courses and econometrics the student must satisfactorily complete 27 term hours of graduate work in various specialties and research. These specialties include economic development, economic history, history of economic thought, industrial organization and control, international economics, labor economics, money and credit, public finance, econometrics, mathematical economics, and regional and urban economics. The student may select an optional field outside the department; the student who elects such a field works out his program in consultation with his advisory committee. After completion of the core requirements, econometrics, the 27 hours of other graduate work, and a dissertation prospectus, the student is eligible for advancement to candidacy for the Ph.D. He is awarded a Ph.D. degree after a successful defense of his dissertation. Further details of this program and a reading list for the core examination are available at the office of the Department of Economics.

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

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

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

Ec 417. **Contemporary Economics 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. Whitelaw.

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

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

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

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

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

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

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

- Ec 457, 458, 459. **Economic Development.** (G) 3 hours each term. Wiens.
- Ec 460, 461, 462. **Industrial Organization and Public Policy.** (G) 3 hour each term. 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. Khang, Simpson.
- Ec 483, 484, 485. **National Income and Business Cycles.** (G) 3 hours each term. Simpson.
- Ec 487, 488. **American Economic History.** (G) 5 hours each term. Tattersall.
- Ec 490, 491, 492. **Development of Industrial Economies.** (G) 3 hours each term. Tattersall.
- Ec 493, 494, 495. **Econometrics.** (G) 3 hours each term. Bierwag.
- *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: Smith. *Economic History:* Tattersall. *History of Economic Thought:* Campbell, Davis. *Labor Economics:* Kleinsorge, Smith. *International Economics:* Goldstein, Mikesell. *Money and Credit:* Siegel. *Mathematical Economics:* Khang, Simpson. *Econometrics:* Bierwag, Khang. *Public Finance:* Grove, Whitelaw.
- Ec 514, 515, 516. **Regional Economic Analysis.** 3 hours each term. Tattersall, Whitelaw.
- Ec 524, 525, 526. **Economic Growth and Development.** 3 hours each term. Mikesell, Wiens.
- Ec 558, 559, 560. **Economic Analysis.** 3 hours each term. Bierwag, Davis, Khang, Koplín.

Education

Professors: ROBERT D. GILBERTS (dean), MAX G. ABBOTT, MARTIN H. ACKER, BARBARA BATEMAN, WESLEY BECKER, CHESTER BOWERS, DOROTHY N. CANDLAND, RICHARD O. CARLSON, WERRETT W. CHARTERS, THOMAS L. DAHLE, JOHN E. DE JUNG, HENRY F. DIZNEY, KENNETH A. ERICKSON, GRACE GRAHAM, N. RAY HAWK, ARTHUR C. HEARN, PAUL E. KAMBLY, JOHN LALLAS, JOHN LOUGHARY, RAYMOND N. LOWE, ESTHER MATTHEWS, ROBERT H. MATTSON, ARTHUR MITTMAN, GERALD PATTERSON, ARTHUR PEARL, HERBERT PREHM, RICHARD J. RANKIN, DONALD E. RHOADES, MILDRED M. ROBECK, ADOLPH A. SANDIN, OSCAR F. SCHAAF, CLARENCE W. SCHMINKE, RICHARD A. SCHMUCK, FRANCES G. SCOTT, GUY SHELLNBARGER, JOHN E. SUTLE, HUGH B. WOOD.

Associate Professors: KEITH ACHESON, GERALD K. BOGEN, ROBERT L. BOWLIN, DAVID BRINKS, BARTON E. CLEMENTS, STANLEY COHEN, JAMES CROSSON, TERRY EIDELL, SIEGFRIED ENGELMANN, VERNON K. ESPESETH, E. COSTON FREDERICK, SUSAN GILMORE, ANDREW HALPERN, JOHN HANSEN, FRANK

* No-grade course.

HARMON, WILLIAM HARRIS, MARVIN M. JANZEN, GERALD KRANZLER, WAYNE LANCE, LLOYD L. LOVELL, NORBERT MAERTENS, VERNICE T. NYE, HENRY OSIBOV, RONALD J. ROUSSEVE, GEORGE SHEPERD, ROBERT SYLWESTER, FRANCIS C. THIEMANN, SAUL TOOBERT, HILL WALKER, CARL WALLEN, RUTH WILLARD, HARRY F. WOLCOTT.

Assistant Professors: FRANCIS A. BENSON, BORIS BOGATZ, EARL BRABANT, PHILIP BROWNING, JOSEPH COBB, JESSICA DANIEL, GORDON DUDLEY, ERIC HAUGHTON, SYLVIA B. HILL, RAYMOND HULL, HAROLD W. JAMES, JAMES JOHNSTON, JEAN LEPPALUOTO, M. STEVE LILLY, GREGORY MALTBY, LEW B. MYERS, EVA O'NEIL, PHILIP K. PIELE, ROBERT L. ROSE, HELEN SIMMONS, JOYCE SPENCE, JOHN STAMM, JAMES YOUNG.

Graduate work in the College 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 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.

Master's Degree. All graduate students in education are expected to be knowledgeable about the total structure of the field of education. Thus, the graduate program in any area should include some work in social foundations, psychological foundations, philosophical and historical foundations, and measurement and research.

A major in school administration is not offered in a master's degree program. Persons looking forward to administrative positions in public education should plan either the two-year graduate program in educational administration or work toward the doctorate in educational administration. Those aspiring to positions of educational leadership should think in terms of at least two years of graduate work beyond the baccalaureate degree.

Persons who would like to include enough work in administration to qualify either as elementary or secondary principals should plan a major in either elementary education or secondary education in their master's degree program.

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 College 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 of the College 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 residence on campus for at least three consecutive terms, to be registered for at least 9 hours of credit each term of residence, to devote their major attention and mental energy to their studies, and to take full advantage of the total resources of the University in the pursuit of their programs.

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 College 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, programs of specialization are offered in the following seven departments. Specific requirements are available from department heads.

(1) Counseling, John W. Loughary, head. Area of concentration: Counseling Psychology.

(2) Curriculum and Instruction, Keith A. Acheson, acting head. Areas of concentration: Curriculum and Supervision, Elementary Education, Secondary Education, Early Childhood Education, Disadvantaged Youth, Reading and Language Arts.

(3) Educational Administration, Terry L. Eidell, head. Areas of concentration: General Administration, Elementary Administration, Secondary Administration.

(4) Educational Foundations, C. A. Bowers, head.

(5) Educational Psychology, Arthur Mittman, head. Areas of concentration: School Psychology, Human Development, Measurement and Research.

(6) Higher Education, Thomas Dahle, head. Area of concentration: College Student Personnel Administration.

(7) Special Education, Herbert J. Prehm, acting head. Areas of concentration: Mental Retardation, Extreme Learning Problems, Social-Emotional Problems, Physical Handicaps, Administrator of Special Education Programs.

Cooperative programs are also available in the following departments:

(1) Art Education, Vincent Lanier, head.

(2) Music Education, Robert E. Nye, head.

Supporting Area. An approved supporting core of course work comprising a minimum of 30 term hours may be included in the doctoral program. This supporting core of work may be drawn from one of the areas listed above or outside of the College of Education in areas such as art education, music education, speech education, or other professional school areas. It can also be an appropriate liberal arts area if formal arrangements have been made with the department. The program developed in the supporting area must be approved by a faculty member in the area.

Foundations Areas. Most doctoral students are required to include in their programs at least one basic course in each of the following areas:

(1) Psychological theories and processes in education. Courses from which selection usually is made are: Developmental Psychology (Psy 460); Advanced

Educational Psychology I (EPsy 529), Advanced Educational Psychology II (EPsy 530), Advanced Educational Psychology III (EPsy 531); Psychology of Exceptional Children (SpEd 462); Group and Individual Differences (Psy 441).

(2) Social foundations. Courses from which selection is usually made are: Social Education (EdF 491); Urbanization, the Pupil, and the School (EdF 542); Race and Culture (Anth 414).

(3) Philosophical and historical foundations. Courses from which selection is usually made are: Modern Philosophies of Education (EdF 445); History of Education (EdF 440); History of American Education (EdF 441); History of American Thought and Culture (Hst 460, 461, 462).

Research Areas. In the Ph.D. program, a student is required to complete a minimum of 9 term hours of work in research techniques and enroll for two terms in Seminar: Thesis (EPsy 507) (one hour of credit per term). In the D.Ed. program, a student is required to complete 3 term hours of work in research techniques and enroll in Seminar: Thesis (EPsy 507) for two terms. Courses from which students choose electives usually include the following: Statistical Methods in Physical Education (PE 540, PE 541), or Elements of Statistical Methods (Mth 425, 426, 427); Introduction to Research Procedures in Education (EPsy 512); Historical Method (Hst 420).

Counseling

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

Professional Seminar—Master's: Brockway, Dudley. *Group Counseling:* Loughary. *Appraisal in Counseling I:* Tinsley. *Behavioral Counseling:* Kranzler. *Research in Vocational Development:* Matthews. *Occupational Information:* Matthews. *Principles of Counseling:* Rousseve. *Introduction to Rehabilitation Service Agencies:* James. *Work Evaluation:* James. *Medical Aspects of Rehabilitation:* James. *Counseling—Education of Exceptional Children:* Browning.

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

Counseling: Lowe, Brockway, Clements, Dudley. *Procedures in Family Counseling:* Lowe. *Family Counseling:* Lowe. *Behavioral Counseling:* Kranzler. *Elementary-School Guidance:* Kranzler. *Secondary-School Guidance:* Rousseve. *Rehabilitation Counseling.*

Coun 485. **Principles and Practices of Guidance Services.** (G) 3 hours. Rousseve.

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

Coun 492. **Functional Aspects of Physical Disability.** (G) 3 hours. James.

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

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

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

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

Supervision: Acker. *Somatopsychology:* Acker. *Dissident Groups Counseling:* Acker. *Professional Seminar—Dissertation:* Gilmore, Dudley. *Imagination and Learning:* Dudley. *Philosophy of Science and Behavior:* Dudley. *Appraisal in Counseling II:* Tinsley. *Research Methods in Counseling:* Kranzler. *Counseling Procedures I:* Loughary. *Counseling Procedures II:* Toobert. *Counseling Procedures III:* Dudley. *Research in Counseling:* Loughary. *Interviewing:* Loughary. *Value and Identity Counseling:* Rousseve. *Developmental Counseling and the Human Career:* Matthews.

* No-grade course.

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

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

Elementary-School Guidance: Kranzler. *Secondary-School Guidance:* Rouseve. *Rehabilitation Counseling.* *Community College Counseling.* *Vocational Development Counseling:* Matthews. *Counseling:* James, Brockway. *College Counseling:* Gilmore.

Coun 526. **Counseling Theories.** 3 hours. Gilmore.

Coun 570. **Advanced Functional Aspects of Physical Disability.** 3 hours. Acker.

Coun 589. **Organization and Administration of Guidance Services.** 3 hours. Rouseve.

Curriculum and Instruction

Elementary Education

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

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

CI 451. **Early Childhood Education.** (G) 3 hours.

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

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

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

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

Reading. Evaluation of Elementary-School Programs. Elementary-School Mathematics. Elementary-School Social Studies. Primary Education. Analysis of Teaching. Language Arts. Supervision of Advanced Laboratory Practice.

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

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

CI 534. **Science in the Elementary School.** 3 hours. Sylwester.

CI 535. **Social Studies in the Elementary School.** 3 hours. Arends.

CI 536. **Language Arts in the Elementary School.** 3 hours.

CI 537. **Reading in the Elementary School.** 3 hours. Wallen.

CI 538. **Mathematics in the Elementary School.** 3 hours. Schminke, Maertens.

Secondary Education

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

CI 420. **The Student Council in the Secondary School.** (G) 3 hours.

CI 427. **School Activities.** (G) 3 hours. Shellenbarger.

CI 484. **The Junior High School.** (G) 3 hours.

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

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

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

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

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

EdAd 585. **Instructional Practices in Secondary Schools.** 3 hours.

CI 593. **Methods in Secondary-School Language Arts.** 3 hours.

* No-grade course.

- CI 594. **Methods in Secondary-School Mathematics.** 3 hours. Schaaf.
 CI 595. **Methods in Secondary-School Science.** 3 hours.
 CI 596. **Methods in Secondary-School Social Studies.** 3 hours.

Reading and Language Arts

- CI 407. **Seminar.** (G) Hours to be arranged.
 *CI 409. **Practicum.** (G) Hours to be arranged.
 CI 428. **Psychology of Reading Instruction.** (G) 3 hours. Robeck.
 CI 429. **Principles of Remedial Education.** (G) 3 hours.
 CI 469. **Reading in High School and College.** (G) 3 hours.
 *CI 501. **Research.** Hours to be arranged.
 *CI 503. **Thesis.** Hours to be arranged.
 CI 505. **Reading and Conference.** Hours to be arranged.
 CI 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. Extreme Learning Difficulties. Advanced Reading in High School.
 *CI 508. **Workshop.** Hours to be arranged.
 CI 509. **Practicum.** Hours to be arranged.
Diagnosis and Treatment of Extreme Learning Problems: O'Neil. Disadvantaged Youth: Pearl. Social and Behavior Disorders: Bateman.

Curriculum and Supervision

- CI 435. **Audiovisual Aids.** (G) 4 hours.
 *CI 501. **Research.** Hours to be arranged.
 *CI 503. **Thesis.** Hours to be arranged.
 CI 505. **Reading and Conference.** Hours to be arranged.
 CI 507. **Seminar.** Hours to be arranged.
Educational Development Process. Systematic Procedures of Observation. Organization and Administration of Educational Development. 8mm Film Production.
 *CI 508. **Workshop.** Hours to be arranged.
 CI 522. **Secondary-School Curriculum.** 3 hours. Hearn.
 EdAd 527. **Secondary-School Administration and Supervision.** 3 hours. Hearn.
 EdAd 552. **Elementary-School Problems.** 4 hours. Sandin.
 CI 553. **Elementary-School Curriculum.** 4 hours. Sandin.
 EdAd 554. **Elementary-School Administration and Supervision.** 4 hours. Sandin.
 EdAd 559. **Evaluation of Secondary-School Programs.** 3 hours. Hearn.
 EdAd 560. **Secondary-School Problems.** 3 hours. Hearn.
 CI 565. **Curriculum Foundations.** 4 hours. Candland.
 CI 566. **Curriculum Construction.** 4 hours. Suttle.
 CI 567. **Curriculum Materials.** 4 hours. Acheson.

* No-grade course.

CI 571. **Junior High-School Curriculum.** 3 hours. Acheson.

CI 574. **School Supervision.** 3 hours.

Disadvantaged Youth

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

Theory and Research of the Poor: Hill. *Careers in a Changing World:* Pearl. *Alienation of Youth from Education:* Pearl. *Life Styles of the Poor:* Pearl. *The Teacher and Ecology:* Hill.

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

Disadvantaged Youth: Pearl.

Educational Administration

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

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

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

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

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

Administrative and Curricular Practices in Elementary Schools: Sandin. *Administrative and Curricular Practices in Secondary Schools:* Hearn. *Advanced School Law:* Osibov. *Change in Organizations:* Carlson. *Foundations of Educational Research:* Charters. *Internship in Elementary Administration:* Sandin. *Internship in Secondary Administration:* Hearn. *Nature and Problems of Administrative Behavior:* Jacobson, Eidell. *Nongraded Elementary School:* Sandin. *Simulated Problems in Educational Administration:* Maltby, Rose. *Systems Theory for Administrators:* Nagle. *Information Systems and Services:* Piele. *Administrative Issues and Insights:* Thiemann. *Educational Voucher Plans:* Maltby.

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

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

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

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

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

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

EdAd 572. **Public-School Administration.** 3 hours. Abbott.

EdAd 573. **Public-School Organization.** 3 hours. Maltby.

EdAd 575. **School Finance.** 3 hours. Osibov.

EdAd 576. **School Buildings.** 3 hours. Erickson.

EdAd 580. **School Personnel Administration.** 3 hours. Thiemann.

EdAd 585. **Instructional Practices in Secondary Schools.** 3 hours. Hearn.

EdAd 599. **Administrative and Curricular Practices in Elementary Schools.** 3 hours. Sandin.

Educational Foundations

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

EdF 440. **History of Education.** (G) 3 hours. Bowers.

* No-grade course.

- EdF 441. **History of American Education.** (G) 3 hours. Bowers.
- EdF 445. **Modern Philosophies of Education.** (G) 3 hours. Bowers.
- EdF 491. **Social Education.** (G) 3 hours. Graham.
- *EdF 501. **Research.** Hours to be arranged.
- *EdF 503. **Thesis.** Hours to be arranged.
- EdF 505. **Reading and Conference.** Hours to be arranged.
- EdF 507. **Seminar.** Hours to be arranged.
Cultural Perspectives in Education: Wolcott. Anthropology in Educational Administration: Wolcott. Ideology and Education: Bowers. Educational and Social Ideas of John Dewey: Bowers. Existentialism and Education: Bowers.
- *EdF 508. **Workshop.** Hours to be arranged.
- EdF 542. **Urbanization, the Pupil, and the School.** 3 hours. Graham.
- EdF 545. **School and Society in the Recent Past.** 3 hours. Bowers.
- EdF 571, 572. **Anthropology and Education.** 3 hours each term.
- EdF 590. **Economics of Education.** 3 hours winter.
- EdF 591. **Educational Planning in Developing Countries.** 3 hours spring.
- EdF 598. **Comparative Education.** 3 hours. Wood.

Educational Psychology

- EPsy 407. **Seminar.** (G) Hours to be arranged.
Developmental Psychology—Child: Lovell. Developmental Psychology—Adolescent: Lovell. Developmental Psychology—Adult: Scott. School Learning and Motivation. Projective Techniques: Toobert.
- *EPsy 409. **Practicum.** (G) Hours to be arranged.
Binet: Rankin. Wise and Wais: Rankin. Special Tests: Rankin. School Psychology: Leppaluoto. Human Aging: Janzen.
- EPsy 424. **Measurement in Education.** (G) 3 hours. Dizney.
- EPsy 439. **The Gifted Child.** (G) 3 hours. Lovell.
- *EPsy 501. **Research.** Hours to be arranged.
- *EPsy 503. **Thesis.** Hours to be arranged.
- EPsy 505. **Reading and Conference.** Hours to be arranged.
- EPsy 507. **Seminar.** Hours to be arranged.
Abnormal Psychology. Learning. Motivation. Design and Analysis of Experiments: Mittman. Correlation Methods: Mittman. Topics in Statistics: Mittman. Advanced Topics in Measurement: Mittman. Theories of Interpersonal Relations: Schmuck. Planned Change in Schools: Schmuck. Research Strategies in Gerontology: Scott. Philosophy of Science: Lovell. Group and Individual Differences: Rankin. Thesis. Personality and Aging: Sundberg. Theories and Practices of School Psychology in Oregon: Leppaluoto. Analysis of Published Research: Rankin. Evaluation of School Programs: Dizney, Rankin, Mittman. Advanced Problems in Developmental Psychology: Lovell.
- EPsy 508. **Workshop.** Hours to be arranged.
- EPsy 509. **Practicum.** Hours to be arranged.
- EPsy 512. **Introduction to Research Procedures in Education.** 3 hours. Dizney, Mittman.
- EPsy 515, 516. **Educational Statistics.** 3 hours each term. Mittman.

* No-grade course.

- EPsy 517. **Advanced Educational Statistics.** 3 hours. Mittman.
 EPsy 525. **Theory and Technique of Educational Measurement.** 3 hours. Mittman.
 EPsy 528. **Group Testing in Schools and Colleges.** 3 hours. Dizney.
 EPsy 529. **Advanced Educational Psychology I.** 2 hours. Rankin.
 EPsy 530. **Advanced Educational Psychology II.** 2 hours. Lovell.
 EPsy 531. **Advanced Educational Psychology III.** 2 hours. Leppaluoto, Schmuck.
 EPsy 549. **Principles and Practices in School Psychology.** 3 hours. Leppaluoto.
 EPsy 564. **Mental Tests.** 4 hours. Rankin.

Higher Education

- HiEd 407. **Seminar.** (G) Hours to be arranged.
 *HiEd 409. **Practicum.** (G) Hours to be arranged.
 *HiEd 501. **Research.** Hours to be arranged.
 *HiEd 502. **Supervised College Teaching.**
 *HiEd 503. **Thesis.** Hours to be arranged.
 HiEd 505. **Reading and Conference.** Hours to be arranged.
 HiEd 507. **Seminar.** Hours to be arranged.
Administration of the Community College, Adult Education: Dahle. College Student Personnel: Hawk. Higher Education in Developing Countries: Wood. Programs in the Community College. College Programs for the Disadvantaged.
 *HiEd 508. **Workshop.** Hours to be arranged.
 HiEd 509. **Practicum.** Hours to be arranged.
 HiEd 520. **Adult Education.** 3 hours fall.
 HiEd 530. **Higher Education in Developing Countries.** 3 hours winter.
 HiEd 550. **Administration of College Student Services.** 3 hours winter.
 HiEd 571. **Administration of the Community College.** 3 hours.
 HiEd 572. **Programs in the Community College.** 3 hours.
 HiEd 590. **Higher-Education Survey.** 3 hours. Lallas.
 HiEd 591. **Teacher-Education Survey.** 3 hours. Kambly.
 HiEd 592. **Administration of Colleges and Universities.** 3 hours. Lallas.
 HiEd 597. **Methods of College Teaching.** 3 hours. Wood.

Special Education

- SpEd 407. **Seminar.** (G) Hours to be arranged.
Research—Exceptional Children: deJung. Introduction to Learning Disabilities: Waugh. Teaching—Emotionally Disturbed: Spence. Instructional Procedures—Exceptional Children. Behaviorism—Special Education: Stamm. Physically Handicapped: Sheperd. Patterns of Child Behavior: Lowe. Behavior Theory and Clinical Practice: Becker. Principles of Theory and Practice of Teaching: Engelmann. Social Psychology of Minority Groups: Daniel. Curriculum—Trainable Mentally Retarded: Lance.

* No-grade course.

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

Administration of Special Education: Brabandt. *Diagnosis-Remediation:* O'Neil. *Precision Teaching. Emotionally Disturbed:* Spence. *Mental Retardation:* Stamm. *Physically Handicapped:* Horne.

SpEd 462. **Psychology of Exceptional Children.** (G) 3 hours. Stone.

SpEd 463. **The Maladjusted Child.** (G) 3 hours. Lowe.

SpEd 464. **The Mentally Retarded Child.** (G) 3 hours. Stamm.

SpEd 465. **Diagnostic Techniques in the Basic Skills.** (G) 3 hours. Waugh.

SpEd 468. **Remedial Techniques in the Basic Skills.** (G) 3 hours. O'Neil.

SpEd 471. **Administration of Special Education.** (G) 3 hours. Brabandt.

SpEd 489. **Curriculum for the Mentally Retarded.** (G) 3 hours. Sheperd.

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

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

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

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

Research—Exceptional Children: deJung. *Administration of Pupil Personnel Services:* Brabandt. *Research Grant Agencies:* Brabandt. *Advanced Exceptional Child:* Bateman. *Advanced Curriculum:* Halpern. *Learning, Developmental Deviations:* Prehm. *Neurological Basis of Behavior:* Myers. *Social Aspects of Developmental Deviations:* Browning. *Neurological Impairment:* Myers. *Gross Neurological Impairment:* Myers. *Scientific Writing:* Prehm. *Professional Planning:* Mattson. *Diagnosis—Deviant Development:* Bateman. *Education—Deviant Development. Rehabilitation—Deviant Development:* Browning. *Problems of Emotionally Disturbed:* Spence. *Problems of Mental Retardation. Problems of Learning Disability. Problems of Physically Handicapped:* Espeseth. *Problems of Administration of Special Education:* Brabandt.

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

Role-play Techniques: Lowe.

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

Education of Exceptional Children: Stone. *Administration of Special Education:* Brabandt. *Emotionally Disturbed:* Spence. *Teaching the Mentally Retarded. College Teaching:* Espeseth. *Physically Handicapped:* Espeseth. *Evaluation of Instructional Materials:* Latham. *Diagnosis of Basic Skill:* Waugh. *Remediation—Advanced:* O'Neil.

SpEd 562. **Issues in Extreme Learning Disorders.** 3 hours. Bateman.

SpEd 563. **Diagnosis in Mental Retardation.** 3 hours. Espeseth.

English

Professors: ROLAND BARTEL (department head), STANLEY B. GREENFIELD, CLARK GRIFFITH, WILLIAM J. HANDY, ROBERT D. HORN, ALBERT R. KITZHABER, WALDO F. MCNEIR, CARLISLE MOORE, JOHN C. SHERWOOD, DONALD S. TAYLOR, A. KINGSLEY WEATHERHEAD, CHRISTOF A. WEGELIN, GEORGE WICKES.

Associate Professors: ROBERT C. ALBRECHT, ROLAND C. BALL, WILLIAM E. CADBURY, THELMA GREENFIELD, JOHN A. HAISLIP, JOSEPH A. HYNES, GLEN A. LOVE, STODDARD MALARKEY, STANLEY B. MAVETY, RALPH J. SALISBURY, WILLIAM C. STRANGE, J. B. TOELKEN, OLIVER M. WILLARD.

* No-grade course.

Assistant Professors: RICHARD F. ALLEN, LUCILE ALY, JAMES L. BOREN, WENDELL BOWERMAN, EDWIN COLEMAN, MARILYN FARWELL, ROBERT GRUDIN, RICHARD W. REID, GORDON W. ROCKETT, BURTON E. SABOL, CLARENCE SLOAT, RICHARD C. STEVENSON, MASUD ZAVARZADEH.

The Department of English offers graduate work leading to the M.A. degree in English, the M.A. and the M.F.A. degrees in imaginative writing, the interdisciplinary M.A. degree in English and education, and the Ph.D. and D.A. degrees in English. Information about admissions procedures and a more detailed explanation of the various programs can be obtained by writing to the Director of Graduate Studies in English.

For the M.A. degree a program of study totaling 45 term hours is required, including 10 hours in Old English, Middle English, or linguistics. The candidate must pass three examinations selected from the following fields: (1) Old English literature, (2) Middle English literature, (3) Renaissance dramatic literature, (4) Renaissance nondramatic literature, (5) English literature 1660-1780, (6) English literature 1780-1830, (7) English literature 1830-1914, (8) American literature to 1914, (9) contemporary British and American literature, (10) special studies (not involving a period approach). The student may satisfy the examination requirement in two of the three fields by completing three graduate courses in each field with a GPA of 3.25. The M.A. candidate must also demonstrate a reading knowledge of a foreign language by examination or course work. A 55-hour program without examination is also offered for students not planning to pursue graduate study beyond the master's degree. The M.A. degree in writing substitutes a thesis in imaginative writing for 5 hours of course work.

The candidate for the M.F.A. degree completes 72 hours of graduate work, including 18 hours in English and American literature, 18 hours in writing, and 18 hours in writing an imaginative thesis. The remaining 18 hours is taken in related fine-arts fields such as art history, music history, drama, and aesthetics, depending on the candidate's individual program. The candidate must also pass a two-hour written examination on a reading list of works of fiction, drama, or poetry.

The doctoral program requires at least three years of full-time study beyond the bachelor's degree, at least one year of which must be spent in residence on the Eugene campus. The candidate is required to take a bibliography course and two courses in Old English, Middle English, or linguistics; he must also demonstrate, by examination or course work, a reading knowledge of two foreign languages or a very high competence in one. Doctoral candidates must have supervised experience as classroom teachers in the department.

The doctoral candidate takes examinations at two levels: the field examinations, usually during the first two years of full-time graduate study, and the doctoral examinations, usually during the third year of full-time study. In the field examinations, the candidate must pass six of the ten field examinations listed under the M.A. program above; the student may satisfy the examination requirement in three of the six fields by completion of three graduate courses in each field with a GPA of 3.25. Examinations passed for the M.A. count toward the six. Transfer students may be credited with a maximum of three examinations, but at least three examinations must be passed at the University of Oregon.

After completing the field examinations, the doctoral candidate submits a statement of the nature and scope of his major field, which need not be one of the traditional periods or fields but must be of comparable scope. He then meets with his doctoral committee to consider his preparation and to agree on the coverage of his doctoral examination, which may be written, oral, or a combination of these, and which ordinarily covers the literature of the field, secondary scholarship, and a relevant supporting field.

The Ph.D. is granted upon completion of all previously stated doctoral re-

quirements and of a dissertation; this dissertation may be a work of literary or linguistic scholarship on a single subject or a collection of three substantial essays exhibiting internal coherence but not necessarily treating a single precisely defined subject. When the dissertation is approved by the student's doctoral committee, the candidate is given a final oral examination on his dissertation and related subjects.

The program leading to the Doctor of Arts (D.A.) degree in English includes all requirements for the Ph.D. degree except the writing of a dissertation.

Literature

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

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

*Eng 409. **Supervised Tutoring Practicum.** (G) 1-3 hours any term.

Eng 411, 412, 413. **English Drama.** (G) 3 hours each term. G. Johnson.

Eng 414, 415, 416. **History of Literary Criticism.** (G) 3 hours each term. J. Sherwood.

Eng 417. **Introduction to Folklore and Mythology.** (G) 3 hours.

Eng 418. **Folklore and Mythology of the British Isles.** (G) 3 hours.

Eng 419. **American Folklore.** (G) 3 hours.

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 session).

Eng 425. **Early English Literature.** (g) 3 hours. Boren, S. Greenfield, Toelken.

Eng 428. **Chaucer.** (G) 3 hours. Allen, Boren, S. Greenfield, Malarkey, Toelken.

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. McNeir.

Eng 437, 438. **The Literature of the English Bible.** (G) 3 hours each term.

Eng 440, 441, 442. **Seventeenth-Century Literature.** (G) 3 hours each term. G. Rockett.

Eng 444. **Milton's Minor Poems and Prose.** (G) 3 hours.

Eng 445. **Milton's Major Poems.** (G) 3 hours. Maveety.

Eng 450, 451, 452. **Eighteenth-Century Literature.** (G) 3 hours each term. J. Sherwood, I. Sherwood, Taylor.

Eng 460, 461, 462. **The Romantic Poets.** (G) 3 hour each term. Strange, Teich.

Eng 463, 464, 465. **The Victorian 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. Griffith.

Eng 481, 482, 483. **Major American Writers.** (G) 3 hours each term. Albrecht, Handy, Love, Wickes.

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. Sloat.

Eng 492. **Modern English Grammar.** (g) 3 hours. Sloat.

* No-grade course.

- Eng 493. **Advanced English Grammar.** (g) 3 hours. Sloat.
- Eng 494. **Narrative Fiction.** (G) 3 hours. Sabol.
- Eng 495. **Film as Literature [Term Subject].** (G) 3 hours any term. Cadbury.
- *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.
Seminars are offered in approximately ten subjects each term.
- Eng 508. **Workshop.** Hours to be arranged (summer session).
- Eng 511, 512, 513. **Old English.** 5 hours each term. Allen, S. Greenfield.
- Eng 514, 515, 516. **Old Icelandic.** 5 hours each term. Allen.
- Eng 517. **Middle English.** 5 hours. Toelken.
- Eng 518. **Chaucer's Troilus and Criseyde.** 5 hours. S. Greenfield, Toelken.
- Eng 519. **The Pearl Poet.** 5 hours. Boren, Malarkey.
- Eng 520, 521, 522. **History and Structure of the English Language.** 5 hours each term. Sloat.
- Eng 530, 531, 532. **Shakespeare.** 5 hours each term. T. Greenfield, McNeir.
- Eng 535, 536, 537. **Tudor and Stuart Drama.** 5 hours each term. T. Greenfield.
- Eng 540. **Bibliography.** 3 hours fall. Taylor.
- Eng 585. **Modern English Literary Criticism.** 5 hours.
- Eng 588, 589. **Modern Poetry.** 5 hours each term. Weatherhead.
- Eng 590, 591, 592. **Modern Fiction.** 5 hours each term. Wegelin.

Writing

- *Wr 409. **Supervised Tutoring Practicum.** (G) 1-3 hours.
- Wr 411. **English Composition for Teachers.** (g) 3 hours. Aly.
- Wr 420, 421, 422. **Novel Writing.** (G) 3 hours each term. Lyons.
- Eng 494. **Narrative Fiction.** (G) 3 hours.
- *Wr 503. **Thesis.** Hours to be arranged.
- Wr 504. **Writing and Conference.** Hours to be arranged.
- Rht 514. **Eighteenth-Century Rhetorical Theory.** 3 hours.
- Wr 530, 531, 532. **Graduate Creative Writing.** 3 hours each term. Haislip, Lyons, Salisbury.
- Th 551, 552, 553. **Theory of Dramatic Production.** 3 hours each term. Robinson.
- Th 564, 565. **History of the Theater.** 5 hours each term.

Geography

Professors: GENE MARTIN (department head), SAMUEL N. DICKEN, CARL L. JOHANNESSEN, CLYDE P. PATTON, EDWARD T. PRICE.

Associate Professors: EVERETT SMITH, ALVIN W. URQUHART.

Assistant Professor: WILLIAM G. LOY.

Instructor: GARY SEARL.

* No-grade course.

Graduate work leading to both the M.A. and Ph.D. degrees is offered. The department also supervises those students wishing to obtain an interdisciplinary master's degree with a major emphasis in geography. This degree combines course work in geography and in education.

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

Work leading to the M.A. degree is aimed at familiarity with the main physical and cultural lineaments of the earth. This program involves basic preparation in physical and cultural geography, geographic field methods, aerial photographic interpretation, and cartography.

The Ph.D. program requires more specialization of the student, who must demonstrate thorough knowledge of the geography of a major region of the world and competent understanding of one of the systematic fields of geography. Students pursue a minor field or fields in departments which traditionally have shared interests with geography, e.g., anthropology, biology, economics, geology, history, mathematics, political science, sociology, and urban planning. A doctoral dissertation showing ability to do individual research culminates the Ph.D. program.

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, e.g., in Latin America and Africa.

- Geog 421, 422, 423. **Geographic Field Methods.** (G) 3 hours each term.
 Geog 433. **Political Geography.** (G) 3 hours.
 Geog 434. **Economic Geography.** (G) 3 hours.
 Geog 435, 436. **Urban Geography.** (G) 3 hours each term. Smith.
 Geog 451. **Geography of East Asia.** (G) 3 hours.
 Geog 453. **Cultural Geography of Africa.** (G) 3 hours. Urquhart.
 Geog 455. **Geography of Southeast Asia.** (G) 3 hours.
 Geog 461. **The South American Tropics.** (G) 3 hours. Martin.
 Geog 462. **Southern South America.** (G) 3 hours. Martin.
 Geog 463. **Geography of Middle America.** (G) 3 hours. Johannessen.
 Geog 471. **Geography of Western Europe.** (G) 3 hours. Patton.
 Geog 472. **Mediterranean Landscapes.** (G) 3 hours. Loy.
 Geog 481. **Geomorphology.** (G) 3 hours. Loy.
 Geog 482. **Climatology.** (G) 3 hours. Patton.
 Geog 484. **Aerial Photo Interpretation and Remote Sensing.** (G) 3 hours. Loy.
 Geog 485, 486. **Cartography.** (G) 3 hours each term. Loy.
 Geog 487. **World Regional Climatology.** (G) 3 hours. Patton.
 Geog 488, 489. **Biogeography.** (G) 3 hours each term. Johannessen.
 Geog 491, 492, 493. **Cultural Geography.** (G) 3 hours each term. Price.
 *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.

* No-grade course.

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

Quantitative Methods in Geography: Patton. *Linguistic Geography of Europe:* Patton. *Plant and Animal Domestication:* Johannessen. *Pre-Columbian Transoceanic Diffusion:* Johannessen. *The Latin American City:* Martin. *The West African City:* Urquhart. *The North American City:* Smith. *Landscape and Environment:* Urquhart. *Oregon Environment and Settlement:* Martin. *Rural Settlement:* Price. *Historical Geography of North America:* Price. *Land Use:* Smith. *Fluvial Processes:* Loy. *Glacial Geomorphology:* Loy. *Coastal Geomorphology:* Loy. *Terrain Representation:* Loy. *Geographic Education:* Searl.

Geog 509. **Supervised Tutoring Practicum.** 1-3 hours any term.

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

Geology

Professors: A. R. MCBIRNEY (department head), EWART M. BALDWIN, LLOYD W. STAPLES.

Associate Professors: H. RICHARD BLANK, JR., SAM BOGGS, JR., GORDON G. GOLES, M. ALLAN KAYS, ERNEST H. LUND, DANIEL F. WEILL.

Assistant Professor: WILLIAM N. ORR.

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 all degrees. 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 master's degree work in two academic years and one summer in the field.

The requirements for the Ph.D. degrees are flexible and may be closely adapted to the needs and interests of the individual candidate. Ordinarily, the students takes courses in geology and related fields according to his individual interests and the recommendation of the faculty member under whom he is working.

Teaching fellowships are awarded annually. Students may also 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, invertebrate paleontology, micropaleontology, geophysics, geochemistry, and volcanology.

The state of Oregon has many areas that afford excellent opportunities for field work. 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 summer camps as bases from which field investigations are made. Geological equipment and geophysical instruments are available to students working on special problems in the field.

A wide variety of 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 Museum of Natural History. 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, darkroom facilities for special studies with the goniometer and other

optical instruments, a high temperature laboratory, X-ray equipment, mineral separation facilities, sedimentary analysis equipment, a flame photometer, atomic absorption and spectrophotometric equipment, a fluxgate magnetometer, a gravity meter, portable seismic equipment, an electron microprobe, and an X-ray fluorescence unit.

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

The departments of chemistry, physics, mathematics, and biology offer supporting courses.

Geol 411. **Lithology.** (g) 3 hours. Lund.

Geol 414, 415, 416. **Petrology and Petrography.** (G) 4 hours each term. Kays, Lund.

Geol 421. **Engineering Geology.** (G) 3 hours. Staples.

Geol 422. **Petroleum Geology.** (G) 3 hours. Boggs.

Geol 423. **Economic Mineral Deposits.** (G) 3 hours. Staples.

Geol 425, 426. **Properties of Crystals.** (G) 3 hours each term.

Geol 431, 432, 433. **Paleontology.** (G) 3 hours each term. Orr.

Geol 451. **Pacific Coast Geology.** (G) 3 hours. Baldwin.

Geol 455. **Studies in Physical Geology.** (g) 3 hours (summer session).

Geol 456. **Regional Geology of North America.** (g) 3 hours (summer session).

Geol 461. **Mineral Paragenesis.** (G) 3 hours. Weill.

Geol 462. **Tectonics.** (G) 3 hours. Baker.

Geol 463. **General Geophysics and Planetology.** (G) 3 hours.

Geol 464. **Exploration Geophysics.** (G) 4 hours.

Geol 470. **Geochemistry.** (G) 3 hours. Goles.

Geol 473. **Photogeology.** (G) 3 hours.

*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.

Geol 511. **Advanced Microscopy and Instrumentation.** 4 hours. McBirney.

Geol 514. **Advanced Metamorphic Petrology.** 3 hours. Kays, McBirney.

Geol 515, 516. **Advanced Igneous Petrology.** 3 hours each term. McBirney.

Geol 520. **Advanced Economic Geology.** 3 hours. Staples.

Geol 523, 524. **Advanced Sedimentary Petrology.** 3 hours each term. Boggs.

Geol 525. **Advanced Regional Stratigraphy.** 3 hours. Baldwin.

Geol 531, 532. **Advanced Paleontology.** 3 hours each term. Orr.

Geol 533. **Micropaleontology.** 3 hours. Orr.

Geol, 561, 562, 563. **Geochemistry.** 3 hours each term. Goles, Weill, Holser.

Geol 571, 572, 573. **Geophysics.** 3 hours each term. Blank.

Geol 591. **Advanced Structural Geology.** 3 hours.

Geol 592. **Volcanology.** 2 hours. McBirney.

* No-grade course.

German and Russian

Professors: ROGER NICHOLLS (department head), WOLFGANG LEPPMANN.

Associate Professors: JOHN FRED BEEBE, EDWARD DILLER, PETER GONTRUM, WALTHER HAHN, HELMUT PLANT.

Assistant Professors: ALBERT LEONG, JAMES McWILLIAMS, JAMES L. RICE, JEAN WOODS.

The Department of German and Russian offers programs of study leading to the degree of Master of Arts in German and in Russian, and to the degree of Doctor of Philosophy in German.

The program for the M.A. degree in German is usually centered on literary studies, but some work in philology is required. The degree may be considered either as the termination of formal education or as preparation for further advanced study.

In addition to the regular Master of Arts degree, the department offers programs in German and Russian for a Master of Arts degree in teaching. It provides the secondary-school teacher with an opportunity to study literature at the graduate level, to achieve competence in the written and spoken language, and to study and practice methods of presenting his material. The program fulfills the Oregon requirements for the Standard Secondary Teacher's Certificate.

The program for the M.A. degree in Russian is designed to provide training in Russian language, literature, and linguistics for students planning careers in teaching, research, translation, or government service.

The program for the Ph.D. in German includes advanced work in German language and literature, and studies in Germanic philology offered in collaboration with the Department of English.

German

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

GL 411, 412, 413. **The Age of Goethe.** (G) 3 hours each term.

GL 414, 415, 416. **The Nineteenth-Century German Novelle.** (G) 3 hours each term. Hahn.

GL 424, 425, 426. **Advanced German Composition and Conversation.** (G) 3 hours each term.

GL 498. **Applied German Phonetics.** (G) 3 hours. Plant.

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

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

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

*GL 509. **Supervised Tutoring Practicum.** 1-3 hours any term.

GL 511, 512, 513. **The German Lyric.** 5 hours each term. Gontrum.

GL 514. **Introduction to Middle High German.** 5 hours. Plant.

GL 515, 516. **Readings in Middle High German Literature.** 5 hours each term. Plant.

GL 517, 518, 519. **German Romanticism.** 5 hours each term. Hahn.

GL 520. **Research Methods in German.** 3 hours fall. Woods.

GL 524. **German Literature of the Sixteenth Century.** 5 hours. Woods.

* No-grade course.

- GL 526. **German Literature 1700-1750.** 5 hours. Woods.
 GL 527, 528, 529. **Goethe.** 5 hours each term. Leppmann.
 GL 530, 531. **Old High German.** 5 hours each term. Plant.
 GL 532. **Introduction to Gothic.** 5 hours. Plant.
 GL 533. **Structure of Modern German.** 5 hours. Plant.
 GL 534. **History of New High German.** 5 hours. Plant.
 GL 536. **Lessing.** 5 hours. Nicholls.
 GL 537. **Sturm und Drang.** 5 hours. Nicholls.
 GL 538. **Schiller.** 5 hours. Nicholls.
 GL 539. **Introduction to Old Saxon.** 5 hours. Plant.
 GL 540, 541, 542. **German Drama of the Nineteenth Century.** 5 hours each term. Nicholls.
 GL 543, 544, 545. **Contemporary German Lyric.** 5 hours each term. Gontrum.
 GL 546, 547, 548. **Modern German Novel.** 5 hours each term. Diller, Gontrum, Nicholls.
 GL 550, 551, 552. **Modern German Drama.** 5 hours each term. Gontrum.
 GL 555, 556, 557. **German Novel of the Nineteenth Century.** 5 hours each term. Hahn.
 GL 558. **German Lyric of the Seventeenth Century.** 5 hours. Woods.
 GL 559. **German Drama and Prose of the Seventeenth Century.** 5 hours. Woods.

Russian

- SL 407. **Seminar.** (G) Hours to be arranged.
 SL 416, 417, 418. **Fourth-Year Russian.** (G) 5 hours each term.
 AL 420. **Modern Russian Novel.** (G) 3 hours. Rice, Leong.
 AL 421. **Modern Russian Short Story.** (G) 3 hours. Rice.
 AL 422. **Modern Russian Poetry.** (G) 3 hours. Leong.
 AL 423. **Modern Russian Drama.** (G) 3 hours. Leong, Rice.
 AL 424. **Dostoevsky.** (G) 3 hours. Leong, Rice.
 AL 425. **Tolstoy.** (G) 3 hours. Leong.
 AL 426. **Gogol.** (G) 3 hours. Rice, Leong.
 AL 427. **Turgenev.** (G) 3 hours. Rice.
 AL 428. **Chekhov.** (G) 3 hours. Rice.
 AL 429. **Soviet Russian Literature.** (G) 3 hours. Leong.
 SL 440, 441, 442. **Structure of Russian.** (G) 3 hours each term. Beebe.
 *SL 503. **Thesis.** Hours to be arranged.
 SL 505. **Reading and Conference.** Hours to be arranged.
 SL 507. **Seminar.** Hours to be arranged.
 Russian Literary Criticism.
 *SL 509. **Supervised Tutoring Practicum.** 1-3 hours any term.
 SL 520. **Research Methods in Russian.** 5 hours. Leong, Rice.
 SL 521. **Old Russian Literature.** 5 hours. Rice.

* No-grade course.

- SL 522. **Russian Folklore.** 5 hours. Rice.
 SL 523. **Eighteenth-Century Russian Literature.** 5 hours. Rice.
 SL 524. **Pushkin.** 5 hours. Leong.
 SL 540. **Old Church Slavonic.** 3 hours. Beebe.
 SL 541, 542. **History of Russian.** 3 hours each term. Beebe.

Slavic

- SL 480, 481, 482. **First-Year Serbo-Croatian.** (G) 4 hours each term.
 SL 483, 484, 485. **First-Year Polish.** (G) 4 hours each term. Beebe.
 SL 486, 487, 488. **First-Year Czech.** (G) 4 hours each term. Beebe.
 SL 490, 491, 492. **First-Year Ukrainian.** (G) 4 hours each term.

Health, Physical Education, and Recreation

Professors: LYNN S. RODNEY (acting dean), H. HARRISON CLARKE, M. FRANCES DOUGHERTY, ARTHUR A. ESSLINGER, EUGENE EVONUK, FRANKLIN B. HAAR, ROBERT E. KIME, BETTY MCCUE, WILLIAM P. RHODA, PETER O. SIGERSETH, WARREN E. SMITH, VERNON S. SPRAGUE, EDNA P. WOOTEN.

Associate Professors: JACK D. ADLER, JOHN W. BORCHARDT, K. WRIGHT DUNKLEY, PHYLLIS FORD, L. RICHARD GESER, B. CORLEE MUNSON, JESSIE PUCKETT, CHARLES M. REICH, EDWARD R. REUTER, RICHARD G. SCHLAADT, DONALD P. VAN ROSSEN.

Assistant Professors: DIANE BAXTER, CLIFFORD BRUBAKER, ELIZABETH GLOVER, LINDA HEARN, MICHAEL C. HOSOKAWA, LARRY L. NEAL, GLEN NORRIS, ROBERT P. RAUS, BECKY SISLEY, LOIS YOUNGEN.

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 and of 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 (3) 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. Two research laboratories are equipped with modern instruments. An excellent library, supplemented by a comprehensive collection of microcards in health education, physical education, and recreation, is available.

Dance

- D 409. **Practicum.** (G) Hours to be arranged.
 D 452. **Dance History to 1000 A.D.** (G) 3 hours.
 D 453. **Dance History 1000-1900 A.D.** (G) 3 hours.
 D 454. **Dance History since 1900.** (G) 3 hours.
 *D 501. **Research.** Hours to be arranged.
 *D 503. **Thesis.** Hours to be arranged.
 D 505. **Reading and Conference.** Hours to be arranged.
 D 506. **Special Problems.** Hours to be arranged.
 D 507. **Seminar.** Hours to be arranged.
 D 508. **Workshop.** Hours to be arranged.
 D 509. **Practicum.** Hours to be arranged.
 D 593. **Aesthetic Bases for Dance in Art and Education.** 3 hours.

Health Education

- HE 408. **Workshop.** (g) Hours to be arranged.
 HE 450. **Elementary-School Health Education.** (g) 3 hours any term. Schlaadt, Smith.
 HE 463. **Social Health.** (G) 3 hours spring. Kime.
 HE 464. **Health Instruction.** (G) 3 hours fall. Schlaadt.
 HE 465. **School Health Service.** (G) 3 hours winter. Smith.
 HE 466. **Evaluation of School Health Education.** (G) 3 hours. Kime.
 HE 468. **Psychophysical Testing Equipment in Driver Education.** (G) 3 hours.
 *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 509. **Practicum.** 3-9 hours any term.
 HE 542. **Basic Issues in Health Education.** 3 hours fall. Haar.
 HE 543. **Advanced Health Instruction.** 3 hours winter. Smith.
 HE 552. **Administration of School Health Education.** 3 hours spring. Haar.
 HE 560. **Administration and Supervision of Safety Programs.** 3 hours. Schlaadt.
 HE 561. **Psychology of Accident Prevention.** 3 hours. Kime.
 HE 562. **Administration and Supervision of Driver Education Programs.** 3 hours. Schlaadt.
 HE 563. **Problems in Traffic Safety.** 3 hours. Haar.

Physical Education

- PE 408. **Workshop.** (g) Hours to be arranged.

* No-grade course.

- 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 444. **Physical Education for the Exceptional Student.** (G) 3 hours.
- 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. Current Literature in Physical Education.
- PE 508. **Workshop.** Hours to be arranged.
- PE 509. **Practicum.** Hours to be arranged.
- PE 511. **Philosophy of Physical Education.** 3 hours spring.
- PE 515, 516. **History of Physical Education.** 3 hours each term.
- PE 518. **Current Movements in Physical Education.** 3 hours.
- PE 520. **Developmental Program in Physical Education.** 3 hours. Clarke.
- PE 521. **Body Mechanics and Correctives.** 3 hours. Wooten.
- PE 522. **Orthopedics and Therapeutics.** 3 hours. Wooten.
- PE 523. **Individual and Adapted Physical Education.** 3 hours. Wooten.
- PE 527. **Techniques of Relaxation.** 3 hours. Wooten.
- PE 531. **Muscle Testing and Therapeutic Exercise.** 3 hours. Wooten.
- PE 532. **Heat Therapy and Massage.** 3 hours.
- PE 533. **Motor Skill Learning.** 3 hours. Adler.
- PE 537. **Sports Psychology.** 3 hours.
- PE 540. **Statistical Methods in Physical Education.** 3 hours fall. Clarke.
- PE 541. **Statistical Methods in Physical Education.** 3 hours winter. Clarke.
- PE 544. **Critique and Interpretation of Research.** 3 hours. Geser.
- PE 545. **Experimental Design in Physical-Education Research.** 4 hours. Clarke.
- PE 550, 551, 552. **Administration of Physical Education.** 3 hours each term. Esslinger.
- PE 554. **Administration of Athletics.** 3 hours. Sprague.
- PE 555. **Intramural Organization and Management.** 3 hours. Borchardt.
- 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.

* No-grade course.

- PE 563. **Growth in 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. Adler.
 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.
 PE 576, 577, 578. **Advanced Physiology of Exercise.** 3 hours each term. Evonuk.

Recreation and Park Management

- RM 408. **Workshop.** (g) Hours to be arranged.
 RM 490. **Principles of Outdoor Education.** (G) 3 hours winter. Raus.
 RM 492. **Recreation and Natural Resources.** (G) 3 hours spring. Raus.
 RM 497. **Recreation and Park Facilities.** (G) 3 hours fall. Reich.
 RM 499. **School and Community Recreation Programs.** (G) 3 hours. Neal.
 *RM 501. **Research.** Hours to be arranged.
 *RM 503. **Thesis.** Hours to be arranged. Reich.
 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. Philosophical Foundations of Recreation: Raus. *Youth and Leadership:* Jacobson. *Studies and Surveys:* Reich. *Methods of Social Research:* Reich. *Social Statistics:* Reich. *Metropolitan Park Planning:* Reich. *Recreation and Park Systems.*
 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. Ford, Rodney.

History

- Professors: GUSTAVE ALEF, EDWIN R. BINGHAM, QUIRINUS BREEN (emeritus), LESLIE DECKER, PAUL S. DULL, THOMAS P. GOVAN, JERZY LINDERSKI, VAL R. LORWIN, EARL POMEROY, KENNETH W. PORTER, ROBERT W. SMITH, LLOYD R. SORENSON.
 Associate Professors: STANLEY A. PIERSON (department head), RAYMOND F. BIRN, RALPH FALCONERI, WILLIAM S. HANNA, PAUL S. HOLBO, JACK MADDEX.
 Assistant Professors: ROBERT M. BERDAHL, THOMAS A. BRADY, ROGER P. CHICKERING, JOSEPH ESHERIK, MARK FALCOFF, ALAN KIMBALL, ROBERT LANG.

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

* No-grade course.

prerequisite to entering graduate work in history. Preparation in foreign languages is essential. Students with an undergraduate grade-point average below 3.00 in history are not advised to seek a graduate degree in history. The department will periodically review the progress and performance of its graduate students and drop students from the program who do not meet the basic standards.

Admission. An undergraduate major in history or its equivalent, including basic work in European and American history, is required for admission to graduate work in history. Preparation in at least one foreign language is also required. 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. All applicants for admission must indicate on their applications the field or fields of history in which they expect to work.

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, revised and improved to meet degree standards, and to 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 21-23.

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.

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

Hst 414, 415, 416. **History of Science.** (G) 3 hours each term. Quinn.

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

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. Brady.

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

Hst 434, 435. **Western Institutions and Ideas.** (G) 4 hours each term. Sorenson.

Hst 436, 437. **History of Germany.** (G) 3 hours each term. Berdahl.

Hst 438. **Germany in the Twentieth Century.** (G) 3 hours. Chickering.

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. Birn, Lorwin.

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

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

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

- Hst 452, 453. **The Russian Revolution.** (G) 3 hours each term. Kimball.
- Hst 454, 455, 456. **Economic History of Modern Europe.** (G) 3 hours each term. Lorwin.
- Hst 457, 458, 459. **The Era of American Sectional Conflict.** (G) 3 hours each term. 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 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 472. **The Negro in American History.** (G) 5 hours.
- 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. **The United States in the Twentieth Century.** (G) 4 hours each term. Pomeroy.
- Hst 484, 485, 486. **Early History of the American People.** (G) 3 hours each term. Hanna.
- Hst 487, 488. **American Economic History.** (G) 5 hours each term. Decker.
- Hst 490. **Problems of the Pacific.** (g) 3 hours (summer session).
- Hst 491. **The Era of Jefferson and Hamilton.** (G) 4 hours.
- Hst 492. **The Era of Jackson.** (G) 4 hours.
- Hst 494, 495, 496. **History of China.** (G) 3 hours each term. Dull, Lin.
- 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.
Early Stuart: Lang. *Muscovy and Mediaeval France: Problems in the Centralization of Powers:* Alef. *Revolutionary Diplomacy in East Asia:* Falconeri. *Age of Jackson:* Govan. *Society and Politics in Bismarckian Germany:* Berdahl. *American Biography:* Bingham. *Renaissance City State:* Brady. *American Economic History:* Decker.
- Hst 508. **Colloquium.** Hours to be arranged.
Renaissance Urban History: Brady. *Taoism and Chinese Buddhism:* Dull. *East Asian Feudalism:* Falconeri. *Peasantry in Imperial Russia:* Kimball. *Topics in American Labor History:* Maddex. *New Views of American Economic History:* Decker. *Introduction to Graduate Study:* Govan. *Augustus:* Linderski. *Problems in Mediaeval History:* Perrin. *Historiography:* Decker. *Twentieth-Century Black Nationalism:* Avery. *Chinese Intellectualism:* Dull. *American Colonialism:* Hanna. *Crisis in the Seventeenth Century:* Lang. *Art of Teaching.*

* No-grade course.

*Hst 509. **Supervised Tutoring Practicum.** 1-3 hours any term.

Hst 530, 531, 532. **European History: Problems and Interpretations.** 3 hours each term. Birn, Lorwin, Pierson.

Hst 591. **Japanese Political Evolution since 1912.** 3 hours. Dull, Falconeri.

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 119), 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.

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

Economics—Regional and Urban Economics (Ec 414, 415, 416); 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); Industrial Organization and Public Policy (Ec 460, 461, 462); American Economic History (Ec 487, 488); Development of Industrial Economics (Ec 490, 491, 492); Seminar: Labor Economics (Ec 507).

Education—Seminar: Occupational Information (Coun 407); Educational and Vocational Guidance (Coun 488); Seminar: Research and Vocational Development (Coun 507); Seminar: Evaluation of Work Potential (Coun 507).

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

Interdisciplinary Studies—Research (ISt 501); Thesis (ISt 503); Reading and Conference: Industrial Relations (ISt 505); Seminar: Industrial Relations (ISt 507).

Journalism—Seminar: Industrial Communications and Editing (J 407); Seminar: Public Relations Methods (J 407); The Press and Society (J 450); Principles of Public Relations (J 459); Public Relations Problems (J 483); Journalism and Public Opinion (J 494); Seminar: Public Opinion and Propaganda (J 507).

Law—Law, Its Processes and Functions (L 430); Labor Law (L 476).

Political Science—Administrative Organization and Behavior (PS 412, 413); Public Opinion and Political Participation (PS 452, PS 453, PS 454); Democratic Institutions (PS 456); Democratic Processes (PS 457); Democracy and Public Policy (PS 458); Political Behavior (PS 470); The Supreme Court in American Government (PS 484, PS 485); Seminar: Constitutional Law and the Judicial Process (PS 507); Seminar: Comparative Labor Movements (PS 507); Seminar: Policy Analysis (PS 507); Seminar: Political Organization (PS 507); Seminar: Political Participation (PS 507).

* No-grade course.

Production and Industrial Management—Personnel Management (PIM 412); Wage and Salary Administration (PIM 413); Problems in Personnel Management (PIM 414); Seminar: Collective Bargaining (PIM 507); Seminar: Administration of Labor Market Policies (PIM 507); Industrial Administration (PIM 511); Personnel Administration (PIM 534); Personnel Psychology (PIM 535); Organizational Conflict and Change (PIM 536).

Sociology—Seminar: Economic Sociology (Soc 407); Seminar: Sociology of Professions (Soc 407); Seminar: Problems of Change in Underdeveloped Areas (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); Seminar: Economic Sociology (Soc 507); 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 21-23.

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

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

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

Public Affairs. Industrial Relations.

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

Public Affairs. Industrial Relations. International Studies.

Journalism

Professors: JOHN W. CRAWFORD (dean), CHARLES T. DUNCAN, BERNARD L. FREEMESSER, JOHN L. HULTENG, ROY P. NELSON, R. MAX WALES.

Associate Professors: JACK D. EWAN, ROY K. HALVERSON, JAMES B. LEMERT, KENNETH T. METZLER, DEAN F. REA, WILLIS L. WINTER.

Assistant Professor: KARL J. NESTVOLD.

The School of Journalism offers work leading to the Master of Arts or Master of Science degree. Programs are provided for candidates with undergraduate majors in journalism or considerable journalistic experience and for those who do not have an undergraduate major in journalism or journalistic experience.

(1) Plan A. Thesis required. Designed for students with an extensive background in journalism. The candidate may satisfy the major requirements with 30 term hours of work in journalism, nine of which are awarded for the thesis. The minimum number of graduate hours is 45.

* No-grade course.

(2) Plan B. Terminal project required. Designed for students with little or no journalistic background. The candidate may take a maximum of 45 term hours of work in journalism, four of which are awarded for the terminal project. Plan B students, in addition to completing the 45 hours of graduate credit required for the master's degree, may be required to enroll in two basic professional courses which do not offer graduate credit.

Admission. Candidates for admission to graduate study in the School of Journalism must be graduates of a four-year accredited college or university, must have a grade-point average of at least 3.00 (B) in their undergraduate study, and must submit scores on the Graduate Record Examination.

A student may be conditionally admitted for graduate study if he can offer evidence that a graduate course of study will be pursued successfully. Such evidence may be either (1) his score on the Graduate Record Examination or other examination to be determined by the School, or (2) a grade-point average exceeding 3.00 earned during the last two years of his undergraduate studies. Students who have substantial experience in any of the fields of journalism may offer such experience, with the approval of the faculty, in lieu of (1) or (2) for conditional admittance. A student who is not admitted under (1) or (2) above may request a review of his application by the faculty.

Advising. An adviser will be appointed for all graduate students in the school by the dean upon recommendation of the Faculty Committee on Graduate Study.

Each student will also be assigned to a faculty member who will work with him on the research and writing phases of the thesis or terminal project. The subject must be approved by the dean and the assigned faculty member before work is undertaken. Students should register for credit in the appropriate courses, Thesis (J 503) or Reading and Conference (J 505), during the terms in which they are doing the actual research and writing.

Degree Requirements. Candidates for the master's degree must complete at least 45 term hours of graduate work, with a cumulative grade-point average of above 3.00. Courses that do not offer graduate credit are not considered in determining the graduate student's grade-point average.

Students whose undergraduate program did not include the following courses or their equivalents must take them, either before taking graduate courses or concurrently with graduate courses: Principles of Advertising (J 341), Reporting I (J 361).

These are not graduate courses, and therefore do not provide credit toward the 45 hours required for the master's degree. Thus the total degree program for students with limited undergraduate work in the field may include up to 52 credit hours, and, typically, may require four or five terms for completion. All graduate students should expect to be assigned extra work in any undergraduate course they may take. This will usually take the form of a term paper not required of undergraduates.

Of the 45 term hours of graduate credit required for completion of degree requirements, at least 30 should be in journalism courses. Students who have not taken undergraduate programs in journalism, and who do not have professional experience in the field, may elect to take up to 45 hours in graduate-level journalism courses.

Nonjournalism courses must constitute an integrated program of work in a single area or in closely related areas.

Graduate students will receive no credit toward satisfaction of degree requirements for courses carrying journalism credit taken on a nongraded basis when the basis of grading is optional. Graduate students will receive credit for no more than six hours of nongraded work in any other University courses where the basis of grading is optional.

Course programs for graduate students are usually planned individually, on the basis of consultation with the student's adviser. It is expected, however, that any student intending to complete requirements for an advanced degree will include the following courses in his program (or present evidence that he has previously completed such courses or their equivalent) : Law of the Press (J 485), History of Journalism (J 487), Public Opinion and Propaganda (J 514), Communication Theories (J 513).

All master's degree programs must include the following : (1) Three journalism courses or seminars at the 500 level ; (2) at least one graduate-level course in journalistic writing from the following group : Reporting II (J 462), Magazine Article Writing I (J 468), Editorial Writing (J 564), Seminar : Visual Criticism (J 507), Advertising Message Strategy (J 546), Public Relations Writing (J 465).

Degree candidates who are preparing theses should obtain from the Graduate School office a pamphlet describing the appropriate form and style of the thesis.

Students nearing the completion of their program should obtain from their adviser a copy of a check list of steps to be taken and examinations to be passed immediately prior to the award of the degree. Each student is responsible for making sure that all formalities have been completed sufficiently in advance of the deadline.

Examinations. All applicants should make arrangements to take the Graduate Record Examination at a location convenient to them. Upon receipt of the results of this examination and of a transcript setting forth all the academic work the applicant has taken, the Committee on Graduate Study will notify the candidate whether he has been admitted.

All graduate students' programs are examined by the faculty of the school during progress toward the master's degree :

Each graduate student in journalism is automatically considered for advancement to candidacy in the term following the completion of 12 term hours of graduate work. Advancement to candidacy is necessary for both conditionally admitted students and students admitted on an otherwise unqualified basis.

The student not advanced to candidacy at this evaluation will be given written notice, but may be allowed to continue course work until the completion of 24 term hours of graduate work. At that time a final decision regarding advancement to candidacy will be made.

Advancement to candidacy will not be granted to students unless they have a graduate GPA of better than 3.00. Advancement to candidacy evaluation is not based upon the GPA alone, but involves additional evidence of the student's performance and promise.

When the student has completed all other requirements for the degree, he will be scheduled for the final oral examination. The final examination for degree candidates who are writing theses will be in the form of a defense of the thesis before an examining committee of faculty members. The final examination for students who are not writing theses will also be conducted orally before a faculty committee, and it will be based in part on the project the student has submitted in lieu of a thesis.

Foreign Students. Foreign students beginning graduate work at the School of Journalism should plan to spend some time (at least a full term, in most cases) taking basic courses that do not carry graduate credit, before embarking on graduate-level courses. A firm mastery of English, including the American mass-communications idiom, is necessary to success in professional courses at the graduate level. Foreign students who lack such a mastery will find themselves severely handicapped, and may find it wise to pursue a program of course work leading to a second bachelor's degree rather than attempt to complete master's-degree requirements. Those foreign students who do decide to seek a master's degree

should plan to spend five or more terms in residence. Foreign students who decide to complete requirements for a second bachelor's degree rather than a master's degree should expect to spend three or four terms in residence.

Facilities. 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.

Caricature and Graphic Humor. Institutional Communications. Radio-TV Station Management. Radio-TV Problems. Radio-TV News Workshop. Advertising and Society. Advertising Research. Magazine Design and Production. Reporting of Urban Affairs. Science Writing. Photography in the Print Media. History of Photography.

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

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

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

J 441. **Media of Advertising: Print.** (G) 3 hours. Ewan, Wales.

J 442. **Media of Advertising: Broadcast.** 3 hours. Nestvold.

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

BC 444. **Radio-Television Direction.** (G) 3 hours.

BC 445. **Radio-Television Production.** (G) 3 hours.

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

BC 446. **Radio-Television Programming.** (G) 3 hours.

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

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

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

J 455. **Methods of Teaching Journalism.** (G) 2-3 hours. Sheetz.

J 462. **Reporting II.** (G) 4 hours. Halverson.

J 465. **Public Relations Writing.** (G) 3 hours. Ewan.

J 468. **Magazine Article Writing I.** (G) 3 hours. Metzler, Nelson.

J 469. **Magazine Article Writing II.** (G) 3 hours. Nelson.

J 470. **Magazine Editing.** (G) 4 hours. Metzler, Nelson.

J 483. **Public Relations Problems.** (G) 3 hours. Nelson, Wales.

J 485. **Law of the Press.** (G) 3 hours. Rea.

J 487. **History of Journalism.** (G) 3 hours. Halverson.

J 494. **Journalism and Public Opinion.** (G) 3 hours. Lemert.

*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. Advertising and Society. Literature of Journalism. Economics of the Press. History of Journalism. Law of the Press. The Photo Essay. Visual Communication Research. Advanced Photography. Philosophy of Photography. Film Making. Film Criticism. Public Relations in Higher Education. Writing the Nonfiction Book. Visual Criticism.

* No-grade course.

- J 509. **Practicum: Teaching Methods (Photography).** 3 hours.
J 512. **Communication Research Methods.** 3 hours. Lemert.
J 513. **Theories of Mass Communication.** 3 hours. Lemert.
J 514. **Public Opinion and Propaganda.** 3 hours. Lemert.
J 520. **Public Relations Planning and Administration.** 3 hours. Ewan.
J 546. **Advertising Message Strategy.** 3 hours. Crawford.
J 564. **Editorial Writing.** 3 hours. Hulteng.
J 589. **Comparative Foreign Journalism.** 3 hours.

Librarianship

Professors: PERRY D. MORRISON (dean), ELIZABETH FINDLY, CARL W. HINTZ, HOLWAY JONES.

Associate Professors: BARBARA FISHER, IONE PIERRON.

Assistant Professors: CAROLINE FELLER, SISTER M. NONA GROVER, PATRICIA B. POND.

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 for graduate librarians; (3) leadership in the development of new and improved concepts and practices in librarianship; (4) education for school librarianship; (5) service to library development in Oregon through research, consultation, and work with professional organizations.

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; (4) 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 GRE Aptitude Test.

For application procedures for admission to graduate standing in the University, see page 18. 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—no special form required; (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.

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 522, Lib 571, Lib 572; (3) a 3.00 GPA covering all upper-division and graduate courses taken after admis-

* 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.

sion to the school; (4) two years of one modern foreign language or one year of each of two modern foreign languages.

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.

M.L.S. Degree Program for School Librarians. This specialized program makes it possible for the student to meet requirements both for the M.L.S. degree and for certification as a school librarian in Oregon schools. Admission requirements for the program are the same as for the regular M.L.S. program.

Degree Requirements. The requirements for the M.L.S. degree in this program are as follows: (1) 48 term hours of graduate work with a major area of concentration (33-36 term hours) in librarianship and a minor area of concentration (12-15 term hours) in education, or, for students holding an Oregon teacher's certificate, a minor area of concentration in education or another field of study; (2) completion of a 21-hour core curriculum, including Lib 411, Lib 421, Lib 431, Lib 432, Lib 442, Lib 445, and Lib 512; (3) a 3.00 GPA covering all upper-division and graduate courses taken in graduate status at the University of Oregon; (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; and (5) completion of the course requirements of a planned program of study for an Oregon basic teacher's certificate with standard-certificate preparation in librarianship.

Certification Requirements for School Librarians. For certification as a school librarian in Oregon schools, the Oregon Board of Education requires the following:

Basic Certificate. To qualify for a basic certificate with preparation in library science valid for three years, the applicant must: (1) hold or be eligible for a valid basic teacher's certificate; and (2) have completed a planned program for the preparation of librarians in a standard teacher-education institution with an approved program of 18 term hours in library science, including preparation in the following areas: cataloging and classification, reference, library administration, and selection. These requirements may be met by completing Lib 411, Lib 512, Lib 421, Lib 432, Lib 442, and one of the following: CI 435, Lib 431, Lib 445, Lib 451, Lib 455.

Standard Certificate. To qualify for a standard teacher's certificate with preparation in library science, the applicant must: (1) have completed the general standard five-year teaching preparation requirements for elementary, junior high-school or senior high-school teachers; and (2) have completed a planned five-year program for the preparation of librarians in a standard teacher-education institution, with an approved program of at least 30 term hours in library science, including the 18 term hours required for the basic certificate and 12 additional term hours. These additional term hours may be chosen from 400 courses not taken as part of a basic certificate program and from the following 500 courses: Lib 522, Lib 523, Lib 543, Lib 556, Lib 558, Lib 561, Lib 562, Lib 563, Lib 571, Lib 572.

The requirement of a planned five-year program may be met by completing requirements for the standard teacher's certificate in an approved nondegree program, the M.L.S. program, or the Interdisciplinary Master's Program for Teachers. For further information, the student should consult the member of the School of Librarianship faculty who serves as adviser for prospective school librarians.

Lib 411. **Cataloging I.** (G) 3 hours. Grover.

Lib 421. **Bibliography and Reference.** (G) 3 hours. Findly.

- Lib 431. **The Library in Society.** (G) 3 hours. Pierron.
- Lib 432. **The School Library as an Instructional Materials Center.** (G) 3 hours. Pond.
- Lib 442. **Selection and Acquisition of Materials.** (G) 3 hours. Pierron.
- Lib 445. **The Library and Audiovisual Materials.** (G) 3 hours. Feller.
- Lib 451. **Children's Literature.** (G) 3 hours. Feller, Pond.
- Lib 455. **Books and Related Materials for Young Adults.** (G) 3 hours. Pond.
- Lib 505. **Reading and Conference.** Hours to be arranged.
- Lib 507. **Seminar.** Hours to be arranged.
- Lib 508. **Workshop.** Hours to be arranged (summer session).
- Lib 509. **Practicum.** 3 hours.
- Lib 512. **Cataloging II.** 3 hours. Grover.
- Lib 522. **Advanced Bibliography and Reference.** 3 hours. Findly.
- Lib 523. **Government Publications.** 3 hours. Findly.
- Lib 533. **The Public Library.** 3 hours. Pierron.
- Lib 534. **The Academic Library.** 3 hours. Pierron.
- Lib 535. **The Special Library.** 3 hours.
- Lib 538. **Library Administration.** 3 hours.
- Lib 541. **History of the Book.** 3 hours. Hintz.
- Lib 543. **Instructional Materials Centers: Resources and Services.** 3 hours. Pond.
- Lib 556. **Library Programs for Children and Young Adults.** 3 hours. Feller.
- Lib 558. **Storytelling.** 3 hours. Feller.
- Lib 561. **Literature of the Humanities.** 3 hours. Findly.
- Lib 562. **Literature of the Sciences.** 3 hours.
- Lib 563. **Literature of the Social Sciences.** 3 hours. Jones.
- Lib 571. **Research in Librarianship.** 3 hours. Morrison.
- Lib 572. **Library Automation.** 3 hours.
- Lib 573. **The Library and the Publishing Process.** 3 hours. Morrison.
- Lib 581. **Introduction to Archives.** 3 hours. Fisher.

Management and Business

Professors: DONALD S. TULL (acting dean), W. SCOTT BAUMAN, EDWIN F. BEAL, DALE S. HARWOOD, GEORGE S. KAUFMAN, RICHARD W. LINDHOLM, ARTHUR E. MACE, STUART U. RICH, WILLIAM J. ROBERT, ROY J. SAMPSON, STANLEY C. VANCE, DONALD A. WATSON.

Associate Professors: GERALD S. ALBAUM, ROMAN R. ANDRUS, DAVID A. BAERNCOPE, WARREN B. BROWN, EATON H. CONANT, JEROME J. DASSO, PETER O. DIETZ, WILLIE B. HACKETT, CATHERINE M. JONES, CHRIS J. LUNESKI, H. CHARLES PYRON, KENNETH D. RAMSING, W. DWAIN RICHINS, LAWRENCE W. ROSS, FREDERICK J. SEUBERT, LESLIE L. D. SHAFFER, NORMAN R. SMITH, JOHN W. SOHA, HAROLD K. STROM, PAUL SWADENER, JOHN R. WISH.

Assistant Professors: THOMAS W. CALMUS, ALAN L. ELIASON, PAUL FRISHKOFF, A. RICHARD GRANT, DELBERT I. HAWKINS, MICHAEL H. HOPEWELL, U.

VINCENT MANION, FRANKLIN L. MCCARTHY, WILLIAM H. PARKS, ARNO L. PETERSON, JAMES E. REINMUTH, LARRY E. RICHARDS.

The Graduate School of Management and Business provides: (1) basic professional business education for entering students who have 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.

Graduate degree programs are offered at both the master's and doctor's level. The Graduate School of Management and Business coordinates the graduate work of the four departments of the College of Business Administration.

Instruction at the graduate level is offered by the four departments of the College of Business Administration in the fields of specialization listed below. In all fields, instruction in the college 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 Economics—managerial economics, business planning, forecasting, business taxation.

Business Education—teacher preparation for secondary schools and colleges.

Finance—investments, financial management, financial institutions.

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

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

Management Analysis and Policy—systems analysis, top-level policymaking, functional integration, overall analysis and control.

Marketing—marketing theory, consumer and industrial marketing, marketing research and forecasting, management of product, pricing, promotion, distribution.

Organization Theory—organization structure, communication, technology change, group behavior, administrative processes, policy, the organization and the environment.

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

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

Quantitative Methods—quantitative decision procedures, regression analysis, analysis of variance, time-dependent processes, sampling techniques.

Real Estate—urban land use, site location.

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

Transportation and Logistics—carrier and industrial traffic management, international and public policy aspects of transport and distribution systems.

Information concerning financial aid available to graduate students may be obtained from the Graduate School of Management and Business.

Research and Consultation. Faculty research interests include: impact of computerization, marketing forest products, labor benefit programs, gerontology,

the commercial code, bank reserves, accounting theory, forecasting techniques, role of the board of directors, consumer behavior, regional growth patterns, cybernetics, investment patterns, commodity flow trends, transportation pricing, and the impact of taxation on foreign trade. Faculty members are consultants to firms in a great many industries, to civic planning groups, and to Federal, state, and local governmental agencies.

Master's Program. The Graduate School of Management and Business offers two-year programs 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 82 term hours of work is required, including a 37-hour preliminary core program. All or part of the preliminary core program may be waived for students who have had equivalent work as undergraduates. For students whose undergraduate studies have been in the field of business administration, the master's programs require from four to six terms to complete, depending upon the specific courses included in their undergraduate work.

Admission. For admission to the master's program, the student must satisfy the general requirements for admission to the Graduate School of the University (see page 18), and must submit an acceptable score on the Admission Test for Graduate Study in Business, a letter of purpose, and three letters of recommendation.

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

The Graduate School of Management and Business does not recognize post-baccalaureate status as constituting entry to its graduate-degree programs, nor as the basis for admission to graduate courses.

Preliminary Core Program. The first year of the master's program includes a series of core courses, planned especially for students whose undergraduate studies have been in fields other than business administration. For these students, the preliminary core is required; all or part of the requirement may be waived for students who have had equivalent instruction as undergraduates. The preliminary core requirement is as follows:

	Term Hours
Accounting in Administration (Ac 511, 512)	6
Statistics for Business Decisions (QM 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 the Marketing Function (MIT 511)	3
Intermediate Economic Analysis (Ec 375, 376)	6
Mth 106 or Mth 109	4
Introduction to Numerical Computation (CS 233)	3
	37

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 preliminary core program or equivalent; (2) completion of a minimum total of 45 hours of graduate credit beyond the preliminary core program, of which a minimum of 36 hours must be in courses exclusively for graduate students; (3) of the 45 hours, at least 27 in the College of Business Administration (including not more than 18 hours in a field of specialization); (4) of the 45 hours, the remaining 18 hours either in business

courses or in related areas outside the College of Business Administration. A thesis is not required; if the student elects to submit a thesis, thesis credit (9 term hours) is counted as part of the 18-hour maximum in his field of specialization. Degree requirements within these general guidelines are further specified on a departmental basis.

All candidates for the M.B.A. degree are required to take a final written comprehensive examination covering the field of specialization. A final oral examination is optional with the student's major department.

Although M.B.A. programs are generally intended to provide a broad background, a special M.B.A. program in accounting has been organized to provide intensive preparation for students who intend to enter professional accounting practice. This program is especially appropriate for students who have secured undergraduate degrees in fields outside business administration.

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, quantitative methods, industrial management, and college teaching.

The requirements are: (1) completion of the preliminary core program or equivalent; (2) completion of a minimum total of 45 hours of graduate credit beyond the preliminary core program; (3) within the 45 hours, a major in a field of specialization consisting of a maximum of 15 hours of course work and 9 hours for thesis; (4) within the 45 hours, a minor consisting of a minimum of 12 hours of course work in the College of Business Administration or in a cognate field; (5) of the 45 hours, the remaining 9 hours in business courses outside the field of specialization or in related areas outside the college. For the M.A. degree, competence in a foreign language is required. For the M.S. degree in business education, the thesis is not required.

Candidates for the M.S. or M.A. degree are required to take a written comprehensive examination covering the major field of specialization. An oral examination on the thesis is optional with the student's major department.

Minor in Business Administration. A master's candidate with a major in another field or in an interdisciplinary studies program may elect a minor in business administration. The minor is usually chosen from the business courses in the preliminary core. Minor programs must be reviewed by the school before course work is taken, and students taking a minor in business should, in general, meet standards required for admission to the school.

Forest Industries Management. The College of Business Administration, through the Forest Industries Management Center, offers graduate work leading to the Master of Business Administration degree with a major in forest industries management. This program is designed to train students for management careers in the forest products industries—lumber, plywood, pulp, and paper—as well as for government careers in this field.

The program is interdisciplinary in nature. It includes course work in all departments within the College of Business Administration as well as courses in other divisions of the University. The program is administered by an interdepartmental committee.

The option in forest industries management is normally open only to students with undergraduate degrees in forestry. It emphasizes general management issues of forest products companies, as well as problems in the particular functional areas of marketing, transportation, production, accounting and statistics, and finance. Attention is also given to the development of skills in the application of quantitative techniques to the solution of forest management and business management problems.

International Business. The College of Business Administration, through

the Center for International Business Studies, offers graduate work leading to a Master of Business Administration and Doctor of Business Administration degrees with a major in international business.

The program in international business is broad in nature. It includes course work in: (1) international business, (2) a major functional area such as marketing, finance, management, or accounting, (3) business organization and policy, (4) quantitative methods, and (5) an area outside the College of Business Administration which complements the student's work in international business.

The student must demonstrate minimum competency in a modern language. Normally, this requirement may be met by taking a second-year language sequence or by examination at the second-year level of a language ability.

The objective of this program is to offer the student an opportunity to study the international dimensions of business to deepen his understanding of the role played by business in the world economy. This is accomplished through case studies, field trips, special lectures, and research reports. In addition, there is opportunity for direct study in foreign countries.

Business Education. The College of Business Administration, through the Department of Personnel and Industrial Management, offers graduate work leading to the Master of Science degree in the field of business education. The program provides work in business education, business administration, and education or an elective field. A thesis based on an area of interest to the student in business education is optional.

The student's specific program depends to a great extent upon his background and needs. Unlike other programs in the College of Business Administration, a substantial portion of the requirements for the business education major may be satisfied by work completed during the summer session.

Doctoral Program. The Graduate School of Management and Business offers a program of advanced graduate study and research leading to the degree of Doctor of Business Administration, for students preparing for careers in college teaching and administration and for 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 of the University, (2) either have completed the graduate work required for a master's degree in business administration *or* be recommended by the departmental admission committee of the student's major department and have the approval of the Graduate School of Management and Business, and (3) show evidence of exceptional academic promise.

The Doctoral Advisory Committee. The student and his doctoral advisory committee plan the student's doctoral program. The advisory committee assists the student to work out a program consistent with his background and objectives, evaluates the student's performance on a yearly basis, certifies completion of doctoral program requirements, and dismisses students who fail to maintain the standards of the doctoral program.

The advisory committee consists of at least three regular faculty members of the College of Business Administration. The committee is appointed by the head of the department in which the student is working. The student's adviser serves as chairman. The committee may or may not have an outside member, depending on the recommendation of the adviser and subsequent approval of the department head.

Degree Requirements. The student's program must meet the requirements of the Graduate School of the University, (pages 20ff) and the following requirements of the College of Business Administration:

- (1) Three years of work beyond the bachelor's degree, with two years of continuous residence on the Eugene campus.
- (2) Completion of requirements in five areas of concentration as follows:
 - (a) A major area in the College of Business Administration. The student selects a major business field of concentration, and passes a written comprehensive examination in this field. The list of majors is as follows: accounting, business economics, business organization theory, finance, international business, management analysis and policy, marketing, personnel management, production management, quantitative methods, transportation and logistics.
 - (b) A minor area in the College of Business Administration. The student must demonstrate competence in a minor area of specialization in business. He must select an area of business not selected elsewhere. The advisory committee sets area requirements and assists the student in selecting appropriate course work. The student may elect to show competence by passing a written comprehensive examination.
 - (c) An additional area of specialization. The student must demonstrate competence in an additional area of specialization in business or a related field. The student may select an area in business not previously selected, or he may select an area outside the College of Business Administration. The advisory committee sets area requirements and assists the student in selecting appropriate course work. The student may elect to show competence by passing a written comprehensive examination.
 - (d) Economic theory. The student must be proficient in intermediate economic theory analysis and, in addition, must complete a specialized field in economics, represented by three graduate-level courses in one or more of the following areas: microeconomics (price and distribution theory), macroeconomics (income and employment theory), economic development, industrial organization and control, international economics, labor economics, money and credit, public finance, econometrics, mathematical economics, regional economics.

Satisfactory completion of the economic theory requirements may be shown by either (1) completing each graduate-level course with a grade of B or better *or* (2) completing each graduate-level course and passing a written comprehensive examination in the field.
 - (e) Quantitative methods. The student must demonstrate competence in the quantitative methods area by passing the beginning master's level course in quantitative methods, or the equivalent, plus three graduate-level courses in quantitative methods, or by passing the comprehensive examination in this area. The student who chooses quantitative methods as his major area must choose an additional area of specialization in business.
- (3) The student must pass a written comprehensive examination in his major area of concentration. He may elect to take a comprehensive examination in economic theory. He must also pass a written comprehensive examination in two of the remaining three areas of concentration. The student must earn a grade of B or better in each course taken in any area of concentration in which a written comprehensive examination is not taken.

To be eligible to take the comprehensive examination, the student is required to have taken substantially all the course work for the degree and satisfied substantially all other requirements except the completion of the thesis and the final oral examination.

The student must pass all written examinations within 13 months of the date of the first examination. Comprehensive examinations are offered during fall and spring terms. Examinations during winter term and summer session must be arranged by agreement between the student and the faculty.

In the event of failure, a student may retake a comprehensive examination at his option, after consultation with his advisory committee. He may do this during the term immediately following the initial examination, subject to the general provision that additional examinations must be completed within 18 months of the date of the first examination.

- (4) The student is advanced to candidacy for the D.B.A. degree upon passing the comprehensive examinations and upon certification by the advisory committee, according to the regulations of the Graduate School of the University.
- (5) The student must complete a thesis presenting an original and major contribution to an understanding of the thesis subject. He is responsible for formation of his dissertation committee, subject to the requirements of the Graduate School of the University, and must make an oral presentation of his proposed dissertation topic to his dissertation committee and the faculty.

When the proposed dissertation topic is accepted by the committee, a copy of the proposal and a written statement is placed in the candidate's record.

Each doctoral candidate must defend his completed dissertation in an oral examination.

- (6) The student must maintain a cumulative GPA of 3.00 or higher.
- (7) The student who has been approved for graduate study may not be dropped by the Graduate School of Management and Business before advancement to candidacy except by a majority vote of the student's advisory committee. A vote to drop the student from the D.B.A. degree program is taken under the following conditions: (a) failure to make satisfactory progress for advancement to candidacy as determined by the candidate's advisory committee; (b) failure to pass a comprehensive examination in two attempts; (c) a cumulative GPA below 3.00; (d) a GPA of less than 3.00 received in two consecutive terms; (e) a GPA of less than 3.00 for any three terms; (f) failure to complete the dissertation within three years after the student is advanced to candidacy; (g) at the request of the student; (h) any time a member of the student's advisory committee requests a vote in writing.

The date and the results of any vote to drop the student are included in the student's record and the student is notified in writing of the outcome.

Research. Doctoral candidates are expected to become actively engaged in the research program of the College of Business Administration. Opportunities for research experience are provided in connection with projects of individual faculty members, and in the Bureau of Business and Economic Research, the Center for International Business Studies, the Forest Industries Management Center, and the Transport and Logistics Research Center.

Accounting and Quantitative Methods

Accounting

Ac 411. **Federal Income Tax.** (G) 3 hours.

Ac 412. **Federal Income Tax Procedures.** (G) 3 hours.

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

Ac 430. **Fund Accounting.** (G) 3 hours.

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

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

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

*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. Managerial Cost and Budget Analysis.

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.

Ac 542. **Accounting Verification.** 3 hours.

Ac 552. **Accounting Theory.** 3 hours.

Ac 562. **Cost Analysis and Interpretation.** 3 hours.

Quantitative Methods

QM 420. **Dynamic Systems.** (G) 3 hours.

QM 421. **Industrial Dynamics.** (G) 3 hours.

QM 433. **Applied Analysis of Variance.** (G) 3 hours.

QM 434. **Applied Regression Analysis.** (g) 3 hours.

QM 440. **Time-Dependent Processes.** (G) 3 hours.

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

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

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

Dynamic Time-Dependent Processes. Dynamic Systems. Multivariate Methods.

QM 511. **Statistics for Business Decisions.** (p) 3 hours.

QM 532. **Analysis for Decision Under Uncertainty.** 3 hours.

QM 536. **Applied Sampling Techniques.** 3 hours.

Business Education

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

BEEd 422. **Business Education and the Community.** (g) 3 hours.

BEEd 508. **Workshop.** Hours to be arranged (summer session and extension).

Finance and Business Environment

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

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

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

Applied Theory of the Firm. Business Tax Policy. Industrial Organization and Public Policy. Monetary Management.

* No-grade course.

- FBE 508. **Workshop.** Hours to be arranged (summer session and extension).
- FBE 514. **Financial Environment.** (p) 3 hours.
- FBE 516. **Financial Management.** (p) 3 hours.
- FBE 517. **Legal Environment of Business.** (p) 3 hours.
- FBE 519. **Business Ethics.** 3 hours.
- FBE 520. **Methods in Business Research.** 3 hours.
- FBE 525. **Managerial Economics.** 3 hours.
- FBE 530. **Problems in Business Planning and Forecasting.** 3 hours.
- FBE 540. **Problems in Finance.** 3 hours.
- FBE 545. **Theory of Finance.** 3 hours.
- FBE 550. **Foreign Commercial Law.** 3 hours.
- FBE 552. **Concepts of Investments.** 3 hours.
- FBE 565. **Investment Analysis.** 3 hours.
- FBE 566. **Investment Administration.** 3 hours.
- FBE 570. **Commercial Banking.** 3 hours.
- FBE 571. **International Finance and Investment.** 3 hours.
- FBE 575. **The Money Market.** 3 hours.
- FBE 580. **Management of Financial Institutions.** 3 hours.

Marketing, Insurance, and Transportation

- MIT 430. **Real Estate Environmental Analysis.** (G) 3 hours.
- MIT 431. **Residential Property Development.** (G) 3 hours.
- MIT 432. **Commercial and Industrial Site Location.** (G) 3 hours.
- MIT 451. **Transportation Administrative Law.** (G) 3 hours.
- MIT 452. **Transportation Organization and Management.** (G) 3 hours.
- MIT 455. **Business Insurance and Risk Management.** (G) 3 hours.
- MIT 456. **Life and Health Insurance.** (G) 3 hours.
- MIT 457. **Special Topics in Risk and Insurance.** (G) 3 hours.
- MIT 458. **Social Insurance.** (G) 3 hours.
- MIT 467. **Public Utility Management.** (G) 3 hours.
- MIT 475. **Foreign-Trade Marketing.** (G) 3 hours.
- MIT 476. **Foreign Business Operations.** (G) 3 hours.
- *MIT 501. **Research.** Hours to be arranged.
- *MIT 503. **Thesis.** Hours to be arranged.
- MIT 507. **Seminar.** Hours to be arranged.
Product Innovation. Entrepreneurship. Urban Land Utilization. Retailing Institutions. Marketing Information Systems. Marketing and Economic Developments. Marketing and Corporate Responsibility. Current Problems—Marketing. Legal Aspects of Marketing.
- MIT 508. **Workshop.** Hours to be arranged (summer session and extension).
- MIT 511. **Administration of the Marketing Function.** (p) 3 hours.
- MIT 520. **Marketing Problems and Policies.** 3 hours.

* No-grade course.

- MIT 521. **Pricing Policies.** 3 hours.
 MIT 530. **Problems in Industrial Marketing.** 3 hours.
 MIT 532. **Real Estate Investment Analysis.** 3 hours.
 MIT 533. **Real Estate Valuation.** 3 hours.
 MIT 540. **Problems in Forest Industries Management.** 3 hours.
 MIT 549. **Transportation Theory and Practice.** 3 hours.
 MIT 550. **Physical Distribution Management.** 3 hours.
 MIT 551. **Transportation Policies.** 3 hours.
 MIT 555. **Risk and Insurance Theory.** 3 hours.
 MIT 556. **Pensions and Group Insurance.** 3 hours.
 MIT 557. **Analysis of Business Risk.** 3 hours.
 MIT 560. **Marketing Research.** 3 hours.
 MIT 561. **Analysis of Consumer Behavior.** 3 hours.
 MIT 562. **Marketing Communications.** 3 hours.
 MIT 563. **Marketing Concepts and Theory.** 3 hours.
 MIT 572. **International Marketing Policies.** 3 hours.
 MIT 573. **International Business Operations.** 3 hours.

Personnel and Industrial Management

- PIM 412. **Personnel Management.** (g) 3 hours.
 PIM 413. **Wage and Salary Administration.** (G) 3 hours.
 PIM 414. **Problems in Personnel Management.** (g) 3 hours.
 PIM 429. **Production Planning and Control.** (G) 3 hours.
 PIM 480. **Business History.** (G) 3 hours.
 *PIM 501. **Research.** Hours to be arranged.
 *PIM 503. **Thesis.** Hours to be arranged.
 PIM 507. **Seminar.** Hours to be arranged.

Research Design. Computer in Business. Comparative Management Systems. Collective Bargaining. Administrative Communication. Administration of Labor Market Policies. Operations Research Applications. Methods and Time Analysis. Administrative Science. Manpower Research.

- PIM 511. **Industrial Administration.** (p) 3 hours.
 PIM 528. **Concepts in Industrial Management.** 3 hours.
 PIM 530. **Operations Simulation.** 3 hours.
 PIM 532. **Problems in Business Policies.** 3 hours.
 PIM 533. **Theory of the Industrial Work Group.** 3 hours.
 PIM 534. **Personnel Administration.** 3 hours.
 PIM 535. **Personnel Psychology.** 3 hours.
 PIM 536. **Organizational Conflict and Change.** 3 hours.
 PIM 538. **Management of Research and Development.** 3 hours.
 PIM 541, 542. **Theory of Business Organization.** 3 hours each term.

* No-grade course.

Mathematics

Professors: CHARLES W. CURTIS (department head), FRANK W. ANDERSON, FRED C. ANDREWS, RICHARD B. BARRAR, PAUL CIVIN, KENNETH S. GHENT, DAVID K. HARRISON, HENRY L. LOEB, EUGENE A. MAIER, ANDREW F. MOURSUND, IVAN M. NIVEN, KENNETH A. ROSS, ROBERT F. TATE, DONALD R. TRUAX, LEWIS E. WARD, JR., BERTRAM YOOD.

Associate Professors: BRUCE A. BARNES, CLARK T. BENSON, MICHAEL N. DYER, ROBERT S. FREEMAN, ALAN R. HOFFER, WILLIAM M. KANTOR, RICHARD M. KOCH, JOHN V. LEAHY, THEODORE K. MATTHES, DAVID G. MOURSUND, THEODORE W. PALMER, JAMES M. VAN BUSKIRK, CHARLES R. B. WRIGHT.

Assistant Professors: JOHN B. JACOBS, FRANKLIN LOWENTHAL, GARY M. SEITZ, ALLAN J. SIERADSKI, JERRY M. WOLFE.

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

Two basic curricula are available for M.A. and M.S. degree programs, 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, numerical analysis, differential and algebraic geometry, topology, differential equations and applied mathematics, topological algebra, probability, and statistics. Admission to 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 Ph.D. candidate to assist him in planning subsequent course and seminar programs, examination scheduling, and research. 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 the students.

Master's degree programs are available in computer science. See COMPUTER SCIENCE, page 45.

The department also 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 page 49.

The University Library has an excellent collection of mathematical books and journals. The University has two modern electronic computers.

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. **Function of Several Variables.** (g) 3 hours.

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

- Mth 421, 422. **Functions of a Complex Variable.** (g) 3 hours each term.
- Mth 425, 426, 427. **Elements of Statistical Methods.** (g) 3 hours each term.
- Mth 429, 430. **Introduction to Numerical Analysis.** (g) 3 hours each term.
- Mth 431, 432, 433. **Introduction to Analysis.** (G) 3 hours each term.
- Mth 434. **Linear Computations.** (G) 3 hours.
- Mth 435, 436. **Numerical Analysis.** (G) 3 hours each term.
- Mth 437, 438, 439. **Introduction to Topology.** (G) 3 hours each term.
- Mth 441, 442, 443. **Introduction to Statistical Theory.** (g) 3 hours each term.
- Mth 447, 448, 449. **Mathematical Statistics.** (G) 3 hours each term.
- Mth 454, 455, 456. **Discrete Probability Theory and Applications.** (G) 3 hours each term.
- Mth 457, 458, 459. **Foundations of Mathematics.** (g) 3-4 hours each term (summer session).
- Mth 465, 466, 467. **Ordinary and Partial Differential Equations.** (g) 3 hours each term.
- Mth 468, 469. **Probability and Statistics.** (g) 3-4 hours each term (summer session).
- Mth 478, 479. **Algebra.** (g) 3-4 hours each term (summer session).
- Mth 487, 488, 489. **Geometry.** (G) 3-4 hours each term.
- Mth 498, 499. **Analysis.** (g) 3-4 hours each term (summer session).
- *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:* Leahy. *Algebraic Topology:* Dyer, Sieradski. *Applied Mathematics:* Barrar, Freeman, Lowenthal. *Banach Algebras:* Barnes, Palmer, Yood. *Combinatorics:* Benson. *Commutative Algebra:* Anderson, Harrison. *Complex Variable Theory:* Koch, Lowenthal. *Differential Geometry:* Koch, Leahy. *Fourier Analysis:* Ross. *Function Algebras:* Civin. *Groups and Representations:* Benson, Curtis, Kantor, Seitz, Wright. *Harmonic Analysis:* Ross. *Homological Algebra:* Anderson, Harrison. *Knot Theory:* Van Buskirk. *Lie Algebras and Algebraic Groups:* Curtis, Jacobs. *Non-commutative Rings:* Anderson, Curtis, Harrison. *Number Theory:* Niven. *Numerical Analysis:* Loeb, D. Moursund, Wolfe. *Probability:* Truax. *Selected Topics for Mathematics Teachers:* Ghent, Hoffer, Maier, A. Moursund. *Statistics:* Andrews, Matthes, Tate, Truax. *Topics in Functional Analysis:* Civin, Palmer, Ross, Yood. *Topological Semi-Groups:* Ward. *Topology:* Dyer, Sieradski, Van Buskirk, Ward.
- Mth 521, 522, 523. **Partial Differential Equations.** 3 hours each term.
- Mth 531, 532, 533. **Linear Analysis in Applied Mathematics.** 3 hours each term.
- 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.

* No-grade course.

Mth 571, 572, 573. **Topology.** 3 hours each term.

Mth 578, 580. **Algebra.** 3-4 hours each term (summer session).

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 session).

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 session).

Medical Sciences

The University of Oregon Medical School in Portland offers graduate instruction leading to the M.S. and Ph.D. degrees in the basic medical science departments (anatomy, bacteriology, biochemistry, medical psychology, microbiology, pathology, pharmacology, and physiology). The M.S. degree in Medical Technology is offered by the Department of Clinical Pathology. 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 department, 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.

Music

Professors: ROBERT M. TROTTER (dean), EXINE BAILEY, GEORGE BOUGHTON, EDMUND CYKLER, JOHN HAMILTON, J. ROBERT HLADKY, HOMER KELLER, IRA LEE, ROBERT E. NYE, MAX RISINGER, ROYCE SALTZMAN, ROBERT S. VAGNER, VIRGINIA WHITFIELD, NEIL E. WILSON.

Associate Professors: PETER BERGQUIST, LESLIE BREIDENTHAL, ROBERT CUNNINGHAM, JOHN GUSTAFSON, GARY MARTIN, LAWRENCE MAVES, JOHN McMANUS, JAMES MILLER, HAROLD OWEN, RICHARD TROMBLEY, MONTE TUBB, WILLIAM WOODS.

Assistant Professors: CHARLES FARMER, ROBERT HURWITZ, VICTOR STEINHARDT.

The School of Music offers degree programs leading to the M.Mus. degree (composition, music education, church music, 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 the master's degree 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; 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 College 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 placement 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 595, Mus 596, Mus 597, Mus 598), 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 Mus 512 or Mus 513); (5) Seminar (Mus 507 or MuE 507), 3 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 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.

Doctor of Musical Arts. The requirements for the degree of Doctor of Musical Arts are listed below. Additional details concerning the D.M.A. degree may be obtained from the dean of the School of Music.

General Requirements. The degree of Doctor of Musical Arts in pedagogy has as its objective the preparation of college teachers of music who are qualified in two or more areas. Students elect music education, history-musicianship, or performance as a primary area, with a supporting area chosen from among the following: performance, history-musicianship, or music education (whichever is not chosen as primary) or composition.

Language Requirement. All students seeking the D.M.A. degree must demonstrate a reading knowledge of German. Students electing vocal pedagogy as either a primary or a supporting area within performance must meet the equivalent of the language requirement for the Master of Music degree: two years of one language and one year of each of two other languages, one of these three being German.

Residence. At least three years of full-time work beyond the bachelor's degree are required, of which at least one academic year (three consecutive terms beginning in the fall term) must be spent in continuous residence on the Eugene campus of the University of Oregon.

Comprehensive Examination. The student is required to pass two comprehensive examinations, one each in his primary and supporting areas. These comprehensive written 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) secured the approval of his dissertation proposal by his dissertation advisory committee, (4) received the approval of his adviser to take the examination, and (5) satisfied the language requirement.

Advancement to Candidacy. Advancement to candidacy is based on successful completion of foreign language and comprehensive examinations, approval of

the student's dissertation proposal by his dissertation advisory committee, and the recommendation of his adviser that he be advanced to candidacy.

The Dissertation. Students whose primary area is music education must present a dissertation which reveals a mastery of the subject and is written in creditable literary style. Copies of the dissertation must be distributed by the student to the members of his examining committee, in accordance with the procedure outlined for the Ph.D. degree.

Students whose primary area is performance must submit a doctoral document consisting of recorded and written sections. Recordings of three public performances will form one section of the document. The written part together with at least one performance will focus upon a particular aspect of the candidate's performance area. These recorded and written documents constitute the candidate's doctoral dissertation. The three public performances may take a variety of forms and will be subject to approval of the candidate's committee. The first public performance will normally be given prior to the comprehensive examinations. The written document will be submitted to the candidate's committee no later than two weeks prior to the final oral examination.

Final Examination. The final examination is an oral examination at which the candidate is expected to defend his dissertation and to show a satisfactory knowledge of his major area. The examining committee consists of the candidate's advisory committee, including at least one member from a school or department other than the School of Music, subject to the approval of the dean of the Graduate School.

Music

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

Mus 425. **Advanced Keyboard Harmony.** (G) 2 hours.

Mus 426, 427. **Score Reading.** (G) 2 hours.

Mus 430, 431, 432. **Advanced Analysis.** (G) 2 hours each term.

Mus 433, 434. **Counterpoint II.** (G) 2 hours each term. Keller.

*Mus 435. **Experiments in Improvisation and Composition.** (G) 3 hours any term.

Mus 436, 437. **Advanced Scoring for Instruments.** (G) 2 hours each term. Keller.

Mus 438. **Scoring for Bands.** (G) 3 hours. Lewis.

Mus 439. **Scoring for Voices.** (G) 3 hours. Owen, Tubb.

Mus 440, 441, 442. **Composition II.** (G) 3 hours each term. Keller.

Mus 450. **Listening with Understanding.** (g) 3 hours fall or winter.

Mus 451. **The Music of Bach and Handel.** (g) 3 hours winter.

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.

Mus 455. **Hymnology.** (G) 3 hours. Saltzman.

Mus 456. **Liturgics.** (G) 3 hours. Saltzman.

Mus 457. **Sacred Choral Music.** (G) 3 hours. Saltzman.

Mus 458, 459. **Administration of Church Music.** (G) 3 hours each term. Saltzman.

* No-grade course.

- Mus 460. **Music in Worship.** (G) 2 hours. Saltzman.
- Mus 461, 462, 463. **Music for Chamber Ensemble.** (G) 2 hours each term. Hladky.
- Mus 464, 465, 466. **Piano Music.** (G) 2 hours each term. Woods.
- Mus 467, 468, 469. **Solo Vocal Music.** (G) 2 hours each term. Miller, Wilson.
- Mus 470, 471, 472. **Orchestral Music.** (G) 2 hours each term.
- Mus 473, 474, 475. **History of Opera.** (G) 2 hours each term.
- Mus 476. **Organ Music.** (G) 3 hours. Hamilton.
- Mus 477. **Wind-Instrument Music.** (G) 3 hours. Vagner.
- Mus 485. **Advanced Choral Conducting.** (G) 3 hours.
- Mus 486. **Advanced Instrumental Conducting.** (G) 3 hours.
- Mus 493. **Collegium Musicum.** (G) 1 hour any 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. Bergquist, Martin, staff.
- Mus 533, 534. **Twentieth-Century Counterpoint.** 2 hours each term. Keller.
- Mus 540, 541, 542. **Composition with Electronic Media.** 3 hours each term. Keller, Hunter.
- Mus 543, 544. **Notation of Mediaeval and Renaissance Music.** 3 hours each term.
- Mus 560. **Music in the Middle Ages.** 3 hours fall. Bergquist, 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 589. **Performance Practices before 1800.** 3 hours.
- Mus 590. **Performance Studies (Studio Instruction).** 2-4 hours any term.
- Mus 591. **Performance Studies (Studio Instruction).** 1-2 hours any term (6 hours maximum credit).
- Mus 592. **Performance Studies (Studio Instruction).** (p) 1 hour any term (3 hours maximum credit).
- Mus 593. **Jazz Ensemble.** 1 hour any term.
- 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.** 2 hours any term.
- Mus 690. **Performance Studies (Studio Instruction).** 2-4 hours any term.
- Mus 691. **Performance Studies (Studio Instruction).** 1-4 hours any term.

* No-grade course.

Music Education

- MuE 407. **Seminar.** (G) Hours to be arranged.
- MuE 427. **The General Music Program: Secondary.** (G) 3 hours.
- MuE 444. **Choral Materials 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 447. **Psychology of Music.** (G) 3 hours.
- MuE 491. **Advanced Pedagogy.** (G) 3 hours any term (9 hours maximum credit).
- *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 509. **Practicum.** Hours to be arranged.
- MuE 532. **Basic Concepts in the Teaching of Music.** 3 hours. Nye.
- 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. McManus.
- MuE 536. **Administration of School Music.** 3 hours. Ellefson, Gustafson, Nye.
- MuE 537. **Comparative Music Pedagogy.** 3 hours. Cykler.
- MuE 538. **Curriculum Development in Music.** 3 hours.

Nursing

The University of Oregon School of Nursing, located at the Medical School campus in Portland, offers an advanced curriculum leading to the degree of Master of Science in Nursing Education. A major in medical and surgical nursing is offered. The program is planned to prepare nurses for faculty positions. For further information, see the School of Nursing Catalog.

Philosophy

Professors: JOHN COOK (department head), FRANK EBERSOLE, BERTRAM JESSUP (emeritus), ARTHUR JOHN WISDOM.

Associate Professors: HENRY ALEXANDER, ROBERT HERBERT, ARNULF ZWEIG.

Assistant Professors: WILLIAM DAVIE, LEONARD GEDDES, DON LEVI.

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 goal of teaching and research; (2) those not intending to take further graduate

* No-grade course.

work in philosophy after earning a master's degree; (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.

Berkeley. Philosophy of History. Descartes. Philosophy of Law. Philosophy of the Social Sciences.

Phl 411. **Plato.** (G) 3 hours.

Phl 413. **Aristotle.** (G) 3 hours.

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

Phl 419. **Locke.** (G) 3 hours.

Phl 423. **Leibniz.** (G) 3 hours.

Phl 425. **Berkeley.** (G) 3 hours.

Phl 427. **Hume.** (G) 3 hours.

Phl 429, 430. **Kant.** (G) 3 hours each term.

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

Phl 433, 434, 435. **Advanced Ethics.** (G) 3 hours each term.

Phl 438. **Kierkegaard.** (G) 3 hours.

Phl 439, 440. **Philosophy of Religion.** (G) 3 hours each term.

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

Phl 447, 448. **Wittgenstein.** (G) 3 hours each term.

Phl 453, 454. **Analytic Philosophy.** (G) 3 hours each term.

Phl 455, 456. **History of Logic.** (G) 3 hours each term.

Phl 458, 459. **Philosophy of Mind.** (G) 3 hours each term.

Phl 461, 462. **Symbolic Logic.** (G) 3 hours each term.

Phl 463. **Philosophy of Mathematics.** (G) 3 hours.

Phl 465. **Logical Theory.** (G) 3 hours.

Phl 468. **Problems in Philosophy of Science.** (G) 3 hours.

Phl 480, 481, 482. **Philosophy of the Social Sciences.** (G) 3 hours each term.

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

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

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

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

Metaphysics. Analytic Aesthetics. Practical Reasoning. Philosophical Conflict. The Later Wittgenstein.

Phl 511, 512, 513. **Problems of Knowledge.** 3 hours each term.

Phl 514, 515, 516. **Ethical Theory.** 3 hours each term.

Phl 517, 518. **Problems in Philosophy of Language.** 3 hours each term.

Phl 523, 524. **Problems in Philosophy of Mind.** 3 hours each term.

Physics

Professors: RUSSELL J. DONNELLY (department head), SHANG-YI CH'EN, BERND CRASEMANN, FRANCES E. DART, EDWIN G. EBBIGHAUSEN, MARVIN D. GIRARDEAU, JAMES C. KEMP, HARLAN W. LEFEVRE, JOEL W. McCLURE, DAVID K.

* No-grade course.

McDANIELS, MICHAEL J. MORAVCSIK, BURTON J. MOYER, JOHN L. POWELL,
GREGORY H. WANNIER.

Associate Professors: PAUL L. CSONKA, AMIT GOSWAMI, RICHARD J. HIGGINS,
RUDOLPH C. HWA, GERALD D. MAHAN, BRIAN W. MATTHEWS, JACK C.
OVERLY, KWANGJAI PARK, GEORGE W. RAYFIELD, ROBERT L. ZIMMERMAN.

Assistant Professor: DOUGLAS H. LOWNDES.

Senior Instructors: JOHN C. BURG, JAMES V. RADOSTITZ.

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, the physics of fluids, astrophysics, and theoretical high-energy physics.

Experimental research in solid-state physics includes electron spin resonance and optical properties of insulating crystals, as well as the electrical and magnetic properties of metals and alloys. 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, statistical mechanics, and many-body theory.

Experimental research is conducted on the properties of superfluid helium, especially the quantized 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 which is used for nuclear structure and reaction studies. Work is carried out in neutron physics, in capture 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 nuclear structure, particularly employing many-body techniques.

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 eclipsing double-star systems, on circular polarization, and on infrared astronomy is in progress. Seminar work is offered.

Research in theoretical high energy physics ranges over a broad spectrum including field theory, S-matrix, phenomenological models, strong and weak interaction, neutrino physics, photo-induced particle reactions, the two-nucleon interactions, and general relativity.

The department is located in the Physics Building of the modern science complex which contains well-equipped research laboratories. Also lodged in the Physics Building is the Science Services Department, with a machine shop, an electronics shop, a glass-blowing shop, a liquid nitrogen storage facility, and a student shop.

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 three-term sequences in physics, at least one of which must be a 500 sequence; and one of the following combinations and sequences in mathematics:

Ordinary and Partial Differential Equations (Mth 465, 466, 467); Functions of a Complex Variable (Mth 421, 422) and Linear Algebra (Mth 412); Linear Analysis in Applied Mathematics (Mth 531, 532, 533); or a 500-level mathematics course especially approved by the Physics Department Curriculum Committee. 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, statistical mechanics, 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.

Teaching and research fellowships are available. Research fellowships are offered in connection with projects sponsored by such organizations as the National Science Foundation, the Atomic Energy Commission, the Air Force Office of Scientific Research, the Army Research Office, and the Tektronix Foundation. Several National Defense Education Act fellowships and National Science Foundation traineeships are awarded. Students from foreign countries are required to submit results of the Graduate Record Examination (including verbal aptitude and advanced physics) and, where applicable, of the Test of English as a Foreign Language. Further information on graduate work in physics at the University is available from the department.

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

Ph 417, 418, 419. **Elements of Atomic, Nuclear, and Solid-State Physics.** (G) 4 hours each term.

Ph 421, 422, 423. **Structure of Matter.** (G) 3 hours each term.

Ph 431, 432, 433. **Optics and Atomic Spectra.** (G) 3 hours each term.

Ph 434, 435, 436. **Optics Laboratory.** (G) 1 hour each term.

Ph 441, 442, 443. **Electricity and Magnetism.** (G) 3 hours each term.

Ph 451, 452, 453. **Introduction to Quantum Mechanics.** (G) 3 hours each term.

Ph 461, 462, 463. **Electronics.** (G) 3 hours each term.

Ph 471, 472, 473. **Introduction to Theoretical Physics.** (G) 3 hours each term.

Ph 481. **Special Relativity.** (G) 3 hours.

Ph 491. **X-Ray Crystallography.** (G) 4 hours.

*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. Astrophysics. General Relativity. Theoretical Physics.

*Ph 509. **Supervised Tutoring Practicum.** 1-3 hours any term.

Ph 511, 512, 513. **Theoretical Mechanics.** 3 hours each term.

Ph 521, 522, 523. **Electromagnetic Theory.** 3 hours each term.

Ph 531, 532, 533. **Quantum Mechanics.** 3 hours each term.

Ph 541, 542, 543. **Statistical Physics.** 3 hours each term.

Ph 551, 552, 553. **Nuclear Physics.** 3 hours each term.

Ph 554, 555, 556. **Theoretical Nuclear Physics.** 3 hours each term.

Ph 561, 562, 563. **Elementary Particle Physics.** 3 hours each term.

Ph 564, 565, 566. **Advanced Elementary Particle Physics.** 3 hours each term.

Ph 571, 572, 573. **Solid State Physics.** 3 hours each term.

Ph 574, 575, 576. **Theory of Condensed Matter.** 3 hours each term.

Ph 581, 582, 583. **Atomic Spectra.** 3 hours each term.

Ph 584, 585, 586. **Experimental Spectroscopy.** 1 hour each term.

* No-grade course.

Political Science

Professors: JAMES R. KLONOSKI (department head), JAMES C. DAVIES, JOSEPH R. FISZMAN, JOHN F. GANGE, DANIEL GOLDRICH, THOMAS HOVET, JR., WILLIAM C. MITCHELL, CHARLES P. SCHLEICHER, LESTER G. SELIGMAN, L. HARMON ZEIGLER, M. GEORGE ZANINOVICH.

Associate Professors: JOSEPH M. ALLMAN, DAVID J. FINLAY, ARTHUR M. HANHARDT, JR., JAMES P. LEVINE, JOYCE M. MITCHELL, JOHN ORBELL.

Assistant Professors: JERRY MEDLER, LAWRENCE C. PIERCE, BRENT RUTHERFORD.

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.

The program is flexible. There are no courses specifically required (other than the Graduate School language requirement), and no designated fields of political science. A group of courses dealing with techniques of analysis is offered, but—because students enter graduate school with varying skills—no particular sequence is required. Students are encouraged to consult with their adviser and the course instructors in developing a "skill" program that meets their particular needs.

By avoiding designated "fields" the program encourages students to focus their work on the concepts, theories, and analytic techniques the various fields of political science have in common. Students will therefore define three separate areas of concentration in consultation with three separate faculty committees. Apart from the dissertation and course work, the core of the program consists of three area papers with oral examination—one bibliographic paper with oral examination at the master's level and two papers with oral examination involving extended analysis at the doctoral level. Students may select the subject matter of the papers according to their concentration, contingent upon their finding a faculty committee to work with them. They may also plan their M.A. and Ph.D. work separately or as a single unit: for example, the bibliographic paper at the master's level might provide the basis for one of the Ph.D. papers and (if the student maintains his interest) for his dissertation.

The program is designed to ensure a wide exposure to the various interests represented in the faculty. Because the committees for the two Ph.D. papers must not overlap, students are obliged to work with at least six different faculty mem-

bers; if they select different committees for their three papers and dissertation they will have worked with at least twelve faculty members.

Master's Degree. The master's degree in political science requires a minimum of 45 term hours of graduate credit. These hours may be in political science or in related departments. A minimum of two-thirds of the work must ordinarily be in political science. No thesis for the master's degree in political science is required. Instead each student prepares a bibliographic paper with oral examination on a subject of his own choice. The paper should deal with an area of political science in which a substantial amount of research and theoretical work has been done.

Doctor's Degree. For the Ph.D. degree, at least 3 years of full-time work beyond the bachelor's degree and a minimum of 30 term hours of graduate credit beyond the master's degree are required. In addition to meeting the language requirements for the M.A. or its equivalent, the doctoral student must also give evidence of competence in a foreign language sufficient to carry on research in that language, or must complete two basic courses to acquire the methodological skills to do modern political analysis. In place of the comprehensive general examination, the student prepares two papers (with oral examinations) of a theoretical and/or empirical nature, each paper dealing with different types of problems, theories, or techniques of investigation. Upon successful completion of the papers, the student is advanced to candidacy for the Ph.D. He then prepares a dissertation proposal and writes the thesis.

Admission. Admission to graduate study is based upon an evaluation of the Miller Analogies Test, plus supporting documents including an individual statement of purpose, transcript of grades, and letters of recommendation. Applicants are encouraged to make their applications directly to the department during the winter term before admission in the fall term.

Financial Assistance. Teaching and research 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) 5 hours each term, winter and spring. Pierce.

PS 414. **Political Parties.** (G) 5 hours. Seligman.

PS 415. **Political Parties.** (G) 5 hours. Seligman.

PS 416. **Political Parties.** (G) 5 hours. Seligman.

PS 420. **International Organization.** (G) 5 hours. Hovet.

PS 421. **International Organization.** (G) 5 hours. Hovet.

PS 422. **International Law.** (G) 5 hours spring. Hovet.

PS 424. **Politics of Western Europe I.** (G) 5 hours. Hanhardt.

PS 425. **Politics of Western Europe II.** (G) 5 hours. Hanhardt.

PS 427, 428. **Government and Politics of the Soviet Union.** (G) 5 hours each term. Fiszman.

PS 430. **Political Theory: General Issues.** (G) 5 hours fall. Zaninovich.

PS 431. **Political Theory: Nature, Community, and Authority.** (G) 5 hours winter. Zaninovich.

PS 432. **Political Theory: Participation, Change, and Leadership.** (G) 5 hours spring.

PS 440. **Comparative Foreign Policies.** (G) 5 hours. Hovet.

PS 441. **Comparative Foreign Policies.** (G) 5 hours. Hovet.

- PS 442. **Comparative Foreign Policies.** (G) 5 hours. Hovet.
- PS 452. **Public Opinion and Political Participation.** (G) 5 hours. Orbell.
- PS 453. **Public Opinion and Political Participation.** (G) 5 hours. Orbell.
- PS 454. **Public Opinion and Political Participation.** (G) 5 hours. Orbell.
- PS 456. **Democratic Institutions.** (G) 5 hours. W. Mitchell.
- PS 457. **Democratic Processes.** (G) 5 hours. W. Mitchell.
- PS 458. **Democracy and Public Policy.** (G) 5 hours. W. Mitchell.
- PS 460, 461. **Government and Politics of the Far East: China.** (G) 5 hours each term. Fiszman.
- PS 463. **Government and Politics of Latin America.** (G) 5 hours. Goldrich.
- PS 464. **Government and Politics of Latin America.** (G) 5 hours. Goldrich.
- PS 467. **Federal Public Administration: The Presidency.** (G) 5 hours. Klonoski.
- PS 468. **Federal Public Administration: Departments and Agencies.** (G) 5 hours.
- PS 469. **Federal Public Administration: Departmental Leadership and Administration.** (G) 5 hours.
- PS 470. **Political Behavior.** (G) 5 hours. Davies.
- PS 475. **Political Revolution.** (G) 5 hours. Davies.
- PS 476. **Political Revolution: Research and Theory.** (G) 5 hours. Davies.
- PS 478. **Political Fiction.** (G) 5 hours. Davies.
- PS 482. **Legislative Politics.** (G) 5 hours.
- PS 483. **Allocation of Justice.** (G) 5 hours. Klonoski, Levine.
- PS 484. **The Supreme Court in America.** (G) 5 hours. Klonoski, Levine.
- PS 485. **The Supreme Court in America.** (G) 5 hours. Klonoski, Levine.
- PS 488. **The Policy Process.** (G) 5 hours. J. Mitchell.
- PS 489. **Comparative Public Policies.** (G) 5 hours. J. Mitchell.
- PS 490. **Community Politics I.** (G) 5 hours. Fiszman, Medler, Orbell.
- PS 491. **Community Politics II.** (G) 5 hours. Fiszman, Medler, Orbell.
- PS 492. **Political Decision Making.** (G) 5 hours. J. Mitchell, W. Mitchell.
- PS 493. **Political Decision Making.** (G) 5 hours. Pierce.
- PS 494. **Federal Education Policy.** (G) 5 hours.
- PS 495. **Federal Welfare Policy.** (G) 5 hours.
- PS 496. **National Security Policy.** (G) 5 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 Labor Movements:* Fiszman. *Comparative Communist Systems:* Fiszman. *Political Behavior:* Davies. *Comparative Political Elites:* Seligman. *Contemporary Political Theory:* W. Mitchell. *International Politics:* Schleicher. *International Relations Theory:* Hovet, Finlay. *Policy Implementation Abroad:* Gange. *Political Development in the Newer Nations:* Davies, Goldrich. *Political Revolution:* Davies. *The Political System:* W. Mitchell. *Theory of American Politics:* W. Mitchell. *United States For-*

* No-grade course.

ign Policy: Schleicher. *Politics of Public Administration*: Pierce. *Scope and Methods of Political Science*: Zeigler. *Marxist Political Theory*: Zaninovich. *Premodern Thought*: Zaninovich. *Philosophy of Political Inquiry*: Zaninovich. *Communication and Perception*: Zeigler. *Political Organization*: Zeigler. *Comparative Political Recruitment*: Seligman. *Western European Politics*: Hanhardt. *Orientation to Political Science*: Seligman. *Comparative Authoritarianism. Political Fiction: Novels and Other Writings*: Davies. *Introduction to Comparative Politics*: Hanhardt. *International Organization*: Hovet. *Policy Analysis*: J. Mitchell. *Metropolitan Political Sociology*: Orbell. *Implementing Social Change*: Orbell. *Civil Liberties*: Levine. *Public Control of Economic Life*: Pierce. *Organizational Decision Making*: Pierce. *Mathematical Theories of Politics*: Medler. *Social Control in Politics*: Medler. *Students and Politics*: Finlay. *Public Control of Economic Life*: Pierce.

PS 509. **Teaching Practicum.** 1-5 hours.

Psychology

Professors: ROBERT F. FAGOT (department head), FRED ATTNEAVE, JACOB BECK, ROBYN DAWES, FREDERICK R. FOSMIRE, LEWIS R. GOLDBERG, MARVIN GREENBAUM, RAY HYMAN, DANIEL P. KIMBLE, ROBERT W. LEEPER, PETER M. LEWINSOHN, EDWARD LICHTENSTEIN, RICHARD A. LITTMAN, GERALD R. PATTERSON, MICHAEL I. POSNER, PHILIP RUNKEL, NORMAN D. SUNDBERG, LEONA E. TYLER, ROBERT L. WEISS, WAYNE A. WICKELGREN.

Associate Professors: JOHN C. FENTRESS, STEVEN W. KEELE, MARVIN E. LICKEY.

Assistant Professors: JOEL W. ADKINS, HAROLD ARKOWITZ, RICHARD W. HALER, DOUGLAS L. HINTZMAN, STEPHEN JOHNSON, JOSEPH LOPICCOLO, GERALD M. REICHER, MYRON ROTHBART, BENSON SCHAEFFER, WILLIAM C. SHEPPARD, BARBARA G. WICKELGREN.

Preparation for Graduate Study. A bachelor's degree is seldom a sufficient qualification for professional work in psychology; even the simpler professional positions require at least a master's degree.

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 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.

Graduate Work. 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, a computer lab with a PDP-9 and a PDP-15, an animal laboratory with small mammals and marine invertebrates, and a psychological clinic.

During the first year of graduate work every student should establish a broad base of knowledge and skills that will enable him subsequently to teach well, to

communicate intelligently with psychologists in diverse areas, and to relate the work in which he specializes to psychology more generally. The department will not establish requirements on the level of specific courses, but will require that the student's program, as planned by himself and his adviser, promote this objective.

All students applying for admission for graduate work in psychology must provide scores recorded on the Graduate Record Examination and three letters of recommendation on special forms provided by the department. Detailed information on admission, including application forms and information on awards and fellowships, may be obtained from the Department of Psychology.

Clinical Program. A research-oriented approach to theories and methods of clinical psychology is followed by the Department of Psychology. A clinical psychologist, in the view of the department, is a behavioral scientist with an area of specialization in clinical psychology. As part of his graduate training, the student learns to devise approaches to clinical problems which lead to a better conceptual understanding of the phenomena under study. The program stresses a data-oriented approach to the complexities of clinical problems. During the first and second years of graduate study the student completes (1) the core program, including work in experimental psychology and quantitative methods, and (2) a clinical core sequence in assessment and in behavior change, with an associated practicum. Practicum experience at the University Psychology Clinic begins in the second year and continues throughout the student's on-campus training. The integration of clinical practice and clinical research is stressed.

Beyond the second year, there is considerable latitude in planning a program of study and research. The student must pass a major clinical preliminary examination (covering assessment, psychopathology, and behavior change) and a minor preliminary examination in an area selected by the student as a special interest (e.g., learning approaches to behavior change, social psychology, etc.). A one-year clinical internship, which may be taken in either the third or fourth year, is required to provide the necessary breadth of experience.

The University Psychology Clinic serves as the major training and research setting for the clinical training program. A wide variety of clients from campus and community are served. Research and training activities are closely integrated with the clinic's service functions.

Center for Perceptual and Cognitive Research. The Center offers instruction and research in psychophysics, perception, pattern recognition, attention, concept learning, memory, decision processes, psycholinguistics, problem solving, motor skills, and human performance. Two computers, a PDP-9 and a PDP-15, support the center's automated laboratory.

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

Perception: Attneave, Beck. *Thinking, Human Performance:* Posner. *Neuropsychology:* Kimble, Lickey. *Psychopathology:* Fosmire. *Mathematical Models:* Haller. *Motivation:* Adkins. *History and Systems:* Leeper. *Animal Behavior:* Fentress.

Psy 417, 418. **Laboratory in Advanced Psychological Statistics.** (G) 1 hour each term.

Psy 420. **Introduction to Mathematical Psychology.** (G) 3 hours. Haller.

Psy 421. **Principles and Methods of Psychological Assessment.** (g) 3 hours. Goldberg.

Psy 426. **Thinking.** (G) 3 hours. Hyman, Posner.

Psy 435. **Theories of Personality.** (g) 3 hours. Leeper.

Psy 436. **Personality Research.** (g) 3 hours.

Psy 437. **Social Psychology.** (g) 3 hours. Fosmire, Rothbart.

- Psy 439. **Group Consultation.** (G) 3 hours. Fosmire.
- Psy 440. **Human Conflict and Accord.** (g) 3 hours.
- Psy 441. **Group and Individual Differences.** (g) 3 hours. Goldberg.
- Psy 449. **Psychology of Work.** (g) 3 hours. Keele.
- Psy 450. **Abnormal Psychology.** (g) 3 hours. Fosmire, LoPiccolo.
- Psy 451. **Brain Mechanisms of Behavior.** (g) 3 hours. Adkins, Kimble, Lickey.
- Psy 452. **Cellular Mechanisms of Behavior.** (G) 3 hours.
- Psy 453. **Higher Brain Function.** (g) 3 hours.
- Psy 460. **Developmental Psychology.** (g) 3 hours.
- Psy 461. **Developmental I: Psychobiological.** (G) 3 hours.
- Psy 462. **Developmental II: Learning and Perception.** (G) 3 hours.
- Psy 463. **Developmental III: Socialization.** (G) 3 hours.
- Psy 465. **Motivation.** (g) 3 hours. Adkins, Leeper, Littman.
- Psy 467. **Human Sexual Behavior.** (g) 3 hours.
- Psy 470. **Comparative Psychology.** (g) 3 hours. Adkins, Kimble.
- Psy 471. **Laboratory in Animal Psychology.** (g) 2 hours. Adkins, Kimble.
- Psy 475. **Animal Behavior.** (G) 3 hours. Fentress.
- Psy 485. **Sensory Processes.** (G) 3 hours. B. Wickelgren.
- Psy 490. **Psychology of Learning.** (g) 3 hours. Keele, Posner, Reicher, Sheppard.
- Psy 492. **Psychology of Perception.** (g) 3 hours. Attneave, Beck, Haller.
- Psy 494. **Human Performance.** (g) 3 hours. Keele, Posner.
- Psy 495. **Conditioning and Learning.** (G) 3 hours.
- Psy 496. **Human Learning and Cognition.** (G) 3 hours.
- Psy 498. **Laboratory in Learning.** (g) 2 hours. Posner, Reicher.
- Psy 499. **History and Systems of Psychology.** (g) 3 hours. Leeper, Littman.
- *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.
- Psy 507. **Seminar.** Hours to be arranged.
- Seminars offered vary from year to year, depending on faculty interests. Typical offerings are: *Human Performance*: Keele, Posner. *Neural Basis of Learning*: Lickey. *Theories of Choice Behavior*: Fagot. *Inferential Processes in Perception*: Beck. *Physiological Models in Motivation*: Adkins. *Learning Theory Approaches to Psychopathology*: Schaeffer. *Behavior Modification*: Weiss, Sheppard. *Group Psychotherapy*: clinical staff. *Milieu Therapy*: clinical staff. *Mathematical Models*: Haller. *Computer Simulation*: Haller. *Animal Behavior*: Fentress. *Memory*: Reicher. *Physiological Basis of Perception*: Attneave, Kimble. *Anatomy of Memory*: Kimble, Posner. *Clinical Proseminar*: clinical staff.
- Psy 508. **Workshop: Clinical Work with Children.** 1-9 hours. Johnson.
- Psy 509. **Practicum Experience.** 1-9 hours.
- Psy 511, 512, 513. **Statistical and Quantitative Methods in Psychology.** 3 hours each term. Dawes, Fagot, Hyman.
- Psy 514. **Learning.** 3 hours.

* No-grade course.

- Psy 515. **Perception.** 3 hours. Attneave, Beck.
- Psy 516. **Physiological Psychology.** 3 hours. Adkins, Kimble, Lickey.
- Psy 517. **Social Psychology.** 3 hours. Rothbart.
- Psy 518. **Developmental Psychology.** 3 hours. Schaeffer.
- Psy 519. **Personality.** 3 hours.
- Psy 520. **Psychopathology.** 3 hours. Fosmire, Lewinsohn.
- Psy 521. **History and Systems of Psychology.** 3 hours. Leeper, Littman.
- *Psy 524, 525, 526. **Proseminar in Clinical Psychology.** 1 hour each term.
- Psy 528. **Assessment I: Psychological Testing.** 3 hours. Goldberg.
- Psy 529. **Assessment II: Personality Assessment.** 3 hours. Lichtenstein, Lo-Piccolo, Weiss.
- Psy 530. **Assessment III: Assessment of Cognitive Functions.** 3 hours. Arkowitz, Lewinsohn.
- Psy 531. **Behavior Change I: Interview Therapies.** 3 hours. Arkowitz, Lichtenstein.
- Psy 532. **Behavior Change II: Behavior Modification.** 3 hours. Arkowitz, Johnson, Weiss.
- Psy 533. **Behavior Change III: Child and Family Therapy.** 3 hours. Johnson.
- Psy 534. **Research in Psychotherapeutic Methods.** 3 hours. Arkowitz, Johnson, Lichtenstein.
- Psy 535. **Advanced Social Psychology.** 3 hours.
- Psy 536. **Experimental Methods in Social Psychology.** 3 hours. Dawes.
- Psy 537, 538, 539. **Advanced Clinical-Research Practicum.** 3 hours each term.
- Psy 543. **Measurement: Theory and Application.** 3 hours. Dawes, Fagot.
- Psy 544. **Choice Behavior.** 3 hours. Dawes, Fagot.
- Psy 546. **Multivariate Methods in Psychology.** 3 hours. Dawes, Goldberg.
- 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.
- Psy 572, 573, 574. **Advanced Psychology of Learning and Thinking.** 3 hours each term.

Religious Studies

Professors: P. B. MEANS (emeritus), DOUGLAS STRATON (department head).

Associate Professor: JACK T. SANDERS.

Assistant Professors: STEPHEN C. REYNOLDS, ALAN STEPHENSON.

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 requirements for a graduate degree.

R 405. **Reading and Conference.** (g) Hours to be arranged.

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

Patristics: Reynolds. *Japanese Religion.*

* No-grade course.

- R 419, 420. **Philosophy of Religion.** (g) 3 hours each term, fall and winter. Straton.
- R 421. **Contemporary Social Problems and Religion.** (g) 3 hours spring. Straton.
- R 422. **Psychology of Religion.** (g) 3 hours.
- R 423, 424, 425. **Contemporary Philosophies of Religion and Theological Movements.** (g) 3 hours each term. Straton.
- R 430, 431, 432. **Oriental Philosophies of Religion.** (g) 3 hours each term.
- Eng 437, 438. **The Literature of the English Bible.** (G) 3 hours any term.
- Phl 439, 440. **Philosophy of Religion.** (G) 3 hours each term.
- R 440. **Foundations of Biblical Ethics.** (g) 3 hours fall.
- R 441. **Recent Discoveries in Biblical Studies.** (g) 3 hours.
- R 442. **Recent Developments in Biblical Theology.** (g) 3 hours.
- 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.

Romance Languages

Professors: PERRY J. POWERS (department head), CHANDLER B. BEALL, DAVID M. DOUGHERTY, THOMAS R. HART, JR., EMMANUEL S. HATZANTONIS, CARL L. JOHNSON.

Associate Professors: RANDI M. BIRN, RICHARD H. DESROCHES.

Assistant Professors: GEORGE R. AYORA, ROBERT M. JACKSON, ELISABETH K. MARLOW, STEVEN F. RENDALL, STANLEY L. ROSE, WOLFGANG F. SOHLICH.

Senior Instructor: DAVID J. CURLAND.

Instructor: JOSÉ MIGUEL SOBRÉ.

The Department of Romance Languages offers programs of study leading to the degree of Master of Arts in French, Spanish, and Romance Languages, and to the degree of Doctor of Philosophy in Romance Languages. Although the student normally takes work to improve his linguistic skills, the master's degree is primarily a degree in the study of literature. Courses are offered in French, Italian, Portuguese, Peninsular and American Spanish language and literature, with major work available in French, Italian, and Peninsular Spanish. The student's program may include work in two of these fields, and must include a second field if one is Italian or Spanish American literature. The minimum requirement for this degree is the completion of 45 term hours of graduate study with grades of B or higher. The program does not include a thesis.

Interdisciplinary Master's Program in French. The department supervises an interdisciplinary program designed particularly for the preparation of secondary-school teachers. The program is described on pages 22-23 (Graduate Program for Teachers) and involves Option 2 under Section (a), i.e., 36 term hours of graduate work in French, and 9 normally in education. For further information consult the director of the program, Mrs. Elisabeth Marlow.

Master of Arts in Teaching Spanish. The department offers a program of advanced study leading to the Master of Arts in Teaching Spanish, with emphasis

on the preparation of secondary-school teachers. In addition to a year's study at the University, this program will include an eight-week summer term in Mexico or Spain. The program is designed to afford prospective teachers of Spanish an opportunity to achieve competence in the written and spoken language, to study literature at the graduate level, and to develop and practice methods of presenting both language and literature to secondary-school students. Completion of this course of study will fulfill the requirements for the Oregon Standard (five-year) Secondary Teacher's Certificate, but courses in civilization and phonetics, required for this certificate, should be taken prior to admission.

Doctoral Programs. Major fields for the doctoral programs are French and Hispanic languages and literatures, supplemented by offerings in Italian and Portuguese. The doctoral program must include work in a minor field and a year sequence in philology (prerequisite: one year of college Latin or equivalent). In addition to command of the languages and familiarity with the literatures of his choice, the student is expected to develop skill in critical writing and competence in individual research. Students interested in the doctoral program should request the description of the program from the departmental secretary or consult with the director of graduate studies.

The graduate program in comparative literature is administered by a committee representing the departments of English, German and Russian, and Romance Languages; it offers opportunity for advanced study of several literatures in their original languages. (See *Comparative Literature*, page 44.)

The resources of the University Library for research in French, Italian, and Spanish are fully adequate for the department's graduate programs; in some fields they are outstanding. The Library's holdings of learned periodicals 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 department's undergraduate program. Qualified assistants serve as regular teachers of elementary classes under the direction of senior members of the department.

French

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

RL 411, 412, 413. **Seventeenth-Century French Literature.** (G) 3 hours each term. Rendall.

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.

RL 429, 430, 431. **French Culture and Civilization.** (G) 3 hours each term.

RL 435, 436, 437. **Eighteenth-Century French Literature.** (G) 3 hours each term. Desroches.

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. **Seminar.** Hours to be arranged.

Provençal. Mediaeval Lyric. Molière. Eighteenth-Century Theater. Rousseau. Diderot. Baudelaire.

RL 517, 518, 519. **Sixteenth-Century French Literature.** 3 hours each term. Beall.

* No-grade course.

- RL 538, 539, 540. **Old French Readings.** 2 hours each term. Dougherty.
 RL 544. **François Villon.** 3 hours. Dougherty.
 RL 545. **Ronsard.** 3 hours. Beall.
 RL 546. **Molière.** 3 hours.
 RL 547. **Voltaire.** 3 hours. Desroches.
 RL 548. **Baudelaire.** 3 hours. Johnson.
 RL 549. **Paul Valéry.** 3 hours.
 RL 550, 551. **Proust.** 3 hours each term. Birn.

Italian

- RL 407. **Seminar.** (G) Hours to be arranged.
 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. Hatzantonis.
 RL 483, 484, 485. **Nineteenth-Century Italian Literature.** (G) 3 hours each term.
 RL 486, 487, 488. **Twentieth-Century Italian Literature.** (G) 3 hours each term. Hatzantonis.
 RL 505. **Reading and Conference.** Hours to be arranged.
 RL 507. **Seminar.** Hours to be arranged.

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.
 RL 477, 478. **Advanced Portuguese Language.** (G) 3 hours each term, winter and spring. Rose.

Spanish

- RL 407. **Seminar.** (G) Hours to be arranged.
 RL 432, 433, 434. **Hispanic Culture and Civilization.** (G) 3 hours each term.
 RL 438, 439, 440. **Nineteenth-Century Spanish Literature.** (G) 3 hours each term. Beck.
 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. Ayora.
 RL 451. **Spanish Prose of the Golden Age.** (G) 3 hours. Powers.
 RL 452. **Renaissance and Baroque Poetry.** (G) 3 hours. Powers.
 RL 453. **Introduction to the Drama of the Golden Age.** (G) 3 hours. Powers.
 RL 461, 462, 463. **Advanced Spanish Composition and Conversation.** (G) 2 or 3 hours each term. Sobré, Ayora.
 *RL 503. **Thesis.** Hours to be arranged.
 RL 505. **Reading and Conference.** Hours to be arranged.

* No-grade course.

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

Mediaeval Poetry. Gil Vicente. Sixteenth-Century Poetry. Seventeenth-Century Theater. "Asorin." Modern Spanish Novel. Novel of Mexican Revolution. Spanish-American Theater. Borges.

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.

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

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. Hart.

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

Sociology

Professors: ROY H. RODGERS (department head), HARRY ALPERT, JOHN M. FOSKETT, RICHARD J. HILL, JAY JACKSON, THEODORE B. JOHANNIS, JR., BENTON JOHNSON, WALTER T. MARTIN.

Associate Professors: STEVEN DEUTSCH, RICHARD P. GALE, KENNETH POLK, WALTER E. SCHAFER, DONALD VAN HOUTEN.

Assistant Professors: JOAN ACKER, RONALD FAICH, TED G. GOERTZEL, DANIEL N. GORDON, GERALD A. KING, ALBERT SZYMANSKI, DAVID WELLMAN.

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.

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.

Although the department accepts students who are interested only in the master's degree, its program is intended primarily for doctoral candidates. All students of good academic ability are encouraged to follow a course of study leading to the Ph.D. degree. All graduate students are required to serve the equivalent of one academic year as a teaching or research fellow.

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 interested in the graduate program in sociology should write directly to the head of the Department of Sociology for a booklet describing the program in detail, and for the necessary application materials to be submitted for evaluation. Since only a limited number of new students are admitted each year, those seeking

admission to the Graduate School are urged to make application well in advance of the term in which they plan to enroll. Students applying for graduate awards should submit all necessary materials by February 1, if possible, or by March 1, at the latest. Application deadline for fall term of each year is March 1. All documents must be received before an application for admission is reviewed. A set of instructions for making application, as well as the necessary application forms, are furnished by the department upon request.

- Soc 411, 412, 413. **Sociological Research Methods.** (G) 3 hours each term. Faich, Hill, King, Polk.
- Soc 415. **Theory and Methods in Population and Ecology.** (G) 3 hours. Martin.
- Soc 423. **The Family.** (g) 3 hours. Johannis, Rodgers.
- Soc 430. **Theory of Small Groups.** (G) 3 hours. King.
- Soc 431. **Group Dynamics.** (G) 3 hours. King.
- 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. Gordon, Martin.
- Soc 443. **Social Control.** (G) 3 hours.
- Soc 445. **Sociology of Race Relations.** (G) 3 hours.
- 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, Van Houten.
- Soc 449. **Social Change.** (G) 3 hours. Bisno.
- Soc 450. **Sociology of Developing Areas.** (G) 3 hours. Gale, Goertzel.
- Soc 451, 452. **Social Stratification.** (G) 3 hours each term. Szymanski.
- Soc 461. **Sociology of Religion.** (G) 3 hours. Johnson.
- Soc 462. **Sociology of the Family.** (G) 3 hours. Johannis, Rodgers.
- Soc 464. **Systems of War and Peace.** (G) 3 hours. Goertzel.
- Soc 465. **Political Sociology.** (G) 3 hours. Goertzel.
- Soc 466. **Sociology of Knowledge.** (G) 3 hours. Goertzel, Szymanski.
- Soc 467. **Sociology of Social Work.** (G) 3 hours. Acker, Bisno.
- Soc 490. **Sociology of Leisure.** (G) 3 hours. Johannis.
- Soc 491. **Sociology of Education.** (G) 3 hours. 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.** Hours to be arranged.
- Soc 507. **Seminar.** Hours to be arranged.

Social Psychology: Jackson. *Role Theory and Research:* Jackson. *Population of Underdeveloped Areas:* Martin. *Internal Migration:* Martin. *Theory and Method in Sociology:* Foscett, King. *Sociology of Human Sexuality:* King. *Scope of Sociology:* King. *Economic Sociology:* Deutsch. *Industrial Sociology:* Deutsch. *Sociology of Education:* Schafer. *Quantitative Sociology:* Faich. *Sociology of Science:* Alpert. *Power and Society:* Goertzel. *Theory*

* No-grade course.

and Research in Family Sociology: Rodgers. *Socialization*: Johannis. *Changing Organizations*: Van Houten. *The Teaching of Sociology*: Rodgers.

*Soc 509. **Supervised Tutoring Practicum.** 1-3 hours any term.

Soc 537. **Social Movements.** 3 hours.

Soc 541. **Theory of Organization.** 3 hours. Van Houten.

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 571. **History of Social Thought.** 3 hours. Foskett, Szymanski.

Soc 572. **Development of American Sociology.** 3 hours. Foskett.

Soc 573. **Contemporary Sociology.** 3 hours. Johnson, Szymanski.

Soc 575. **Theory Building in Sociology.** 3 hours. Hill.

Speech

Professors: CHARLEY A. LEISTNER (department head), BOWER ALY, T. L. DAHLE, FABER B. DECHAIINE, ROBERT P. FRIEDMAN, E. A. KRETSINGER, DOMINIC A. LARUSSO, HORACE W. ROBINSON, JOHN R. SHEPHERD, D. GLENN STARLIN, KENNETH S. WOOD.

Associate Professors: CARL W. CARMICHAEL, NED J. CHRISTENSEN, JEAN V. CUTLER, WESLEY D. HERVEY, ROBERT J. MERTZ, RONALD E. SHERRIFFS.

Assistant Professors: LOYAL D. EDIGER, JAMES R. ELLINGWOOD, RONALD B. GLOEKLER, C. RICHARD KEIL.

Instructor: J. K. CARROLL.

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, broadcast communication, speech pathology and audiology, theater, communication theory, and speech education.

Students concentrate their studies in one of these six fields, but may elect courses in the other subject fields of the department.

The public performance and professional service activities of the department provide a wide range of experience related to the degree programs. The University Theater 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), and develops programs for campus, community, and statewide distribution. The University Speech and Hearing Center and other clinics in the community give students an 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. A communication research center within the department facilitates research in communication theory. 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.

* No-grade course.

Rhetoric and Public Address

- Rht 409. **Practicum.** (G) Hours to be arranged.
- Rht 417. **Rhetorical Theory: 400 B.C.-400 A.D.** (G) 3 hours. LaRusso.
- Rht 418. **Directing the Forensic Program.** (G) 3 hours. Keil.
- Rht 421. **History and Criticism of Classical Speeches.** (G) 3 hours. Aly.
- Rht 422. **History and Criticism of British Speeches.** (G) 3 hours. Aly, LaRusso.
- Rht 423. **History and Criticism of American Speeches.** (G) 3 hours. Aly, Leistner.
- Rht 424. **Ethics and Freedom of Speech.** (G) 3 hours. Friedman.
- Rht 430. **Quantitative Methods in Speech.** (G) 3 hours. Carmichael.
- Rht 431. **Speech Communication Research.** (G) 3 hours. Carmichael.
- Rht 432. **Speech Communication and the Group Process.** (G) 3 hours. Carmichael.
- Rht 434. **Nonverbal Communication.** (G) 3 hours. LaRusso.
- Rht 435. **Public Address.** (G) 3 hours spring. Aly.
- *Rht 501. **Research.** Hours to be arranged.
- *Rht 503. **Thesis.** Hours to be arranged.
- Rht 505. **Reading and Conference.** Hours to be arranged.
- Rht 507. **Seminar.** Hours to be arranged.
Introduction to Graduate Study. Problems of Teaching Speech. History of Speech Education. British Oratory from 1867. Rhetoric of Black Power. Persuasion. Argumentation and Debate. Communication and Language. Theory of Argument. Background to the Rhetoric of Black Protest. Criticism of Contemporary Public Address. Communication and the Political Process.
- Rht 509. **Practicum.** Hours to be arranged.
- Rht 513. **Rhetorical Theory: 1450-1600.** 3 hours. LaRusso.
- Rht 514. **Eighteenth-Century Rhetorical Theory.** 3 hours. LaRusso.
- Rht 515. **Recent Rhetorical Criticism.** 3 hours.
- Rht 520. **American Public Address to 1850.** 3 hours. Aly.
- Rht 521. **American Public Address, 1850-1912.** 3 hours. Leistner.
- Rht 522. **American Public Address from 1912.** 3 hours. Friedman.
- Rht 523. **Documentary Research in American Public Address.** 3 hours. Aly, Friedman.
- Rht 530. **Attitude Formation and Change.** 3 hours. Carmichael.

Broadcast Communication

- J 432. **Radio-Television News II.** (G) 3 hours.
- BC 433. **Theory of Mass Communication.** (G) 4 hours. Mertz.
- BC 444. **Radio-Television Production.** (G) 3 hours. Shepherd.
- BC 445. **Radio-Television Direction.** (G) 3 hours. Shepherd.
- BC 446. **Radio-Television Programming.** (G) 3 hours. Starlin, Sherriffs.
- BC 448. **Radio and Television and the Public.** (G) 3 hours. Kretsinger, Shepherd, Starlin.

* No-grade course.

- BC 449. **Government Regulation of Broadcasting in the United States.** (G) 3 hours. Sherriffs.
- BC 470. **Methods of Instruction by Television.** (G) 4 hours. Carroll.
- J 485. **Law of the Press.** (G) 3 hours.
- *BC 501. **Research.** Hours to be arranged.
- *BC 503. **Thesis.** Hours to be arranged.
- BC 505. **Reading and Conference.** Hours to be arranged.
- BC 507. **Seminar.** Hours to be arranged.
Introduction to Graduate Study. Problems of Education by Television. Mass Media and Special Audiences. Research in Broadcasting. Design of Experimental Equipment. Alternate Broadcast Systems.
- BC 509. **Practicum.** 1 hour.
- J 512. **Communication Research Methods.** 3 hours.
- J 520. **Public Relations Planning and Administration.** 3 hours.
- BC 541. **Theory and Criticism of Broadcasting.** 3 hours. Starlin.
- BC 544. **Radio-Television Program Evaluation.** 3 hours. Kretsinger, Mertz.

Speech Pathology and Audiology

- SPA 409. **Clinical Practicum.** (G) Hours to be arranged.
- SPA 472. **Advanced Speech Science.** (G) 3 hours. Wood.
- SPA 473. **Visual Language and Lip Reading.** (G) 3 hours. Christensen.
- SPA 474. **Methods in Public School Speech Therapy.** (G) 3 hours. Hervey.
- SPA 481. **Functional Speech Disorders.** (G) 3 hours. Hervey.
- SPA 482. **Organic Speech and Language Disorders.** (G) 3 hours. Christensen.
- SPA 483. **Speech Therapy Procedures.** (G) 3 hours. Hervey.
- SPA 487. **Fundamentals of Audiology.** (G) 3 hours. Christensen.
- SPA 488. **Audiological Assessment.** (G) 3 hours. Christensen.
- SPA 489. **Audiological Rehabilitation.** (G) 3 hours. Christensen.
- SPA 490. **Lip Reading for the Deaf and Hard-of-Hearing.** (G) 3 hours (extension).
- SPA 491. **Advanced Language Development for the Deaf.** (G) 3 hours (extension).
- SPA 492. **Voice and Speech for the Deaf.** (G) 3 hours (extension).
- *SPA 501. **Research.** Hours to be arranged.
- *SPA 503. **Thesis.** Hours to be arranged.
- SPA 505. **Reading and Conference.** Hours to be arranged.
- SPA 507. **Seminar.** Hours to be arranged.
- SPA 509. **Practicum.** Hours to be arranged.
- SPA 570. **Psychology of Speech.** 3 hours. Wood.
- SPA 571. **Auditory Disorders.** 3 hours. Christensen, Ediger.
- SPA 572. **Disorders of Articulation.** 3 hours. Hervey.
- SPA 573. **Speech and Language Development.** 3 hours. Wood.
- SPA 574. **Adult Aphasia.** 3 hours. Wood.

* No-grade course.

- SPA 575. **Stuttering.** 3 hours. Wood.
 SPA 576. **Voice Disorders.** 3 hours. Christensen.
 SPA 577. **Cleft Palate and Speech.** 3 hours. Hervey.
 SPA 578. **Diagnostic Procedures in Speech Pathology.** 3 hours. Wood.

Theater

- Eng 411, 412, 413. **English Drama.** (G) 3 hours each term.
 Eng 420, 421, 422. **Modern Drama.** (G) 3 hours each term.
 Th 460. **Advanced Play Direction.** (G) 3 hours. Cutler, DeChaine.
 Th 461. **Introduction to Scene Design.** (G) 3 hours. Ellingwood.
 Th 462. **Advanced Technical Practice in Staging.** (G) 3 hours. Ellingwood.
 Th 467. **Lighting for the Stage.** (G) 3 hours. Ellingwood.
 *Th 501. **Research.** Hours to be arranged.
 *Th 503. **Thesis.** Hours to be arranged.
 Th 505. **Reading and Conference.** Hours to be arranged.
 Th 507. **Seminar.** Hours to be arranged.
Introduction to Graduate Study. Interpretation. Cinematography. Theater Structure. Theater Management. Producing the New Play. Advanced Technical Practice. Classical Theater. Advanced Acting. Twentieth-Century Scenic Aesthetics.
 Th 509. **Practicum.** Hours to be arranged.
 Th 520. **History of the American Theater.** 3 hours. Cutler.
 Th 530. **Continental Theater.** 3 hours. Cutler.
 Th 531. **Avant-Garde Theater.** 3 hours. Cutler.
 Th 532. **Theater of Ibsen.** 3 hours. DeChaine.
 Th 533. **Theater of Strindberg.** 3 hours. DeChaine.
 Th 551, 552, 553. **Theory of Dramatic Production.** 3 hours each term. Cutler, Robinson.
 Th 562. **Styles in Scene Design.** 3 hours. Ellingwood.
 Th 563. **Advanced Problems of Scene Design.** 3 hours. Ellingwood.
 Th 564, 565. **History of the Theater.** 5 hours each term.
 Th 568. **Advanced Stage Lighting.** 3 hours. Ellingwood.

* No-grade course.

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

PETER H. VON HIPPEL, Ph.D., Director of Institute of Molecular Biology; Professor of Chemistry.

SIDNEY A. BERNHARD, Ph.D., Professor of Chemistry.

O. HAYES GRIFFITH, Ph.D., Associate Professor of Chemistry.

BRIAN W. MATTHEWS, Ph.D., Associate Professor of Physics.

JOHN R. MENNINGER, Ph.D., Assistant Professor of Biology.

AARON NOVICK, Ph.D., 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., Professor of Chemistry.

JOHN A. SCHELLMAN, Ph.D., Professor of Chemistry.

WILLIAM R. SISTROM, Ph.D., Professor of Biology.

RAYMOND G. WOLFE, Ph.D., Professor of Chemistry.

The Institute of Molecular Biology offers the facilities, support, and research guidance necessary for investigations of biological problems at the molecular level. The approach is interdisciplinary, with the techniques of biology, chemistry, and physics all being brought to bear as appropriate. Problems under active investigation include: spectroscopic studies of compounds of biological interest, determinations of the three-dimensional atomic structures of proteins and nucleic acids, the role of solvent in determining macromolecular structure and stability, mechanisms of enzyme catalysis, membrane structure and function, protein-nucleic acid interactions, mechanisms and regulation of protein and nucleic acid synthesis, the molecular basis of mutation and recombination, and the molecular basis of genetic expression.

Staff members hold joint appointments in the science departments at the University. Research scientists are encouraged to visit the institute for varying periods. Graduate awards are given by the institute and fellowships from the National Institutes of Health are administered under the program.

Institute of Theoretical Science

MICHAEL J. MORAVCSIK, Ph.D., Director of Institute of Theoretical Science; Professor of Physics.

RICHARD B. BARRAR, Ph.D., Professor of Mathematics.

PAUL L. CSONKA, Ph.D., Assistant Professor of Physics.

ROBERT S. FREEMAN, Ph.D., Associate Professor of Mathematics.

MARVIN D. GIRARDEAU, Ph.D., Professor of Physics.

AMIT GOSWAMI, Ph.D., Associate Professor of Physics.

GERALD D. MAHAN, Ph.D., Associate Professor of Physics.

ROBERT M. MAZO, Ph.D., Professor of Chemistry.

MICHAEL R. PHILPOTT, Ph.D., Assistant Professor of Chemistry.

WILLIAM T. SIMPSON, Ph.D., Professor of Chemistry.

ROBERT L. ZIMMERMAN, Ph.D., Assistant Professor of Physics.

ASSOCIATES

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 interdisciplinary research in overlapping areas of theoretical physics, theoretical chemistry, and mathematics.

Current research is centered in the areas of statistical mechanics, chemical physics, theory of solids and liquids, nuclear theory, elementary particle theory, and applied and applicable mathematics.

Graduate students with adequate preparation in one of the science departments may elect thesis research in the institute. The institute also sponsors postdoctoral research associateships and visiting professorships.

Computing Center

GEORGE W. STRUBLE, Ph.D., Director of Computing Center; Associate Professor of Computer Science.

EDWARD L. LENCH, M.B.A., Assistant Director, Computing Center.

RICHARD W. HALLER, Ph.D., Research Associate; Assistant Professor of Psychology.

GORDON P. ASHBY, M.B.A., Computer Systems Programming Supervisor; Instructor in Computer Science.

ROBERT L. HEILMAN, M.A., Computer Systems Programmer; Instructor in Computer Science.

TERRY L. LIITTSCHWAGER, Research Assistant.

NORMAN L. BECK, B.A., Computer Systems Programmer.

WENDELL T. BEYER, Ph.D., Research Associate; Assistant Professor of Computer Science.

KATHLEEN BEYER, M.A., Research Assistant.

FRED BEISSE, Research Assistant; Instructor in Computer Science.

The Computing Center provides computing facilities for the University, serving instructional, research, and administrative needs. Facilities include an IBM System 360/50H and a PDP-10/50 computer, with peripheral data-processing equipment. A documents room includes a library of manuals and documentation on programs and equipment. Applied programming and card punching services are available, and the staff provides consulting assistance and tutorials on elementary and advanced topics concerning the use of computers.

Institute of International Studies and Overseas Administration

JOHN F. GANCE, M.A., Director of Institute of International Studies and Overseas Administration; Professor of Political Science.

CLARENCE E. THURBER, Ph.D., Deputy Director of Institute of International Studies and Overseas Administration; Professor of International and Public Affairs.

GENE E. MARTIN, Ph.D., Associate Director, Institute of International Studies and Overseas Administration; Associate Professor of Geography.

GORDON E. RECKORD, Research Associate, Institute of International Studies and Overseas Administration; Visiting Professor of Geography.

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 fellowships are available in the institute; research and research training bases have been established in many 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 and special consultants. In addition to its campus programs, the institute arranges, for advanced students, opportunities for overseas study and for administrative experience on foreign projects.

The institute supports the program of the Oregon High School International Relations League.

Institute for Community Studies

ROLAND J. PELLEGRIN, Ph.D., Director of Institute for Community Studies; Professor of Sociology.

MAX G. ABBOTT, Ph.D., Director, Center for the Advanced Study of Educational Administration; Professor of Education.

WALTER T. MARTIN, Ph.D., Director, Center for Ecological Studies; Professor of Sociology.

PHILLIP K. PIELKE, Ph.D., Director, Educational Resources Information Center; Associate Professor of Education.

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 Center Program of the United States Office of Education. The program of the center is concerned with the organizational and administrative implications of the instructional changes in elementary and secondary schools.

Under contract with the United States Office of Education the institute has operated a unit of the Educational Resources Information Center since 1966. This unit, the ERIC Clearinghouse on Educational Administration, receives, processes, stores, and analyzes documents in the field of educational administration and distributes them to nationwide audiences.

The Center for Ecological Studies was established in 1967 in order to conduct research on ecological and demographic factors in social organization.

As divisions of the institute, centers draw upon the services of staff members and graduate students in the behavioral sciences and in the field of education.

Bureau of Business and Economic Research

DONALD A. WATSON, Ph.D., Director of Bureau of Business and Economic Research; Professor of Business Economics.

JEANETTE F. LUND, M.A., 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 *Oregon Business Review* monthly, the *Oregon Economic Statistics* annually, and occasional monographs reporting the results of business and economic research.

Institute of Industrial and Labor Relations

EATON H. CONANT, Ph.D., Director of Institute of Industrial and Labor Relations ;
Associate Professor of Management.

PAUL L. KLEINSORGE, Ph.D., Professor of Economics.

JAMES L. KOCH, M.B.A., Assistant Professor of Management.

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 supervises an interdisciplinary program of graduate study leading to the Master of Arts or Master of Science degree. The institute's research program includes studies in manpower resources, labor mobility, wage structures, personnel problems, management and labor organizations, labor legislation, and collective bargaining. The approach is interdisciplinary, involving the cooperative efforts of scholars in the several social sciences and related professional schools.

The institute also sponsors programs in labor education and management, including regular campus courses, special seminars, and conferences, and provides an information service on problems of industrial relations.

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March 28, *Wednesday*..... Last day to pay fees without penalty
April 6, *Friday*..... Last day to register
April 13, *Friday*..... Last day to file degree application
June 10, *Sunday*..... Spring-term Commencement
June 8, *Friday*..... Spring term ends

Summer Session 1973

June 18, *Monday*..... Registration
June 19, *Tuesday*..... Classes begin
June 20, *Wednesday*..... Last day to pay fees without penalty
June 29, *Friday*..... Last day to register
July 4, *Wednesday*..... Independence Day holiday
July 6, *Friday*..... Last day to file degree application
August 11, *Saturday*..... Summer Session Commencement
August 31, *Friday*..... Summer Session eleven-week ends

Fall Term 1973

September 20-21, *Thursday-Friday*..... Registration
September 24, *Monday*..... Classes begin

