

WESTERN WASHINGTON UNIVERSITY BULLETIN

general
catalog
1987-88



NOTICE TO READERS

Every effort has been made to provide accurate information in this catalog. Policies and information contained herein, however, may have changed subsequent to the time of publication. Readers are therefore advised to consult with the appropriate University department or office for any possible revisions.



WESTERN WASHINGTON UNIVERSITY BULLETIN
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Anthropology; Biology; Chemistry; Computer Science; English; Foreign Languages and Literatures; Geography and Regional Planning; Geology; History; Home Economics; Journalism; Liberal Studies; Mathematics; Nursing; Philosophy; Physical Education, Health and Recreation; Physics and Astronomy; Political Science; Psychology; Sociology; Speech and Broadcast; Speech Pathology and Audiology; Technology; Interdisciplinary. | | |

Western Washington University emphasizes excellence in undergraduate education. The University is large enough to offer a wide range of high quality programs and small enough to focus its resources on individual students. Faculty, students, and staff work closely together in a superb setting to pursue a university education and build career skills on the sound foundation of the arts, humanities, sciences and professional studies.

The pages which follow suggest the extraordinary opportunities available to a Western student: facilities such as the Wilson Library, the marine laboratory, the computer center, the Fine and Performing Arts Center; distinguished programs as wide ranging as vehicle technology, music, environmental studies, journalism, business and education; art and architecture created by such as Noguchi, Caro, Bassetti and Klein. The University occupies a forested hill above Bellingham Bay and the city with views of the San Juan Islands, Mt. Baker, and the Canadian and Cascade mountain ranges.

The campus is a stunning blend of art and nature. It has been called "magic." Its visual power signals the power of the educational opportunity offered to Western students. An accomplished faculty makes undergraduate education its primary mission. Western students inherit the great tradition of the arts and sciences, fostering values such as clarity of thought and expression, informed judgment, aesthetic sensibility, tolerance for ambiguity, a sensitivity to cultural differences, and a sense of historical continuity. Upon these values Western students build for the future, choosing from a wide range of professional programs which foster the knowledge and skills demanded by today's careers.

Western Washington University reflects the high aspirations of Washington citizens for educational excellence. For students, faculty and staff Western thus embodies an opportunity and a challenge.



The University

Western Washington University is located in Bellingham, a city of 46,000 in the northwestern corner of the state near the Canadian border. Its historical antecedent was the New Whatcom State Normal School, established by the legislature in 1893, which offered its first courses in the fall of 1899. From a normal school the institution evolved into a degree-granting institution in 1933, college of education in 1937, state college in 1961, and a university in 1977.

ACADEMIC PROGRAMS AND DEGREES

Western Washington University is organized into a Graduate School, a School of Education and five undergraduate colleges: College of Arts and Sciences, College of Business and Economics, College of Fine and Performing Arts, Fairhaven College, and Huxley College of Environmental Studies.

To fulfill its academic objectives, Western's curriculum includes a program of broad general education; intensive studies designed to develop scholarly competence in the arts and sciences; professional programs for both public school personnel and a variety of other professionals; and graduate programs in professional education, the arts and the sciences.

Western's undergraduate and graduate programs lead to the following degrees:

- Bachelor of Arts
- Bachelor of Arts in Education
- Bachelor of Fine Arts
- Bachelor of Music
- Bachelor of Science
- Bachelor of Science in Nursing
- Master of Arts
- Master of Business Administration
- Master of Education
- Master of Music
- Master of Science

ACCREDITATION

The University is accredited by both the Northwest Association of Schools and Colleges and the National Council for the Accreditation of Teacher Education to offer work at the bachelor's and master's degree levels. The University holds membership in the Council of Graduate Schools in the United States.

RESEARCH

At Western, faculty research and the training of students in scientific and scholarly methods and techniques have received considerable impetus through foundation and government grants. Awards have been made by a wide range of agencies and foundations, including the National Institutes of Health, National Endowment for the Arts, National Science Foundation, Department of Education, Environmental Protection Agency, ARCO Foundation, Shell Foundation, National Oceanic and Atmospheric Administration, Canadian Embassy, Readers' Digest, Northwest Area Foundation, Northwest Air Pollution Authority, National Park Service, and agencies of the State of Washington and the federal government.

The Bureau for Faculty Research was established to encourage and coordinate faculty research and creative scholarly endeavor throughout the University. The bureau assists the faculty in obtaining funds for development and research, and provides manuscript typing and other services.

ACADEMIC FACILITIES

The main campus and its 73 buildings occupy 190 acres along Sehome Hill

overlooking Bellingham Bay and downtown Bellingham. Other University properties, such as the marine laboratory at Shannon Point near Anacortes, support regional educational and conservancy programs.

The University has on-campus residence halls and student apartments for 3,600 students.

The beautiful natural setting of the main campus and its award-winning architecture make Western Washington University a stimulating place for work and study.

The Libraries

The Mabel Zoe Wilson Library houses 500,000 volumes of books and periodicals, 1,000,000 units of microforms, and large collections of curriculum materials, pamphlets and publications of the United States, Washington State and Canadian governments. The Library maintains subscriptions to more than 4,000 current periodicals and newspapers.

Wilson Library provides open stacks for its collections, together with reading and study areas, carrels and seminar rooms. The Music Library in the Performing Arts Center includes an extensive collection of scores, recordings and books about music. The libraries offer reference service, instruction in library use, on-line information retrieval and interlibrary loan service.



Computing Facilities

The primary instructional computer facilities of the Computer Center are a Digital Equipment Corporation VAX 8650 for interactive timesharing, an IBM 4341 batch system, and approximately 200 microcomputers in public clusters. The Computer Center also operates a smaller VAX 11/750 for instructional UNIX timesharing and four timesharing computers for administrative data processing. The combined main memory in the several central computers is 48 million characters and the on-line data storage totals over 10 billion characters. The central computer facility supports more than 250 instructional timesharing terminals in clusters of up to 60, plus approximately 150 administrative terminals. There are approximately 650 mini- and microcomputers altogether in departments and in clusters. Most microcomputers are either Apple, CP/M or IBM-compatible.

There is no charge to students for most computer services.

Shannon Point Marine Center

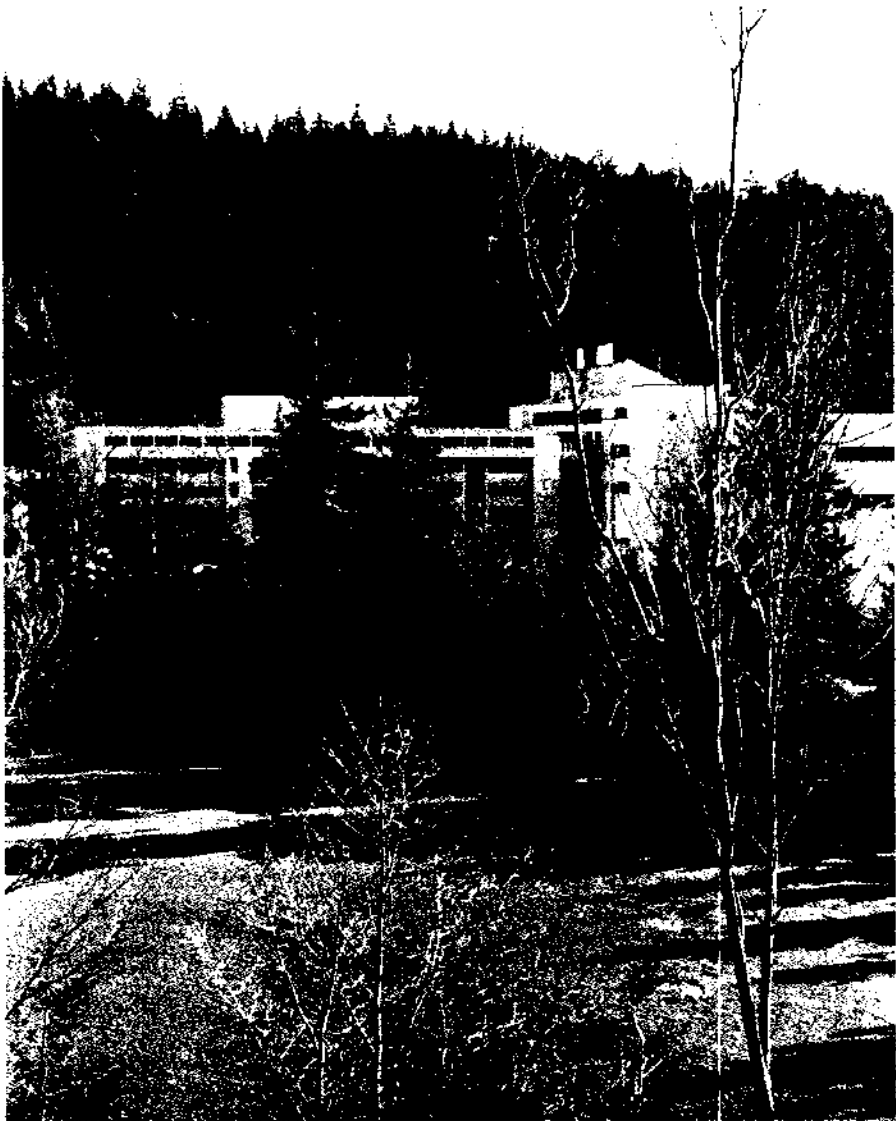
Located adjacent to the Washington State Ferry terminal at Anacortes, the Shannon Point Marine Center provides opportunities for undergraduate and graduate students to study marine and estuarine environments and for faculty to conduct research. The facility includes laboratories, a lecture room, research spaces, 50 seawater tanks, boats and scientific equipment. The Marine Center includes more than half a mile of beach on Guemes Channel, 71 wooded acres and a small fresh water pond. There are housing and dining facilities for 20 persons.

The Shannon Point Marine Center of Western Washington University provides a marine outlet for the Shannon Point Marine Center Consortium of Western, and Eastern Washington Universities, Skagit Valley College, and Everett and Edmonds community colleges.

*Institute for Watershed
Studies (IWS)*

A research and service unit called the Institute for Watershed Studies is located in Environmental Studies Building 604. IWS conducts and promotes research on watersheds and stream and lake systems, provides analytical services to students and faculty engaged in the study of watersheds, and coordinates activi-

ties having to do with these resources. Analytical service and instrumentation is available to students and faculty for research and instructional purposes. Recent research activities of the Institute have centered on the chemistry of North Cascade lakes, watershed management, lake monitoring and acidic deposition. For information about the program, contact the director, Dr. David F. Brakke, (206) 676-3510.



**1987-88
ACADEMIC YEAR**

Fall Quarter 1987

September 21-23
Registration
September 24 (Thursday), 8:00 a.m.
Classes begin
November 25, Noon -- November 30,
8:00 a.m.
Thanksgiving Recess
December 7-11
Final examination week

Winter Quarter 1988

January 4 (Monday)
Registration
January 5 (Tuesday) 8:00 a.m.
Classes begin
January 18 (Monday)
Martin Luther King, Jr., Day
February 15 (Monday)
Presidents' Day Holiday
March 14-18
Final examination week

Spring Quarter 1988

March 28 (Monday)
Registration
March 29 (Tuesday) 8:00 a.m.
Classes begin
May 30 (Monday)
Memorial Day Holiday
June 6-10
Final examination week
June 11 (Saturday)
Commencement

Summer Quarter 1988

June 20 — July 29
Six-Week Session
June 20 — August 19
Nine-Week Session
June 20 (Monday)
Registration
June 21 (Tuesday)
Classes begin
July 4 (Monday)
Independence Day Holiday
August 19 (Friday)
Commencement

**1988-89
ACADEMIC YEAR**

Fall Quarter 1988

September 19-21
Registration
September 22 (Thursday), 8:00 a.m.
Classes begin
November 23, Noon — November 28,
8:00 a.m.
Thanksgiving recess
December 5-9
Final examination week

Winter Quarter 1989

January 3 (Tuesday)
Registration
January 4 (Wednesday), 8:00 a.m.
Classes begin
January 16 (Monday)
Martin Luther King, Jr., Day
February 20 (Monday)
President's Day Holiday
March 13-17
Final examination week

Spring Quarter 1989

March 27 (Monday)
Registration
March 28 (Tuesday), 8:00 a.m.
Classes begin
May 29 (Monday)
Memorial Day Holiday
June 5-9
Final examination week
June 10 (Saturday)
Commencement

Summer Quarter 1989

June 19 — July 30
Six-Week Session
June 19 — August 18
Nine-Week Session
June 19 (Monday)
Registration
June 20 (Tuesday)
Classes begin
July 4 (Tuesday)
Independence Day Holiday
August 18 (Friday)
Commencement

1987

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**1988
SEPTEMBER**

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Undergraduate Admission

GENERAL POLICY

Western Washington University makes every effort to provide educational opportunities to all qualified applicants. Candidates are accepted on the basis of criteria described below as applications are received. Should enrollment capacity be approached at any time before the closing dates for application, the University may defer an admissions decision or select the most highly qualified candidates from among remaining applicants.

Admission standards are stated below in terms of the traditional A-F grading system. Applicants whose records include either a high proportion of non-traditional grades, or a subject pattern which departs markedly from that normally associated with university study, may be asked to submit additional evidence in support of their applications (i.e., entrance examinations, interviews and letters of recommendation). Individuals may seek exceptions to any of the requirements below by petitioning the Admissions Committee.

APPLICATION PROCEDURES

The Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington and an application fee of \$25 are required of freshman and transfer candidates. The application may be obtained from any Washington high school or college, or from the Office of Admissions at Western, Old Main 200. The application fee is not required of former Western students, who may obtain an Application for Registration as a returning student from the Office of Admissions.

Admission to Western's Colleges and Schools

Admission to the University does not imply admission to a particular academic program or enrollment in specific courses. Certain programs or courses having limited space may have supplemental admission requirements or waiting lists. Applicants are asked to designate clearly their intended major area of study on the application form. Formal declaration of major occurs after enrollment. (See appropriate catalog sections under academic departments and Western's Schools and Colleges for further details regarding special admission criteria, etc.)

Application Closing Dates

To ensure consideration, applications must be received in the Office of Admissions by the following closing dates:

- Fall Quarter, September 1
- Winter Quarter, December 1
- Spring Quarter, March 1
- Summer Quarter, June 1

Applicants are encouraged to apply well in advance, since enrollment capacity may be reached before these closing dates.

Required Transcripts

It is the responsibility of each applicant for admission or re-enrollment to request official transcripts from each school or collegiate institution previously attended. (Transfer students who have earned 40 or more transferable quarter credits need not ordinarily submit a high school transcript.) To be considered official, these transcripts must be sent directly from the registrar's office of the previous school to the Office of Admissions at Western. All such documents must be received by the above closing dates to ensure consideration.

Accepting the Offer of Admission

Each admitted student must confirm his or her intention to enroll by submitting a \$50 non-refundable, non-transferable payment on tuition and fees. This payment should not be made until requested by the University when the student is notified of his or her admission.

Required Tests

Freshman applicants who are graduates of Washington high schools must submit Washington Pre-College Test scores upon their admission, or complete this test during on-campus orientation. Graduates of high schools from other states must submit College Board Scholastic Aptitude Test scores or American College Test scores before an admissions determination can be made. The Washington Pre-College Test is not required for graduates of high schools from other states.

Transfer applicants are not normally required to submit test scores.

Note: Most entering students are required to complete a mathematics placement test before enrolling in a mathematics course.

Required Health History

Entering students are required to submit a personal medical history. Forms for that purpose are forwarded to each new student who accepts an offer of admission.

FRESHMAN REQUIREMENTS

Western Washington University offers admission to individuals who give evidence of adequate preparation for success in university studies. An assessment of an applicant's eligibility for admission is based on the following criteria:

Grade Point Average

Graduation from an accredited high school with a cumulative grade average of at least 2.50 based on a traditional "A" through "F" grading system, or a ranking in the upper half of the graduating class. Applicants whose records include a high proportion of non-traditional grades will be asked to submit additional evidence in support of their applications (e.g., written teacher evaluations, standardized test scores, letters of recommendation).

Pre-University High School Program

The following high school courses are *required* for admission.

English: Four years, selected from college preparatory composition and literature courses. Students should be able to read and to write analytically and critically, seeing relationships between form and content. They should be able to gather information from primary and secondary sources; to write a report in correct standard written English using this research; to quote, paraphrase and summarize accurately; and to cite sources properly.

Mathematics: Three years of college preparatory math, including two years of algebra (third year may be computer science). Students should understand the language, notation and deductive nature of mathematics and be able to express quantitative ideas with precision. They should be skilled in solving equations and inequalities, and simplifying algebraic expressions.

Science: Two years, including one year of chemistry or physics. Students should know enough about laboratory and field work to ask appropriate scientific questions and to recognize experimental approaches to the solution of such questions. They should understand in some depth scientific concepts (such as cell theory, geologic and organic evolution, atomic structure,

Undergraduate Admissions

chemical bonding and transformations of energy).

Social Studies: Three years (e.g., history, contemporary world problems, economics, psychology, sociology and geography). Students should have a basic factual knowledge of major political and economic institutions within their historical context as well as an introductory knowledge of the content and concepts of the social sciences.

Foreign Language: Two years in a single foreign language. Students should be able to read and understand information presented in a simple paragraph, be able to engage in a simple conversation and be able to write a short paragraph on a familiar topic.

Recommended Electives

The required core of courses listed above represents a minimal college preparatory program for admission to Western Washington University. To broaden their academic preparation and enhance their probability for success at the University level, prospective Western students are advised to select additional college preparatory electives from the following subject areas: art, computer science, debate, drama, English, foreign language, history, journalism, mathematics, music, science, speech.

Admissions Policy

Western's admissions policy permits the individual consideration of freshman applicants based on their high school academic record. While the cumulative high school grade average is the best single predictor of college grades, the Admissions Committee also considers factors such as the academic nature of high school subjects completed, most recent performance in academic courses, standardized test scores and recommendations from those acquainted with the applicant's academic potential and motivation.

Students who are unable to satisfy the minimum requirements described above may seek special consideration from the Admissions Committee. An interview may be required.

Enrollment pressures may require that a higher minimum grade average be used in a given year. If the grade average is based on a high school subject pattern which departs markedly from the pre-university program described above, test scores may also be considered.

Graduates of high schools in other states are ordinarily admitted if they meet the minimum standards for resident students, provided they also submit satisfactory scores on either the Scholastic Aptitude Test of the College Board or the American College Test. Results of these tests should be sent to the Admissions Office by the College Board or ACT.

Provisional admission may be granted to a limited number of students. Students admitted under this program may be required to take a specific sequence of courses in their first year at the University and to participate in one or more of the developmental learning programs provided for students who demonstrate a need for the development of academic skills.

The University may consider applications from individuals 18 years of age and older who are not enrolled in high school and who have not earned a high school diploma. Admission will be considered on an individual basis, and arrangements for tests and an interview may be made through the Admissions Office.

TRANSFER STUDENT REQUIREMENTS

Transfer applicants whose high school records meet the freshman criteria listed above, who have completed the last term prior to transfer with a grade point average of 2.00 or

above, and whose overall academic record indicates satisfactory academic progress, are ordinarily admitted if they have attained a cumulative grade point average of 2.00 (C) in college-level study. (Enrollment pressures may require that a higher minimum grade average be used.) Students whose high school records do not satisfy freshman requirements may be considered for admission after earning at least 40 transferable quarter credits with at least a 2.00 grade average. (One semester credit equals one and one-half quarter credits.) The grade average used for determining admission is calculated by counting grades earned in all courses transferable to Western. Exceptions to these standards may be made when evidence (test scores, maturity, etc.) indicates that previous grades alone are inaccurate predictors of a student's chances for success at Western.

TRANSFER POLICIES AND PROCEDURES

Western Washington University endorses the *Policy on Inter-College Transfer and Articulation among Washington Public Colleges and Universities* published by the Council for Postsecondary Education in December, 1984. Copies of this document are available through all public postsecondary institutions in the State of Washington and in the Office of Admissions at Western. Detailed transfer information is listed in the *Transfer Advisers Handbook*, published annually by the Office of Admissions and distributed to public colleges and universities in the State of Washington. Transfer students encountering difficulties are encouraged to contact the designated transfer officer in the Office of Admissions.

Transfer of Credit

In general, Western Washington University routinely grants credit for baccalaureate oriented courses

completed at accredited institutions of higher education. Transfer of credit policies are developed by the Committee on Admissions and Inter-College Relations. Authority to administer these policies is delegated to the Registrar, the Director of Admissions, and where applicability of transfer credit to a major or minor is concerned, to department chairpersons.

Several factors govern the acceptance of transfer credit. Chief among them is accreditation. For transfer purposes Western recognizes as accredited only those institutions which have received accreditation by the Regional Associations of Schools and Colleges.

The total number of credits which may be transferred from another institution may not exceed the level of accreditation granted to that institution. For example, the maximum credit transferable from two-year institutions is 90 quarter credits; that is, one half the number required for a baccalaureate degree at Western.

Regardless of the number of transfer credits awarded, the student must earn at least 45 resident credit hours through Western for graduation. (Note: Although the total transfer credit granted from two-year institutions is limited to 90, coursework that exceeds that number will be considered for its appropriateness in satisfying General University Requirements or particular subject area requirements at Western.)

Certain credits earned at previous institutions may not transfer regardless of that institution's accreditation. For example, technical and vocational courses in two-year institutions, sectarian religious courses, and credit for experiential learning, military service, or the general examinations of the College Level Examination Program (CLEP) do not generally transfer to Western. Up to 30 credits may be granted for appropriate military schooling, according to recommendations contained in "A Guide to the Evaluation of Educa-

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tional Experiences in the Armed Services." Subject examinations of CLEP may be reviewed by specific academic departments for credit.

Exceptions to the transfer of credit policies described above may be made only upon petition to the Admissions Committee. Such petitions are to be filed with the Director

of Admissions after enrollment.

Transfer of Associate of Arts Degrees

Transfer students who complete the appropriate two-year degree at a Washington community college **prior** to enrollment at Western will ordinarily satisfy all of Western's General



University Requirements upon enrollment. To be accepted in lieu of Western's General University Requirements, the AA degree must include at least 90 credits, 75 of which must be directly transferable to Western. Transferable courses are listed in the WWU Transfer Advisers' Handbook. Since the community colleges offer several degree programs, students should consult advisers for more complete information.

READMISSION OF FORMER STUDENTS

Former Western students who have interrupted their studies for one or more quarters (except summer) must file an Application for Registration available from the Office of Admissions. Students who are academically eligible to reenroll and who submit this form at least two weeks before advance registration may advance register. Those whose applications are received after advance registration but before closing dates may register one day before the beginning of classes.

SPECIAL STUDENTS, AUDITORS, AND OLDER RETURNING STUDENTS

The University welcomes mature students whose occupations preclude full-time attendance. Such students may be authorized to enroll with non-matriculated (non-degree) status or as formally admitted part-time or full-time students seeking a degree. Transcripts and test scores are not ordinarily required of non-matriculated students, although they are ordinarily expected to be able to satisfy regular admission requirements. Students who have not been enrolled in a school or college for four years prior to enrollment at Western are not ordinarily asked to submit test scores as part of the formal admission process.

Permission to enroll as a special stu-

dent or auditor is granted for one term at a time on a space available basis and implies no commitment on the part of the University regarding later admission to a degree program.

INTERNATIONAL STUDENTS

Western welcomes qualified students from countries around the world. Because of limited support services for international students, however, admission is generally restricted to those most highly qualified for academic study at Western. Such students must have completed the University preparatory program in their own countries, give evidence of ability to succeed in university study at Western, and demonstrate competence in the use of the English language. In addition to the above, students transferring from U.S. colleges or universities must also give evidence of strong academic achievement in the United States.

The Test of English as a Foreign Language (TOEFL) is ordinarily required of candidates from other countries in which English is not the language in general use. Transfer students may also establish proficiency through completion of transferable English composition courses.

International students must also be able to pay the cost of each year they plan to study at the University. Letters from sponsors, family members, or banking officials are required to demonstrate sufficient finances, since the University has very limited financial assistance for foreign students.

Because of the wide variety of educational systems throughout the world, there are no standard admission requirements for international students. Applications are reviewed on an individual basis, and admission is determined after an evaluation of all credentials associated with the student's academic qualifications for university study.

Registration

Old Main 230, (206) 676-3430

Registration for fall quarter takes place at the beginning of the term. For winter and spring quarters, there is a period of "advance registration" for continuing students, while new students register on the first day of the quarter.

A special orientation and registration program for new freshmen is conducted during the summer preceding fall quarter. Each freshman student who has accepted an offer of admission will be sent complete information about this program.



REGISTRATION AT START OF QUARTER

Registration takes place during the first three days of the fall quarter and on the first day of other quarters. (See the calendar at the front of this General Catalog.) On registration day new students and continuing students who did not advance register sign up for their courses and pay their fees. Before registration, each new

student should have received additional information and instructions, including a date for his or her academic advisement and program planning conference.

ADVANCE REGISTRATION FOR WINTER AND SPRING QUARTERS

At mid-term during the fall and winter quarters, students at Western are given an opportunity to advance register for their next quarter's courses. This opportunity enables current students to select their courses early and provides Western's faculty and the Registrar's Office with information important to planning.

Each student who advance registers receives a bill for fees, together with payment instructions. Because advance registration reserves a student's place in a course, payment must be made by the specified date prior to the beginning of the next quarter's courses or the student's registration is cancelled.

LATE REGISTRATION

Late registration is permitted only in exceptional cases. After the first five days of instruction in any quarter, a student may register for and enter a course only (a) by obtaining written permission from the course instructor, the department chairperson and the Registrar, and (b) by paying the late registration fee.

CHANGES IN REGISTRATION

Policies concerning changes in registration, such as withdrawal from a course or from the University, are described in the section entitled "University Academic Policies."

Tuition and Fees

At Western the various expenses of a student who is single and a resident of the State of Washington are about \$2,056 each quarter.

Approximate Quarterly Expenses, 1987-88

Tuition and Fees	\$424
Room and Board	966
Books and Supplies	150
Personal Expenses	516

Below are actual costs of various expenses for several student categories and brief descriptions of the financial assistance available at Western through the Office of Student Financial Resources. (Room and board and financial aid at Western are discussed in later sections of this catalog.)

TUITION AND FEES

(Fees are subject to change as the result of action by the State Legislature or the Board of Trustees.)

Quarterly Tuition and Fees — Full-time Students

(Students registering for ten or more credits pay full fees.)

1987/88

Student Classification

	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	424
Non-Resident, General	1475
Resident ¹ , Graduate	
Degree	599
Non-Resident, Graduate	
Degree	1,787

For each credit taken in excess of 18 (19 or more), the following schedule is applicable:

Student Classification

	Quarterly Total
Resident ¹ , General	\$ 35
Non-Resident, General	140
Resident ¹ , Graduate	
Degree	53
Non-Resident, Graduate	
Degree	171

1988/89

Student Classification

	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	439
Non-Resident, General	1528
Resident ¹ , Graduate	
Degree	621
Non-Resident, Graduate	
Degree	1,851

For each credit taken in excess of 18 (19 or more), the following schedule is applicable:

¹Residency—Under Washington State Law a resident student is defined as:

1. A financially independent student who has had a domicile in the State of Washington for the period of one year immediately prior to the time of commencement of the first day of the quarter for which he/she has registered and has in fact established a bona fide domicile in this state primarily for purposes other than educational, or
2. A financially dependent student, if one or both of his or her parents or legal guardians have maintained a bona fide domicile in the State of Washington for at least one year immediately prior to commencement of the quarter for which the student has registered.

Further information regarding residency classification and statutory exemptions from the requirement to pay non-resident fees may be obtained from the Office of Admissions. Old Main 200. Individuals seeking a change in residency classification must obtain a residency questionnaire from the Office of Admissions, attach the required documentation, and submit it to the Office of Admissions before the beginning of the quarter for which a residency reclassification is requested. In the absence of a completed questionnaire and supporting documentation, an individual's residency classification will remain unchanged.

*For Washington residents only.

Tuition & Fees

Student Classification	Quarterly Total
Resident*, General	\$ 36
Non-Resident, General	145
Resident*, Graduate Degree	54
Non-Resident, Graduate Degree	177

Quarterly Tuition and Fees — Part-time Students

(Students enrolling for nine or fewer credits)

1987/88

For each credit (minimum charge to students is for two credits):

Southeast Asian Veteran*	\$ 15
Resident*, General	42
Non-Resident, General	148
Resident*, Graduate	60
Non-Resident, Graduate	179

1988/89

Southeast Asian Veteran*	\$ 15
Resident*, General	44
Non-Resident, General	153
Resident*, Graduate	62
Non-Resident, Graduate	185

Auditors

Full-time students (10 or more credits) may audit a course without an additional fee. Part-time students may audit courses by paying the auditor's fee of \$10 per credit.

Continuing Education

Fees for courses offered through University Extension vary in accordance with the nature of the course. The University Extension bulletin describes charges in detail.

DESCRIPTION OF TUITION AND FEES

1987-88

	Tuition	Service & Activities Fee	Operations Fee
Res. Gen.	\$25.50	\$73.50	\$325.00
Non-Res. Gen.	98.50	73.50	1303.00
Res. Grad.	25.50	73.50	500.00
Non-Res. Grad	98.50	73.50	1615.00
SE Asia Vet *	25.00	54.00	74.00

1988-89

	Tuition	Service & Activities Fee	Operations Fee
Res. Gen.	\$25.50	\$75.50	\$338.00
Non-Res. Gen	98.50	75.50	1354.00
Res. Grad	25.50	75.50	520.00
Non-Res. Grad	98.50	75.50	1677.00
SE Asia Vet. *	25.00	54.00	74.00

Tuition is used for the construction of academic facilities. It is not used for either Housing and Dining System buildings or support of the university's operating budget.

The Service and Activities Fee is used to amortize, in part, residence halls, dining halls, and student activities facilities; to provide the Associated Students administration; and to support student activities (theatre, forensics, musical activities, intramural and intercollegiate activities, etc.).

The Operations Fee, with the state's general fund appropriation, is used to support the instruction, library, student services, administration and maintenance functions of the University.

*For Washington residents only

MISCELLANEOUS SERVICE CHARGES

Health Services

A fee of \$9 per quarter is charged to each student who registers for 6 or more credits of on-campus courses.

Parking

(For parking and traffic regulations, see Appendix 1)

	Quarterly Total
On-campus parking	\$28
Peripheral parking	14
Motorcycle parking	7

Late Registration/Late Course Adds

A fee of \$10 is charged for deferring fee payment beyond the stated deadline.

A fee of \$10 is charged if a student registers after the fifth day of instruction in a quarter. A fee of \$5 is charged if a student adds a class after the fifth day of instruction. Either action requires written permission of the course instructor, department chairperson and Registrar.

Fees for Required Tests

Freshmen who have not submitted appropriate examination results will complete the Washington Pre-College Test at a fee of \$13.

Special Examination Charges

Course Challenge	\$25
	per course

Graduation Fees

Baccalaureate Degree	\$8
Master's Degree	5
Placement Service fee for student with prior degree who earns teaching certificate only	2
Provisional Teaching Certificate	20
Standard Teaching Certificate	20

(Fees for teaching certificates are set by the State of Washington and are in addition to the graduation fees.)

Transcripts

Requests should be submitted to the Registrar's Office one week in advance of need.

Transcript Fees

Unofficial Transcript	\$2
Official Transcript	3

Other Special Fees

In certain instances the University may charge special fees for services which normal budgets may not fund, such as music practice room rentals, purchase of special laboratory and studio supplies. These fees are listed in the timetable of classes.

REFUNDS OF FEES*

In ordinary circumstances, a student who withdraws before the sixth day of instruction in a quarter receives full refund of tuition and fees, except for the initial registration deposit required of new students.

A refund of one-half of tuition and fees is made to a student who withdraws on or after the sixth day of instruction, provided such withdrawal occurs within the first 30 calendar days following the first day of instruction. After the 30th day, no refunds are granted. Failure to officially withdraw from the University will obligate the student to pay one-half of tuition and fees.

Note: The first \$50 of tuition and fees paid by newly admitted students, whether paid as a separate deposit to accept an offer of admission or as a part of total fees at the beginning of a quarter, is non-refundable.

Change in Student Status

A student who has paid part-time fees and who adds courses bringing the total credits to 10 or more will pay the



balance between fees already paid and the full-time fee. A full-time student who drops courses so that the remaining total of credits is nine or fewer will receive a refund of (a) the difference between the full and part-time fees if the change is made before the sixth day of instruction, or (b) one-half the difference if the change is made from the sixth day of instruction through the thirtieth calendar day following the first day of instruction.

Financial Obligations

Admission to or registration with the

University, conferring of degrees and issuance of academic transcripts may be withheld for failure to meet financial obligations to the University. (WAC 516-60-006, filed 11/17/72.)

When a National Direct Student Loan has been disbursed to a student while attending the University, failure to appear for an exit interview before graduation or withdrawal constitutes failure to meet a financial obligation and transcripts may be withheld.

**See the University Extension bulletin and the Summer Session Catalog for the refund policy for University Extension and Subject-to-Enrollment courses*

Student Financial Resources

Old Main 240, (206) 676-3470

Western Washington University makes every effort to provide financial assistance to eligible applicants through loans, work, scholarships, grants or some combination of these student aid programs. It is expected that students will meet part of their needs through earnings from summer or school year employment, and that parents will contribute in proportion to their financial ability.

WHAT IS FINANCIAL AID

Financial aid is monetary assistance which is made available to help meet both direct and indirect educational costs. Direct educational costs include items such as tuition and fees, books and educational supplies. Indirect educational costs are those personal and living expenses incurred regardless of enrollment at an institution of higher education (room, board, laundry, entertainment, etc.)

There are four categories of financial aid programs.

Grants are gift aid and do not have to be repaid. They are awarded on the basis of financial need. Grants are normally available only to undergraduate students; however, some partial tuition and fee waivers are available to students in the master's degree programs. Additional information on individual grant programs can be found in the *Student Financial Planning Guide*, available from Student Financial Resources.

Scholarships usually are awarded on the basis of merit criteria but may have financial need criteria attached. WWU offers merit scholarships to entering freshmen, transfers and returning students in recognition of outstanding academic ability.

Entering students who are National Merit Finalists are guaranteed \$1,000 in scholarship funding. University departments and colleges also offer scholarship and partial tuition and fee waivers to student majors. In an effort to increase access to Western for under-represented minority students, the University recognizes exceptional minority students with a partial tuition and fee waiver. A list of scholarships, with brief descriptions of eligibility requirements, is included in the *Scholarship Prospectus* available from Student Financial Resources.

Educational Loans generally are subsidized by the federal government and carry an interest rate that varies (by program) from 5 to 12 percent. Payments may be deferred until after the student has left school in most programs. Western participates in the Carl Perkins National Direct Student Loan, the Guaranteed Student Loan (GSL), the Washington Math/Science Loan, the Parent's Loan to Undergraduate Students and the Supplemental Loan to Students. Additional information on individual student loan programs can be found in the *Student Financial Planning Guide*.

Student Employment involves employment opportunities both on campus and in the local community. Financial need may or may not be a prerequisite for employment, depending upon the employment program. Under College Work-Study, which is a form of financial assistance provided by federal and state governments, the employer pays a portion of the student employee's salary and the federal or state program picks up the balance. These

Financial Aid

types of incentives encourage employers to provide employment opportunities which otherwise might not be available to students. Additional information regarding student employment programs can be found in the *Student Financial Planning Guide*.

WHEN AND HOW TO APPLY FOR FINANCIAL AID

To be considered for financial aid, the following application materials must be submitted: WWU Aid Application, College Scholarship Service (CSS) Financial Aid Form (FAF) and Pell



Grant Student Aid Report (SAR).

To ensure priority consideration for available funds during 1987-88, all application materials must be received by Student Financial Resources not later than the 31st of March prior to the start of fall quarter. Applications received after the priority deadline will receive consideration on a funds-available basis. Students seeking consideration for financial aid for academic year 1988-89 should contact Student Financial Resources after January 1, 1988, to determine the priority deadline and application materials required.

Applicants for financial aid at WWU are considered for funding from a variety of federal, state and institutional aid programs. Applications are evaluated to determine each student's relative financial need, and awards are made with careful adherence to federal, state and institutional guidelines.

GENERAL ELIGIBILITY REQUIREMENTS FOR FINANCIAL AID

Students are eligible to be considered for financial assistance if they:

- Are a citizen or permanent resident of the United States.
- Demonstrate need* for financial aid, as determined by WWU and the College Scholarship Service.
- Are admitted to a degree or certificate program at Western Washington University.
- Do not owe a refund on a previous grant or are not in default on a previous educational loan received at any institution of higher education.
- Have registered with the Selective Service, if required to do so.
- Are enrolled for a minimum of 12 credit hours (quarterly) at the undergraduate level or 10 credit hours if in a master's degree pro-

gram, and are applying for financial aid as a full-time student.

- Are enrolled for a minimum of six credit hours (quarterly) at the undergraduate level or five credit hours if in a master's degree program, and are applying for financial aid as a half-time student.
- Maintain satisfactory academic progress. Please contact Student Financial Resources for information regarding WWU's policy for minimum satisfactory academic progress for financial aid.
- Have not already exhausted eligibility under the maximum time-frame component of the satisfactory academic progress policy.

SUMMER FINANCIAL AID

Applicants for financial aid during summer quarter 1988, must submit the same application materials required during the regular academic year. These are the WWU Financial Aid Application, College Scholarship Service Financial Aid Form (FAF) and Pell Grant Student Aid Report (SAR). In addition, a separate summer application is required. Financial assistance for summer quarter is limited to Pell Grant, Guaranteed Student Loans and Supplemental Loans. These programs are available only if the student applicant has not used his/her entire eligibility during the regular academic year. Summer applications will be available beginning March 1 with a deadline of May 1 immediately prior to the start of summer quarter.

Students wishing to be considered for financial assistance for summer quarter, 1989, should contact Student Financial Resources regarding

**Please refer to the Student Financial Planning Guide for an explanation regarding financial need, estimated cost of education at Western, student rights and responsibilities and a brief explanation of individual student aid programs.*

Financial Aid

application deadlines and materials required for completion of an application.

FOR SHORT-TERM CASH-FLOW PROBLEMS

The Department of Student Financial Resources can assist in solving short-term cash-flow problems through a series of short-term loan programs.

Western Signature Loan

Currently enrolled students may borrow up to \$100 for up to 30 days to solve minor cash-flow problems. Signature loans accrue interest at the rate of 6 percent and must be paid in full within 30 days.

Western Institutional Loan

Currently enrolled students may borrow up to \$500 for a maximum of 120 days. The Institutional Loan accrues interest at the rate of 6 percent and is payable in monthly installments or in a lump sum payment on the 120th day. Students are encouraged to repay Institutional Loans as soon as possible since these loans are made from a revolving fund.

Western Short-Term Loan

This loan is designed to assist students who have submitted Guaranteed Student Loan applications to a private lender and are waiting for the proceeds to be distributed. Students may borrow up to \$1,000 or the amount of the expected quarterly disbursement, whichever is lower, from the Short-Term Loan program. Interest accrues at 6 percent on the Short-Term Loan. The Short-Term Loan must be repaid on receipt of the Guaranteed Student Loan proceeds or within 120 days, whichever comes first.

Student Financial Resources reserves the right to refuse any of the short-term loan programs to students

with a history of poor repayment. The Western Institutional Loan and the Western Short-Term Loan programs require a guarantor (co-signer) and therefore require approximately two weeks from initiation to disbursement. The Signature Loan may be received on the next working day if the application is submitted by noon.

VETERANS INFORMATION

Each veteran enrolling at Western for the first time on the G. I. Bill must either apply for education benefits with the Veterans Administration or transfer his/her authorization from the last college attended. To ensure that allowances are received on time, this should be done well in advance of the academic quarter the student wishes to attend. Assistance in making application is available in Western's Veterans Affairs Office, Old Main 230.

Veterans should also make certain that the objective they plan to pursue is the one authorized by the Veterans Administration. For instance, if the authorization is for the master's degree, the veteran must enroll in courses acceptable toward that degree. Any necessary changes in objective should be made in advance of registration.

A veteran enrolling for at least a half-time credit load may request advance payment. This request must be received by the Veterans Administration at least 30 days before the beginning of the quarter.

New transfer students may qualify for advance payment if there has been one calendar month since last attendance.

The advance check will be sent to the University for temporary care by the Controller until the veteran registers.

If a veteran does not seek advance payment or does not register through Western for benefits until the start of the quarter, payments will not begin arriving until the end of the second month of the quarter.

University Residences & Food Service

High Street Hall #6, (206) 676-2950

Western Washington University's residential system provides a great variety of living options, a varied program, and live-in staff committed to the development of a positive living environment. Most residence halls are co-educational; one women's hall is available. The University also has apartments for single and married students. Assignments to on-campus accommodations are made without reference to race, age, creed or national origin.

The University does not maintain regulations about where students must live. However, students are encouraged to investigate housing accommodations thoroughly to assure conditions which promote their academic welfare and personal development.

UNIVERSITY RESIDENCE HALLS AND DINING HALLS

With few exceptions, residence hall rooms are designed for occupancy by two persons. Each is furnished with single beds, mattresses and pads, desks, desk lamps, access to TV cable and a wardrobe or closet. The occupant furnishes pillow and case, sheets, blankets, towels, alarm clocks and other personal necessities. Because of fire danger, electric open element appliances are not permitted in student rooms.

Kitchenette and laundry facilities are provided in central areas. A recreation room, reception area, lounge, special study rooms, vending machines, and limited storage space is provided in most halls. Some halls have bike racks, pool tables and other recreational facilities.

Regular meal service is provided in

three locations—the Viking Commons, Ridgeway Dining and the Fairhaven Dining Hall. Regardless of meal plan or residence, students may eat in any of the dining halls, although most tend to eat in the dining area nearest their residence hall. The meal ticket may be used in a University coffee shop after regular meal hours. Continuous food service is available at the Ridgeway Dining Hall from 7 a.m. to 6 p.m. each day. No meals are served during vacation periods.

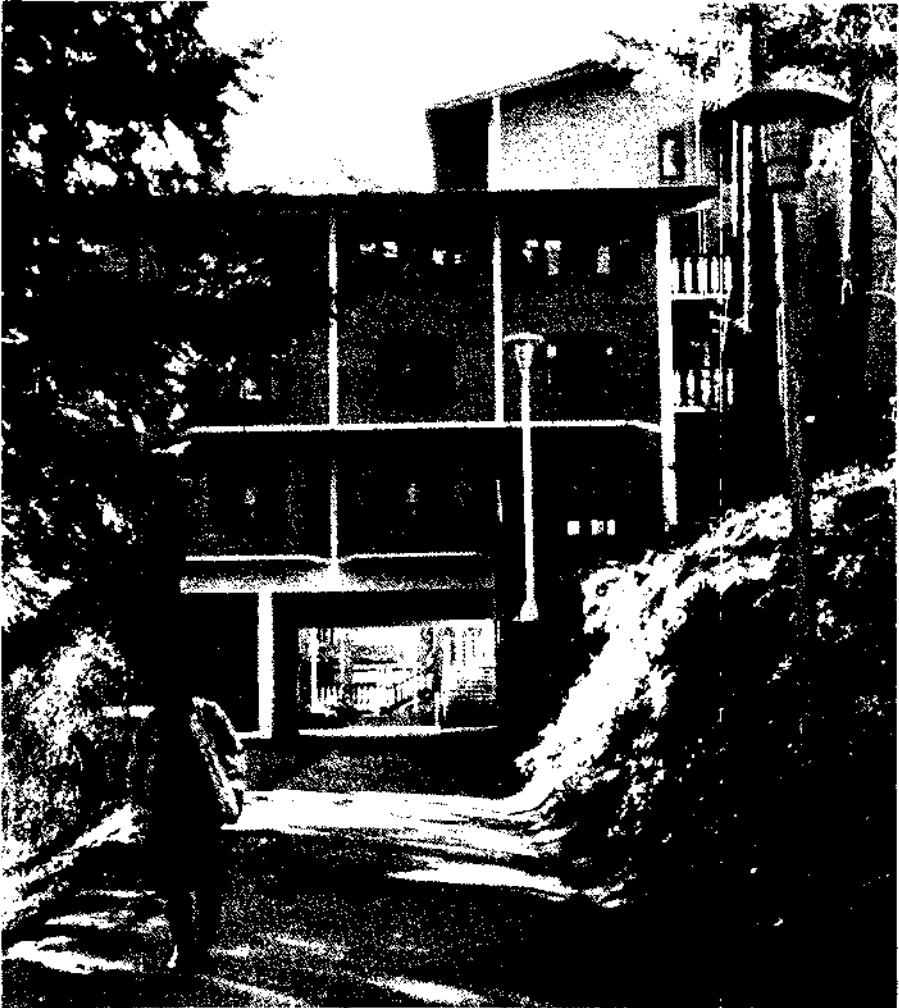
Reservations for a residence hall space are made by completing an application and sending it to the Office of University Residences, High Street Hall, Western Washington University, Bellingham, Washington 98225. An application will be accepted only if the student meets one of the following conditions:

1. The student has been admitted to the University as a new student and has paid the advance tuition prepayment.
2. The student is either currently enrolled or has been previously enrolled at Western Washington University.

No deposit is required with the application but must be made when a housing agreement is signed. Space in a particular hall is assigned according to the date of the receipt of the housing application. Actual room assignments are computer-made and based upon student responses to a roommate assignment questionnaire.

Deposits, Cancellations and Refunds

Students making application and later deciding they do not want accommodations must cancel their



reservations by notifying the Office of University Residences in writing.

In accepting an assignment to a residence hall, each student agrees to the Room and Board Agreement and makes a security deposit of \$90. Deadlines for the payments are July 1 for fall quarter, or two weeks after the assignment is made. The \$90 security deposit will be retained by the University as a damage and/or reservation deposit as long as the student lives in the housing system.

Once the agreement is signed and the security deposit is made, cancella-

tion of a reservation cannot be made without forfeiture of a part or all of the deposit. The reservation deposit may be refunded by the director of University Residences if circumstances exist which are beyond the student's control.

The reservation deposit becomes a damage deposit during the term of the housing agreement. Charges for damage to or loss of residence hall property which is assigned to the student's custody, damage to other hall property or outstanding normal charges will be billed to the student. If the amount of the damage or other

charges exceeds the amount of the deposit, the student will be billed for the balance. The student's account will be cleared and a refund of the deposit made only after all housing and other University charges are paid in full.

APARTMENTS FOR SINGLE AND MARRIED STUDENTS

Birnam Wood consists of 132 apartments for 532 students on a wooded seven-acre site near the campus. Each apartment has a living room, dining room, kitchen, outside deck, divided bath, storage area, and two bedrooms furnished for four students with the usual furnishings, drapes and wall-to-wall carpeting. Utilities are provided as well as television-FM cable.

Assignments to *Birnam Wood* apartments are made by date of application. Students are expected to occupy the apartments in groups of four and the rental rates are established on that basis. In cases where students cannot find a full complement of roommates, the Office of University Residences will assist but **is not responsible** to complete student contractual obligations. A \$90 deposit is required from each person assigned to a particular apartment.

Buchanan Towers, located at the south end of the campus, is an eight-floor apartment building which houses 404 students in one- and two-bedroom apartments and efficiency units. Each two-bedroom unit has a living-dining-kitchen area, two large bedrooms and a bathroom. The lower floor has a recreation area and central lobby. Furnishings, utilities, television cable and limited storage space are provided at no additional cost.

The Fairhaven Residences include one- and two-bedroom apartments in towers eleven and twelve. These have been converted from residence hall rooms but are fully equipped with kitchenette features.

COSTS

The following housing rates are in effect for the 1986-87 academic year:

Double room and 21 meals per week, academic year	\$2,475
Double room and 15 meals per week, academic year	\$2,436
Double room and 10 meals per week, academic year	\$2,362

Quarterly rates and single room rates (when available) are higher. Room and board rates for 1987-88 and 1988-89 should be calculated to increase by an allowance for at least the current rate of inflation.

Apartment rates for the 1986-87 academic year are as follows:

In *Birnam Wood* academic year rent for the unit is \$3,906.

In *Buchanan Towers* and *Fairhaven* apartments the two-bedroom unit rent is \$3,291 for the academic year.

As is the case with room and board rates, apartment rents are expected to increase each year by an amount equal to an allowance for the current rate of inflation.

For the actual annual or quarterly rental rate for a given apartment unit, contact the Office of University Residences, Western Washington University, Bellingham, Washington 98225, (206) 676-2950.

OFF-CAMPUS HOUSING

The Off-Campus Housing Listing Service maintains lists of available off-campus rentals. Because of constant changes in housing availability, these lists are not printed for mailing. Off-campus rentals are in great demand, and it is to the student's advantage to arrive in Bellingham prior to the start of the quarter to make living arrangements. The Off-Campus Listing Service is located in the plaza level entry of the Viking Union Addition, telephone (206) 676-3730.

Student Affairs

Western's Division of Student Affairs is committed to providing the best possible university environment for students in order to aid them in their academic, personal and cultural development. Assisting students as they seek to gain the fullest value from their university experience is a basic function of the many offices which make up this important component of the University.

The Office of Student Affairs is the central administrative office for the Division of Student Affairs. The Vice President/Dean of Student Affairs and staff maintain close working relationships with student leaders, faculty and university staff to ensure that the on-going needs of students are addressed.

By enhancing the student's abilities in decision-making, problem-solving, planning and interpersonal relations, staff help students take an active role in their education. Concerned with the physical, psychological and personal growth of students, the staff of Student Affairs offices provide services through residence hall life, academic advising, financial aid, student activities, counseling, intramurals, career planning and placement, health services and intercollegiate athletics. Committed to the success of ethnic minority, disabled and international students, the Division of Student Affairs has programs designed to address the special needs of these students. In addition, the division is well known for its long tradition of supporting experiences which enable students to supplement classroom learning, i.e., through budget management of student fees, leadership programs in a number of student activities, and active participation in intramurals and club sports.

ORIENTATION

Orientation provides a wide variety of programs to assist new students in the transition to the university environment. Occurring during the summer and immediately prior to each quarter, new students are invited to participate in activities designed to acquaint them with the programs and resources available at Western.

Orientation programs provide students and their parents the opportunity:

- To begin the academic advising process and register for courses.
- To meet faculty, staff, returning and new students.
- To become familiar with Western's services and facilities.
- To complete required placement tests.

DEGREE PLANNING AND PROGRESS RECORD — "THE BLUE BOOK"

During orientation each entering student is provided a personal cumulative record and planning book. Typically referred to as "The Blue Book," it records transfer credit, provides a convenient check list for completion of General University Requirements, and includes space for records regarding admissions test scores, completion of major requirements, procedures for declaration of major and the student advisement process. Transfer student blue books indicate the manner in which transfer credits are used to meet General University Requirements. The blue book also is used to record the student's senior evaluation, a document which provides a record of all courses completed and those needed for completion of a baccalaureate degree.

ACADEMIC ADVISING CENTER

The Academic Advising Center (AAC) is a place where students can get help with their questions about academic policies and curricular choices. Peer advisers are used extensively to clarify academic requirements and regulations or to assist students with course selection and scheduling. For students with more serious academic concerns, professional advisers staff the office daily and are available for scheduled appointments.

One of the emphases of the AAC is working with students who have not yet chosen a major. Students are helped to explore Western's curriculum and clarify their academic goals so that their eventual choice of a major is well-planned and rewarding. The AAC staff also provides other student services:

- Advice concerning General University Requirements (GURs) and other pre-major concerns
- Assistance with the registration process
- Help with choosing a major
- Information and advice on pre-professional programs, e.g., pre-dentistry, pre-engineering, pre-medicine
- Math placement exam and writing proficiency requirement information
- Explanation of scholastic standing policies: warning, probation, petitions for reinstatement
- Course and University withdrawal information
- Community college transfer information
- Referrals to appropriate resources such as the Writing Center or the Tutorial Center for work on specific learning and study skills

The Academic Advising Center is located in Old Main 275 and is open daily from 9 a.m. to noon and from 1 p.m. to 4 p.m. Appointments can be made by calling (206) 676-3850, and drop-ins are welcome.

TUTORIAL CENTER

Student tutors are the primary resource of the Tutorial Center. Top students, who are recommended by faculty, tutor students taking General University Requirement courses. Tutors also lead review sessions in a variety of subject areas. Students can discuss, practice and sharpen learning skills in the Center. Care is taken to provide tutoring consistent with classroom methods and approaches.

The services of the Center include:

- Individual and small group tutoring
- Review sessions for many GUR courses
- Drop-in tutoring
- Study skills workshops
- Assistance for students who have learning disabilities
- Computer tutorials
- Referral to other University resources

The Tutorial Center is located in Old Main 380 and is open daily from 9 a.m. to 4 p.m. Appointments can be made by calling 676-3855.

Students seeking extra help with such study skills as time management, textbook comprehension, test preparation, and note-taking can find qualified peer and professional assistance at the Tutorial Center.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center offers a range of services focusing on the full continuum from career planning to placement.

Career Planning

Individual and group counseling is available to help students assess their interests and abilities and examine their personal needs and values as they relate to career decisions. Other areas of assistance include career exploration, analysis of job market

Student Affairs

information and relating career choices to educational programs.

Internship/Cooperative Education Program

Activities offered through the Center encourage and offer an opportunity for students to expand their educational program into the world of work by gaining supervised work experience related to their academic and career goals. The Center serves as a liaison between faculty, students and employers in coordinating and disseminating information regarding internship/cooperative education opportunities.

Career Information Library

The Center maintains a comprehensive library of career and job market information to assist individuals with their career planning and job search. Reference materials are available to relate academic majors to careers, obtain descriptions of various career fields, identify internship/cooperative education opportunities, analyze job market conditions and research prospective employers. Also available is SIG! Plus (System of Interactive Guidance Instruction), the Center's computer-assisted career guidance system. The library is an integral part of both the career planning and placement processes. Students are encouraged to start using the resources available no later than sophomore year.

Placement Services

The Center provides special workshops and seminars on job search to assist students in learning the techniques and developing the skills necessary to conduct a successful job search in today's competitive market. Topics covered include resume preparation, cover letters/letters of application and job interviewing. All seniors are encouraged to start their job search efforts early.

Those who register formally with the Center by establishing a placement file are eligible to participate in on-campus interviews, receive weekly job notices, and use special aids in contacting potential employers. Placement files should be established according to the following timeline:

December Graduates—*

The middle of the spring quarter before graduation, approximately the fifth week of classes.

March, June or August Graduates—*

October of the academic year in which they plan to graduate.

**Teaching graduates should base their timing for establishment of placement files on the completion of their certification program instead of their degree program, using the same schedule as outlined above.*

Alumni may obtain placement services if they update and activate their placement files. Graduates of other institutions who are working toward advanced degrees and/or certificates at Western and who have completed 30 or more credits may establish placement service, upon request, during the academic year in which they will complete the degree or certification program.

All Western students—regardless of degree, school or college—are urged to seek and use the services of the Center early in their University program. The Center maintains an open-door recruitment policy and operates under federal and state non-discrimination statutes.

COUNSELING CENTER

The Counseling Center (Miller Hall 262, (206) 676-3164) offers educational, vocational and personal counseling.

Personal counseling may be helpful in gaining self-understanding, increasing social and personal effectiveness and learning to manage stress associated with being a univer-

sity student. Educational and vocational counseling can be helpful in assessing interests, abilities and aptitudes, selecting an appropriate major, overcoming learning problems, managing exam anxieties, developing study skills and exploring long-range vocational goals.

The Center has a library of books and pamphlets covering a wide range of psychological topics which may be used to supplement counseling. It also maintains a collection of occupational and educational materials which can be used by students when making decisions about careers or majors.

Each quarter the Counseling Center offers groups which are aimed at meeting special needs of college students. A listing and information about these groups can be found at the Counseling Center, in the *Western Front* and on bulletin boards around campus. Counselors also are available for consultation for students, faculty and staff who have questions about psychological resources available on and off campus, who have concerns about a student or who have other questions of a psychological nature.

Counseling Center services are for currently enrolled students, and are voluntary and free. All information gathered during the course of counseling is confidential and released to appropriate professionals only with student consent. Counselors at the Center are professionally trained and experienced in counseling/clinical psychology or social work.

The Counseling Center is open from 8:30 a.m. to 5:00 p.m. Monday through Friday.

HEALTH CENTER

Good health is recognized as essential for students to derive the maximum benefit from their time at Western. Health care provided by the Health Center includes treatment of

acute problems, preventive health measures, and general medical and health education.

Health service is available *without charge* (there is a fee for some tests and supplies) to *all students* currently enrolled for six or more credits per quarter. Students may reside *on or off campus*. **It is not necessary to be a member of any health care or health insurance plan to use this service.**

The Health Center, located at High Street Hall 25, consists of nurse practitioners, registered nurses, office assistants and student employees. The University also contracts for on-campus physician time. The Health Center is open weekdays when classes are in session from 8:30 to 11 a.m. and from 1 to 4 p.m. At other times between 8 a.m. and 5 p.m., urgent problems will be appropriately cared for. Any student needing medical care should go directly to the Health Center. Appointments with the doctor may be made by phone, (206) 676-3400.

Care provided at the Health Center includes those problems generally treated in a physician's office. Students with more complicated conditions are evaluated and referred to appropriate care in Bellingham or in the student's home community. Services offered on campus include medical evaluation by nurses and physicians; treatment, medication and prescription as indicated; referral for laboratory, X-ray and consultation as necessary; preventive medicine or wellness conferences; antigen injections; diet/weight/nutrition appointments; sexually transmitted disease screening and treatment; pregnancy testing and women's health care.

When the Health Center is closed, the 24-hour Whatcom Emergency Service at St. Luke's Hospital is available for urgent care needs. **Note: the University assumes no financial responsibility for care dispensed at the hospital emergency room.** Students who engage this service must plan to use

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private or health insurance funds to cover expenses.

An emergency/illness (life threatening) and accidental injury (insurance) policy through the Whatcom Medical Bureau is available to students enrolled for six or more credits per quarter. The cost is low. Sign-up time is during the first three weeks of each quarter. Brochures are available at the Registration Center, Cashier's Office and the Health Center. Payment is made at the Plaza Cashier.

All new or transfer students, including graduate students, must submit a health history, completed and signed by the student.

This must be on file at the Health Center **before** the student receives registration privileges. While it is *not* mandatory, the Health Center strongly encourages a complete physical examination by a physician. This confidential physical examination is required of all entering foreign students.

RESIDENCE LIFE

The staff of the Office of Residence Life provides a broad variety of educational programs for students who live in campus housing facilities. Professional staff and student staff members assist students through personal counseling, activity planning and improvement of the on-campus living experience. They also work directly with student leaders and other University personnel to provide out-of-class learning experiences in leadership, program planning and evaluation, career and life planning, and general university community involvement.

Resident students may become directly involved with the implementation of hall programs through three primary avenues: students may serve on residence hall governing boards, campus committees, or special activity task forces. Student leadership

experience through membership on the Inter-Hall Council is another avenue for contributing to a healthy on-campus living environment. Residence Life staff positions are available each year to students who demonstrate an ability to work effectively with others in activity planning and paraprofessional advising. All of these opportunities provide practical leadership experiences, as well as student involvement in the shaping of a total program of residence education.

STUDENT ASSISTANCE CENTER

The Student Assistance Center provides a variety of services and programs for ethnic minority students, students with disabilities and international students. The Center's professional staff advises and assists students in clarifying concerns and in determining appropriate University resources or procedures to resolve problems.

Ethnic minority students are advised and assisted in such areas as academic programming, financial aid, housing, tutoring, personal and social concerns—or any other area where there is need for support. Information regarding internships and graduate and professional opportunities are available.

Students with disabilities are integrated into university life to maximize their independence. Necessary and appropriate support services include:

- Counseling and advising about reasonable accommodations
- Priority registration
- Auxiliary aids such as note-takers, readers, sign language interpreters, textbook tape recording, special devices and equipment
- Referral to other University resources
- Liaison with state agencies

The Student Assistance Center provides orientation and other programs

to help international students adjust to university life. Students can become acquainted with the local community through the host family program. The Center staff assists with obtaining practical training, advises on personal and financial problems and clarifies government regulations. The office processes immigration forms and acts as liaison with foreign consulates and embassies.

STUDENT ACTIVITIES

The program of student activities at Western is designed to provide maximum opportunity for student participation in a wide range of co-curricular experiences. Student activities are in no sense incidental in the plans of the University; rather they are integral and highly important parts of the total range of educational experiences offered by the University. Students are encouraged to become involved in some aspect of the activity program since these activities provide educational and social experiences supplemental to, and often unavailable in, classroom situations.

Many student activities are initiated and administered by students themselves through the Associated Students. Students may participate in the governing bodies of student-administered services, activities, and facilities not only to help determine the quality of co-curricular life, but also to gain administrative experience. Students may also participate in the University governance system as elected or appointed members of its various councils and committees.

Opportunities to serve fellow students and to develop skills in a para-professional capacity are available in a wide variety of student-provided services. These include drug, legal, sex, and environmental information services; a volunteer center; the A.S. Community Recycling Center; the Cross-Cultural Center; Men's and

Women's Centers; the Sexual Minorities Center; the Peace Resource Center; and a Cooperative Day Care Center.

Club Sports

Competition and/or involvement is offered through the Club Sports program in rugby, sailing, lacrosse, ice hockey, skiing, volleyball and tennis. Many of these clubs offer instruction.

Day Care Facilities

The Associated Students Co-Op Day Care Center, a student/parent cooperative operated in Western's Fairhaven College buildings, serves children of student parents from 7:30 a.m. to 5:30 p.m. on the days Western is in session. Children from two through five years of age may be enrolled. To join, members pay a membership fee; quarterly fees after joining depend on income and are established according to the Center's annual budget. In addition to these payments, each member works a required number of hours per week at the Co-op Day Care Center.

More information about daycare facilities on campus and in Bellingham may be obtained from the Student Assistance Center.

FM Radio

KUGS, at 89.3 on the FM dial, is Western's student-managed radio station. With a complete range of music, news, and educational programming, KUGS offers students opportunities for participation as engineers, disc jockeys, newswriters and managers.

Outdoor Activities

Taking full advantage of the beautiful and varied country of northwest Washington, the Outdoor Program functions as a catalyst and resource center for hiking, ski touring, mountaineering, snowshoeing, rock-climbing, bicycling, backpacking, river rafting, camping, sailing, canoe-

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ing, kayaking and many other activities. Included in the Outdoor Program Center are environmental, map and outdoor libraries and sign-up sheets for trips, instructional activities, and many special events for both beginners and experts. A full range of outdoor equipment, such as rafts, backpacks, cross-country skis and cycling gear, is available for rent from the Valhalla Equipment Rental Shop.

Associated Students Productions

From socializing to social issues, the A.S. Productions coordinates and presents a large part of Western's entertainment, educational, and social activities. Weekly films, art exhibits, coffee houses, dances, symposiums, festivals, and cultural events are regularly provided by the A.S. Productions. In addition, it presents concerts and speakers such as the Arts Ensemble of Chicago, the Romantics, Timothy Leary, Arnold Mukai, Burning Spear, Paul Horn, Abbie Hoffman and Jerry Rubin, Gary Wasserman, and Hunter Thompson — all of whom have appeared at Western recently.

Recreational Opportunities

Recreational facilities available to the University community include Lake-wood, a ten-acre site on Lake Whatcom, which is operated by the Associated Students, and offers sailing, canoeing, swimming, boating and picnicking. Conference and meeting facilities are also available. In addition, Viqueen Lodge, located on a 13-acre tract on Sinclair Island and operated by the Associated Students, offers overnight accommodations at the entrance to the San Juan and Gulf Islands.

Clubs and Organizations

Clubs and student organizations offer involvement in a wide range of activities. More than 75 different organizations exist within the Asso-

ciated Students including groups such as the Black Student Union, Political Science Association, International Folk Dancers, International Club, Science Fiction and Fantasy Club, Society of Automotive Engineers, Computer Club, SCUBA Club, and various departmental clubs. Many religious groups are also active at Western.

Viking Union

As the community center of the campus, the Viking Union plays an integral role in the co-curricular program. The Union houses offices for the Associated Students' government, services and activities; the Viking Union/Student Activities administrative offices; and the University's Retail Food Services. Also located in the Union are meeting rooms, lounges, a music listening room, printshop, outdoor equipment rental shop, several food service areas, an information center/smoke-shop, a delicatessen, Plaza Pizza, art gallery, games room, typing room, cashier service and program areas.

Associated Students Cooperative Bookstore

Operated by the Associated Students on a cooperative basis, the Bookstore provides textbooks, class supplies and materials, computers and convenience and sundry items for the University community. All merchandise is discounted at 11 percent, while specials afford even greater savings. Also housed in the store is a post office. Gift items and specialty services, such as film processing, are available.

DEPARTMENTALLY RELATED ACTIVITIES

Departmentally related activities provide opportunities for students to participate in a wide range of programs. Although faculty from appropriate



departments work closely with these activities, students need not be affiliated with the departments in order to participate. In many cases students may receive academic credit for their involvement. The individual programs are outlined below:

Athletics

Intercollegiate athletics involve many students as participants and spectators. Men's sports include basketball, crew, cross-country, football, golf, soccer and track and field; women's sports include basketball, cross-country, track and field, crew and volleyball. The University Men's Program is a member of, and governed by, the Evergreen Conference and the National Association of Intercollegiate Athletics. The University Women's Program is a member of the National Association for Intercollegiate Athletics. For further information contact the Athletic Office, Carver Gymnasium (206) 676-3109.

Club Sports

The Club Sports program offers WWU students, staff and faculty an alternative to intramural sports, physical education and intercollegiate athletic sports. The level of competition ranges from local to national,

depending on the sport. The current program includes 12 active teams: men's volleyball, men's ice hockey, skiing, swimming, men's lacrosse, women's and men's rugby, women's and men's tennis, fencing, sailing and baseball.

Forensics

The Forensics program provides opportunities for participation in local, regional and national competitions, including CEDA and NIET regionals and nationals. The Pi Kappa Delta National Forensics Honorary recognizes student achievement in tournaments ranging from novice to championship divisions. WWU's program enjoys a strong national reputation. Annual activities also include sponsoring several local events, including high school and college tournaments and appearances by CIDD international teams. All students are welcome to participate. For more information, contact the Speech Department, College Hall 101.

Intramurals

A comprehensive intramural sports program offers students an opportunit-

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ity to participate in structured and unstructured activities on campus. League play is organized for men and women, and co-recreational teams in volleyball, basketball, softball, soccer, team handball, and flickerball. Tournaments for such sports as racquetball, handball and badminton are held quarterly, while special events are offered throughout the year. The pool, weight room, gymnasiums and playing fields are scheduled for recreational use daily for the individual who prefers to participate without a competitive atmosphere.

Music Activities

The presence of the Department of Music has resulted in numerous student activities of high artistic and professional quality. The wide range of vocal and instrumental groups on campus provides musical activity for students at acceptable levels of ability, and the variety of musical entertainment available is sufficient to satisfy listeners of all tastes. Some of the opportunities for participation available to students are the Symphonic Band, Wind Ensemble, University Choir, Concert Choir, Symphony Orchestra, stage bands, jazz ensembles, opera, Collegium Musicum, and numerous smaller ensembles. Membership in all of these ensembles is attained through either a performance audition or consent of the instructor. See the Department of Music section of this catalog or contact the Department of Music for further information regarding organized music ensembles and auditions for membership.

Publications

Publications include the Western Front, a twice-weekly newspaper; Klipsun, a twice-quarterly magazine; and Jeopardy, the annual literary magazine. Student contributions of time and talent are essential to the publications, and new students at all academic levels are encouraged to

join their staffs each quarter. Students may receive credit for working on these publications through the Journalism and English departments.

Television

A student-produced weekly color TV news show and a daily headline news program carried on the cable system serving Bellingham provide experience in newsgathering, editing, scriptwriting, videotaping, studio production and on-camera performance. Credit is available through the departments of Speech and Broadcast, Journalism and Technology Department.

Theatre and Dance

The Theatre and Dance program offers a rich variety of opportunities to work both on and off stage — to write, choreograph, act, dance, direct, costume and teach — in faculty- and student-directed productions. Productions during the academic year cover a broad range, including musicals, drama, comedy, dance concerts and plays for children. Every other year a touring theatre program is produced, and the annual Summer Stock program provides a concentrated applied-theatre experience for beginners and advanced students. The program is affiliated with the American Association of Theatre in Higher Education and participates in the American College Theatre Festival. Previous experience is not required for participation. Auditions are announced to the campus community. Contact the Department of Theatre/Dance, Performing Arts Center 395 for more information.

STUDENT RIGHTS AND RESPONSIBILITIES

The complete text of the Guide to Student Rights and Responsibilities is included as Appendix C at the back of this catalog.

University Academic Policies

ADVANCED PLACEMENT AND COURSE CHALLENGE

A regularly enrolled full-fee paying student may apply to challenge any course covering knowledge or materials with which the student has acquired a demonstrable level of familiarity or understanding from prior experience (except conferences, special projects and physical education activities courses). If achievement commensurate with the

expectations of a given course is demonstrated, the student receives credit for the course. Such achievement may be demonstrated by:

College Board Advanced Placement Examinations in certain subjects. The department concerned determines the minimum acceptable score.

College Board Advanced Placement Examinations may be taken for the following:

<i>Department</i>	<i>Subject Examination</i>	<i>WWU Courses/Credit</i>
Art	Art History	Art History 220, 230, 240 (15 credits)
	Studio Art	Art 101 (3 credits) by portfolio
Biology	Biology	Biology 121, 123 (8 credits)
English	English composition and literature, English composition and language	English 101 (4 credits) plus general elective English (4 credits) (8 credits) placement by departmental advisement
Foreign Languages	German Language	German 201 (5 credits)
	Spanish Language	Spanish 201 (5 credits)
	French Language	French 201 (5 credits)
	Russian Language	Russian 201 (5 credits)
History	American History	History 103, 104 (American History 10 credits)
Mathematics & Computer Science	Mathematics Calculus AB	Math 124 (5 credits)
	Mathematics Calculus BC	
Music	Music Listening and Literature	Music 140 (3 credits)
		Music 190 (3 credits)

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One quarter of successful performance in an advanced course in a sequence which is developmental in nature can, upon departmental recommendation, qualify a student for credit in the preceding course; admission to the advanced course is subject to permission of the department.

Challenge examination or procedures prepared by the department concerned.

The following regulations govern course challenges:

1. Students desiring to challenge a course should apply to the director of the Testing Center by the fourth week of the quarter. The time and procedure to be followed in completing the evaluative process will be announced by the Director. A special fee is charged for each challenge examination (See "Finances").
2. The result of the challenge is recorded as "Satisfactory" or "Unsatisfactory" on the student's permanent record and is not used in computing grade point averages.
3. The challenge application will normally be denied:
 - (a) if the student is currently enrolled in the course;
 - (b) if the student has previously established credit for a similar course at this or another university;
 - (c) if the student has previously failed the course;
 - (d) if the student has previously challenged the course and failed;
 - (e) if the student has previously audited the course;
 - (f) if, in the judgment of the director of the Testing Center, in consultation with the department concerned, the challenge procedure is inappropriate;
 - (g) if the student is in his/her final quarter prior to graduating and the course is part of the General University Requirements.
 - (h) if, in the judgment of the academic department, the student has not demonstrated sufficient familiarity or understanding to have a reasonable chance of passing a challenge examination.

COURSE NUMBERING

Courses numbered from 100 to 299 are classified as lower division; those numbered from 300-499 as upper division. Generally, the first digit of a course number indicates its intended class level:

- 100-199 first year (freshman) courses
- 200-299 second year (sophomore) courses
- 300-399 third-year (junior) courses
- 400-499 fourth-year (senior) courses
- 500-699 graduate level courses

Except in unusual circumstances, students are not permitted to take courses more than one year above their class standing.

The numbers 197, 297, 397, 497 and 597 are used for courses generally offered only once.

The numbers 137, 237, 337, 437, 537 are reserved for *Study Abroad* (2-15). These courses are offered through the WWU Study Abroad program or through colleges. Contact the Foreign Study Office, OM 400, for information. Repeatable with different subject matter.

The numbers 417, 517 are reserved for *Senior Seminar or Special Topics* (1-6). Topics vary. Repeatable with different subjects.

The numbers 445, 545 are reserved for *Current Trends* (1-6). Topics vary. Repeatable with different subjects.

The numbers 300, 400, 500 are reserved to designate *Directed Inde-*

pendent Study (1-15), enabling students to pursue on an individual basis topics not covered by the curriculum.

Details regarding titles, prerequisites, number of credits and grading for specific courses can be found in the timetable of classes, Summer Catalog or University Extension bulletins.

Any undergraduate student wishing to enroll in a course numbered 500 or higher must obtain the written approval of the Dean of the Graduate School. (See the Graduate section of this catalog.)

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this catalog. For an exact scheduling of courses at Western, students should consult the annual timetable of classes, the Summer Catalog and the University Extension bulletins.

INDEPENDENT ELECTIVES

In addition to courses specified in the various major programs of the University and courses specified under the General University Requirements, students also have available independent electives. Independent electives give students the opportunity to investigate those special and personal interests that engage the curious and inquiring mind. It is the academic policy of the University to encourage such (independent) exploration.

PREREQUISITES

The student is responsible for ensuring that he or she has satisfied all prerequisites before registering for a given course. A student who has registered for a course without satisfying prerequisites or obtaining permission may be required by the instructor to withdraw from the course dur-

ing the drop/add period at the start of the quarter.

CREDITS AND CREDIT LOADS

An academic credit is a measure of the total time commitment required of a typical student in a particular course of study. Total time consists of three components: 1) time spent in class; 2) time spent in laboratory, studio, field work, or other scheduled activity; 3) time devoted to reading, studying, problem solving, writing, or preparation. One hour credit is assigned in the following ratio of component hours per week devoted to the course of study: 1) lecture course — one contact hour for each one hour credit (two hours outside preparation implied); 2) laboratory or studio course — at least two contact hours for each one hour credit (one hour outside preparation implied); 3) independent study — at least three hours work per week for each one hour credit.

Since each hour in a course requires two additional hours of study, and since students usually register for several courses, Western has established the following credit load policies for undergraduate students:

- The standard load per quarter for undergraduates is 15 credits; during the first quarter of residence, a load must not exceed 17 credits. Before registering for more than 15 credits, students should consult with their advisers.
- After the first quarter of residence, the maximum allowable load is 20 credits per quarter.
- An employed student is expected to reduce his or her academic program and credit load accordingly.

See the Summer Catalog for load limits during the summer session.

CORRESPONDENCE CREDIT

Correspondence credit earned

through a fully accredited college or university may be accepted toward the bachelor's degree up to a maximum of 45 credits.

AUDITORS

Auditors are persons who desire to attend courses without credit. Admission as an auditor requires prior approval of the instructor and Registrar, as well as payment of required fees. Regularly enrolled full-time students do not pay an additional fee for auditing. Since auditors are not active participants, certain courses may not be audited (physical education activities, laboratory courses, studio courses, etc.). Registering as an auditor is not allowed until the first day of classes.

FULL-TIME STATUS

Students who have paid full-time tuition and fees (10 credits or more) are considered "full-time" students for purposes of on-campus employment, student office and membership on University committees.

Certain programs have different definitions of full-time undergraduate status (i.e., athletic eligibility, financial aid programs, Social Security benefits, Veterans Administration, etc.). *Students are advised to check carefully to determine that they meet the definition of "full-time enrollment" for the program in which they are participating.*

Graduate students should consult the Dean of the Graduate School for a definition of "normal progress."

ADDING A COURSE

A student may add a course during the drop/add period at the start of each quarter. After that time, course additions are allowed only under unusual circumstances and require written permission of both the course instructor and the department chairperson. A special late-add fee is also charged (see "Finances").

COURSE ATTENDANCE

Course attendance is required at the discretion of the instructor. The student who fails to attend the first meeting of a course may be required to drop it if another student, previously unable to register for the course due to enrollment limitations, seeks admission.

LEAVES OF ABSENCE

A leave of absence from classes may be granted when psychological or family emergency, illness or injury requires a student to be absent from class. Leaves of absence are issued only upon request from the student. If a faculty member requires medical leaves of absence, the faculty member will inform the students in his/her classes of that fact in the course syllabus. Non-medical personal leaves of absence are available through the Office of The Vice President/Dean of Student Affairs and medical leaves through Health Services.

While a leave of absence generally makes it possible for the student to make up work missed, in some instances the amount of time lost makes course completion impractical. In those cases, withdrawal or incomplete grades may be appropriate. The student should consult with course instructors and/or the Office of Student Affairs.

WITHDRAWAL FROM A COURSE

To withdraw from (drop) a course, a student must file a Change-of-Program form in the Registrar's Office. Discontinued attendance without official withdrawal results in a failing grade (Z).

Course withdrawal during the drop/add period at the start of each quarter is considered to be a change of initial registration and no grade of "W" results.

From the end of the drop/add period

until the end of the fourth week of each quarter. course withdrawal results in a grade of "W". (Deadline dates are published in the timetable of classes.)

After the fourth week of a quarter, the student is committed to earn a grade in each registered course unless he or she has "late withdrawal" privileges that have not been used or unless he or she withdraws from the University.

Late course withdrawal, with a grade of "W", is permitted on a limited basis from the beginning of the fifth week through the ninth week of instruction each quarter. Late withdrawals are allowed only in accordance with the following schedule:

Total Credits Earned*	Late "W" Permitted
0-44	3 during this 45-credit period
45-89	1 during this 45-credit period
90-134	1 during this 45-credit period
135-179	1 during this 45-credit period
etc.	

Note: "Late withdrawal" during the summer quarter is allowed during weeks three and four of the six-week session and during weeks five through eight of the nine-week session.

WITHDRAWAL FROM THE UNIVERSITY

Formal withdrawal from the University may be made at any time before the final two weeks of a quarter. Students must initiate the withdrawal process in the Registrar's Office.

Students who leave the University during a quarter without formal withdrawal receive failing grades.

If a student completes the official withdrawal process prior to the deadline, no grades are issued for the quarter. A withdrawal date is posted to the permanent academic record.

*Includes credits transferred to Western.

FINAL EXAMINATIONS

Final examinations, given in most courses at Western, are administered according to a schedule published in the timetable of classes. The scheduled days and hours for these examinations may not be changed. The final examination is normally held where the course meets.

All final examinations are scheduled during the last week of the quarter, which is known as *final examination week*. No final examinations except laboratory finals — whether for a whole class or part of a class or an individual — may be given before final examination week. This means that students may not petition faculty for early final examinations and that students should plan their end-of-quarter schedules in the expectation of final examinations in all courses. In the rare cases where final examinations are not given, instructors will notify students at the beginning of the quarter.

A student who fails to take a final examination without making prior arrangements acceptable to the instructor receives a failing grade for the course. Under unusual circumstances, an instructor may allow a student who has been making satisfactory progress in the course to take a late final examination and receive a temporary incomplete ("K") grade. This privilege is available only to students who have been making satisfactory progress in the course. The incomplete grade given in this manner should be removed early during the next quarter.

If the Final Examinations Schedule causes a student to take three or more examinations in one day, any of his or her instructors may arrange an examination *later* during Finals Week.

GRADES AND GRADE REPORTING

At Western, grades describe both a

Academic Policies

student's mastery of subject matter and the ability to communicate that mastery in examinations, essays, demonstrations and discussions. The three grading systems are described below. (Fairhaven College is authorized to follow a different system described elsewhere in this catalog.)

A-F GRADING

Most courses at Western are graded on the traditional A-F system. The grades that may be earned under this system, and their values for GPA calculation (see "Grade Averages" below), are as follows:

Grade	Points per Credit
A (Superior)	4.00
A-	3.70
B+	3.30
B (High Pass)	3.00
B-	2.70
C+	2.30
C (Pass)	2.00
C-	1.70
D+	1.30
D (Low Pass)	1.00
D-	0.70
F (Failure)	0.00
Z (Failure due to discontinued attendance without withdrawal)	0.00
K (Incomplete)	N.A.

SATISFACTORY/ UNSATISFACTORY GRADING

Some courses are graded on the S/U system. For these courses, appropriate curricular agencies have determined that the traditional A-F system is inappropriate. If a course has been approved for S/U grading, the only grades that may be assigned are "S," "U" and "K." Neither "S" nor "U" is considered in the calculation of grade averages.

All S/U courses are identified in this catalog and in the timetable of classes.

PASS/FAIL GRADING

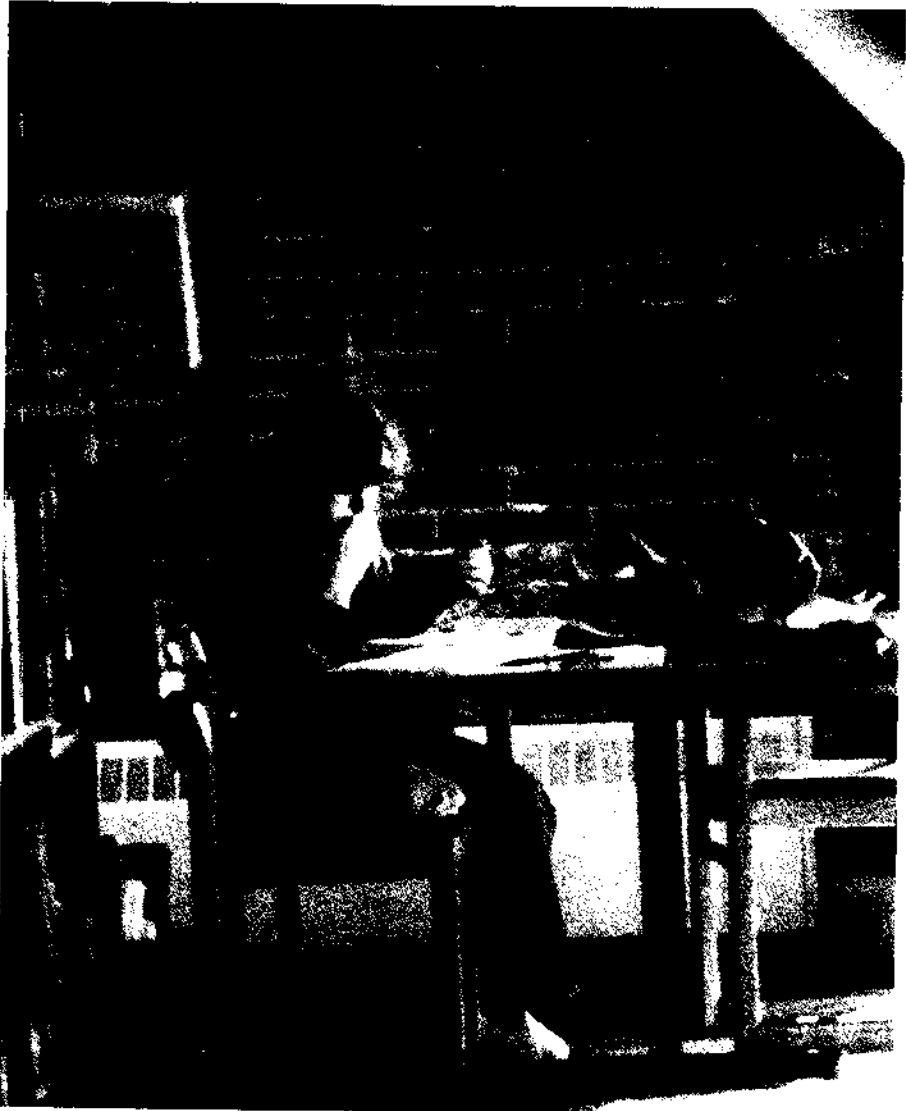
Students may *choose* the Pass/Fail grading option in certain elective courses. Regulations pertaining to Pass/Fail grading are as follows:

1. Courses required for the major and minor, supporting courses, undergraduate professional requirements, and General University Requirements may not be taken pass/fail. Courses graded P/NP may not be applied to master's degree programs.
2. At the time of registration students must designate the courses for which they wish to receive a pass/fail grade. They may change this designation by the regular change of registration procedure through the fourth week of a quarter.
3. Prerequisites, work required, and credit allowed are not affected by election of the pass/fail option.
4. In computing grade averages, neither the P nor NP grade in pass/fail courses is counted.
5. Courses applying to a major (including supporting courses) or a minor must be taken on the traditional A-F grading system. Should a student change his or her major or minor, the academic departments involved are the sole judges of the acceptability of any pass/fail courses already completed in the newly chosen concentrations.
6. Once a student has earned NP grades in courses totaling 10 credits, he or she may no longer register for courses under the pass/fail option.

Note: Excessive use of the Pass/Fail grading system may negatively influence admission to some graduate or professional schools.

THE INCOMPLETE ("K") GRADE

The grade of "K" (incomplete) may be assigned under all grading systems. It may be assigned only upon request



of the student and agreement of the course instructor. Normally it is given only to a student who has been in attendance and has been doing passing work until the final two weeks of the quarter when extenuating circumstances beyond his or her control make it impossible to complete course requirements on schedule. (Extenuating circumstances do not include mere lateness in completing work, the desire of a student to do

extra work to raise a poor grade, etc.)

To receive a "K" grade, a student must obtain a contract form from the appropriate department and negotiate a formal agreement with the course instructor specifying the work done and the remaining work to complete the course and earn a grade. One copy is kept by the student, and one by the faculty member.

Normally, the student removes the "K" grade (completes the work

agreed upon) during the next quarter. After one year, if the "K" has not been removed, it automatically reverts to a failing grade ("Z"), and the student may establish credit only by registering again for the course. (Grades of "K" earned in thesis courses numbered 690 do not lapse to failure.)

GRADE AVERAGES (GPA)

To determine a grade average, points are assigned to each grade earned under the A-F grading system (A=4.00, B=3.00, etc. See above.). The point value of each grade is multiplied by the number of credits assigned to the course. Total points are then divided by total credits attempted. Thus, a student who earns a five credit "A", five credit "B" and a five credit "F" has earned a quarterly average of 2.33 (35 points divided by 15 credits attempted).

A grade average of 2.00 ("C") represents the minimum acceptable level of performance to remain in good standing at the University. Higher grade averages may be required for admission to or retention in certain major programs.

Only grades earned at Western are calculated in determining a student's quarterly or cumulative grade average.

Grades of "S," "U," "P," "NP," "K" and "W" are not included in GPA calculation.

GRADES YIELDING CREDIT

Credit is granted for courses completed with grades of "D-" or higher on the A-F grading system, and for grades of P and S. The grades of "D+," "D" and "D-" however, represent a level of work that is unacceptable in a student's major or minor, supporting courses for majors and minors, English 101, professional education courses, the educational psychology courses required for teacher education programs, and "Fifth Year" courses.

REPEATING A COURSE

A few courses are approved to be repeated for credit. Such approval is included with the course descriptions in this catalog. If other courses are repeated, the following will apply:

- 1) Credit will be awarded only once.
- 2) Only the last grade earned will be considered in calculation of the student's grade average (unless the last grade is "K," "W," NP or "U").

The student who registers to repeat a course should file with the Registrar a "Course Repeat Card." Unless this card is filed, the repeat may not be detected until the Senior Evaluation, at which time cumulative credits will be reduced. In the meantime, the student's grade average will reflect both course grades.

If a transfer student is required to register for a course that may be a repeat of a course completed elsewhere, the student may receive credit for both courses.

GRADE REPORTS

Within a few days after the end of each quarter the Registrar sends a grade report to each student. The student indicates, at the time of registration, the address to which the grade report is to be sent.

GRADE CHANGES

Once a grade has been filed with the Registrar, it is regarded as final. Except for the conversion of incomplete ("K") marks, grade changes are accepted only under the following circumstances:

- 1) It is discovered that the grade resulted from clerical error in transcription or recording. Requests for change to correct these errors may be made only by the course instructor and only during the quarter immediately following original issuance of the grade.

- 2) The Registrar may be instructed to change a grade as the result of the academic grievance procedure.
- 3) The Registrar may be instructed to change a grade if it is determined that the grade resulted from academic dishonesty.

FRESH START GRADE AVERAGE

A former Western student who returns to the University after an absence of five years or more and whose Western cumulative grade point average was less than 2.00 may be given permission to start a new cumulative grade average. Complete information regarding this policy and the procedure is available from the Academic Advising Center.

SCHOLARSHIP STANDARDS

The following scholarship standards apply to each academic division of Western Washington University, except Fairhaven College. Students should note that transfer between academic divisions is restricted in cases of low scholarship.

High Scholarship

Graduation Honors

Graduation *cum laude* or *magna cum laude* is possible from those divisions of Western Washington University which employ the A-F grading system: College of Arts and Sciences, College of Business and Economics, College of Fine and Performing Arts, School of Education and Huxley College. Fairhaven College, which employs a different grading system, may develop alternate ways to honor outstanding graduates, subject to approval of the Academic Coordinating Commission.

Within each college which awards *cum laude* or *magna cum laude* status upon graduation, the determining factor in granting such distinction

shall be rank-in-class based upon cumulative grade average. *Magna cum laude* shall be awarded to each student whose cumulative grade average places him or her at the 97th percentile or higher among graduating seniors during the previous academic year. *Cum laude* shall be awarded to each student whose cumulative grade average places him or her from the 92nd through 96th percentiles among graduating seniors during the previous academic year.

In computing cumulative grade averages to determine graduation honors, the Registrar shall count only those grades earned at Western Washington University, including all grades in courses subsequently repeated.

To be eligible for *cum laude* or *magna cum laude* status upon graduation, the student must have earned at least 90 credits from Western Washington University, at least 65 of which must be for courses completed under the A-F grading system.

Only students who earn a first bachelor's degree are eligible for graduation honors.

Quarterly President's List

Each undergraduate student whose quarterly grade average places him or her at the 90th percentile or higher among students of the same class (freshman, sophomore, etc.) shall be placed on the President's List. The term "honor roll" shall be affixed to the student's permanent academic record for that quarter. To be eligible for the quarterly President's List, a student must be enrolled officially in a division of Western Washington University which employs the A-F grading system and must complete at least 14 credits on that grading system.

Low Scholarship

The University has set the standards described below to ensure that students who are earning poor marks

Academic Policies

will examine their objectives carefully before continuing enrollment. In some cases, students will be dropped from the University. The standards are designed to ensure that this action is taken before a student's record deteriorates to the point that reinstatement or admission to another college or university becomes impossible. In all cases involving poor scholarship, students are encouraged to consult with their advisers, instructors, or the Academic Advising Center.

The low scholarship categories below apply to all divisions of Western Washington University except Fairhaven. (See the Fairhaven College section for that division's scholarship standards.) Students dropped from one college division may not transfer to another college division without reinstatement by the appropriate academic committee.

Academic Warning. A warning is issued to a first-quarter freshman whose grade average is below 2.00 and to any continuing student whose quarterly grade average is below 2.00 but whose cumulative grade average is 2.00 or higher.

Academic Probation. Any student, except a first quarter freshman, whose cumulative grade average falls below 2.00 is placed on academic probation. Such a student is in danger of academic dismissal and must make immediate improvement in his or her grade average (see below).

Continuing Probation. A student who begins a quarter on probation and, during that quarter, earns a grade average of 2.00 or higher without raising his or her cumulative grade average to at least 2.00 is placed on continuing probation. The student must then improve his or her cumulative grade average to at least 2.00 or attain at least a 2.3 quarterly average during the next quarter of enrollment.

Academic dismissal. A student will be dropped from the University if he or

she (a) begins a quarter on probation and earns a quarterly grade average below 2.00 or (b) begins a quarter on continuing probation and fails to raise his or her cumulative grade average to at least 2.00 or, alternatively, fails to attain at least a 2.3 quarterly average.

Removal from probation occurs at the end of a quarter during which a student has improved his or her cumulative grade average to 2.00 or higher.

REINSTATEMENT

Students who have been dismissed for low scholarship can seek reinstatement. Responsibility for reinstatement to the University rests with the Scholastic Standing Committee. Petitions for reinstatement and information on the procedure are available in the Academic Advising Center, Old Main 275.

Factors considered in determining reinstatement may include measure of academic aptitude, lapse of time since dismissal, change of major goals, nature of academic or other experience since dismissal or extenuating circumstances.

Petitions are due in the Academic Advising Center prior to the fifth week of the quarter (in summer quarter, prior to the fourth week). Petitions received by those deadlines are reviewed for readmission to the following quarter.

ACADEMIC GRIEVANCE POLICY

The text and procedures of Western's Academic Grievance Policy are contained in Appendix F in the back of this catalog.

STUDENT RECORDS POLICY

For the complete text of this policy, see Appendix E in the back of this catalog.

University Graduation Requirements

GENERAL REQUIREMENTS FOR BACHELOR'S DEGREES

A student should expect to matriculate and graduate according to the general requirements in the catalog current at the time he or she enrolls. Students should expect to meet the specific requirements of the departments for majors and minors in the catalog current at the time they declare major and minor to the appropriate department.

If the student interrupts enrollment for more than two consecutive quarters (summer quarter not included), he or she shall meet the demands of the catalog in force at the time of readmission.

While the University reserves the right to change the regulations concerning admission and requirements for graduation, it shall be the policy of the University to give adequate notice prior to effecting any significant changes and to make reasonable adjustments in individual cases where hardship may be occasioned.

The following requirements are common to all undergraduate divisions of Western Washington University. For requirements unique to a given university division, see sections concerning the College of Arts and Sciences, College of Business and Economics, School of Education, College of Fine and Performing Arts, Fairhaven College and Huxley College.

- Minimum of 180 quarter hours of credit. Normally, Western Washington University's baccalaureate degrees require 180 credit hours. Some fields require a larger number of credit hours, and students who major in these fields should anticipate that they may require more than four years to complete their programs. Stu-

dents majoring in these fields are encouraged to seek advisement early in their academic careers. Also, programs that are highly sequential necessitate careful planning, the lack of which may result in extended work beyond the minimum required.

- At least one full year of residence study (45 credits minimum), including the final quarter before issuance of a degree. Study Abroad programs are acceptable as residence credit to a maximum of 45 credits. Correspondence, credit by examination and advanced placement credit are not included in this total.
- At least 60 credits in upper-division study (courses 300 or above)
- Satisfy writing proficiency requirements
- General University Requirements (see following section). These general requirements must be satisfied by all students except those enrolled in Fairhaven College, where a separate core program is required.
- Approved academic major
- Scholarship meeting minimums prescribed by the university divisions and academic departments

BACCALAUREATE DEGREES WITH TWO MAJORS

Any undergraduate student at Western Washington University may attempt to earn a bachelor's degree with two majors. While there is no requirement that such a degree program include more than 180 credits, it may be impossible to complete within this minimum. The student's application for such a degree must indicate

Graduation Requirements

both majors and be approved by both departments or academic units involved. The majors involved must be distinct and may not be based on essentially the same constellation of courses.

After earning a bachelor's degree, a student may complete an additional major without earning a second bachelor's degree. The student must enroll officially in the school or college which offers the major and must schedule a new senior evaluation.

MORE THAN ONE BACCALAUREATE DEGREE

A student may earn from Western only one of each type of degree offered (B.A., B.S., B.A. in Ed., B.F.A., B. Mus., B.S.N.). Two distinct bachelor's degrees associated with different majors may be earned simultaneously, but the total number of academic credits earned must be at least 225, and the student must satisfy all requirements of each degree program. The majors involved may not be based significantly on the same constellation of courses.

A student who has already earned a baccalaureate degree may enroll to earn a second undergraduate degree associated with a different major. Such a student must enroll officially in the school or college which offers a major associated with the new degree, earn at least 45 academic credits beyond the number earned when the first degree was granted, maintain a cumulative grade point average of at least 2.00 on the last 45 credits earned and satisfy all requirements of the second degree program. A senior evaluation should be scheduled in the Registrar's Office before the program is undertaken or immediately thereafter.*

**Exception: The B.F.A. degree may be awarded to a student who has earned fewer than 45 additional credits since completing a B.A. degree, provided the student has earned at least 225 total credits.*

BACCALAUREATE DEGREE AND TEACHING CREDENTIAL

The prospective teacher may earn the Bachelor of Arts in Education degree, completing one or more of the appropriate teaching majors offered within the various schools, colleges and departments of Western. The student (usually with plans to teach at the secondary school level) who wishes to complete an appropriate Bachelor of Arts or Bachelor of Science degree program may also earn teaching credentials without earning the B.A. in Ed. degree. Requirements for teaching credentials may be completed at the same time the B.A. or B.S. degree is earned, or subsequently. Such students must be admitted officially to the professional education program of the School of Education and complete the required professional sequence. They must also maintain a cumulative grade average at the level required for the B.A. in Ed. degree.

WRITING PROFICIENCY REQUIREMENTS

Western Washington University believes that development of writing proficiency should be pursued systematically throughout the course of study. To that end Western has established a program of writing courses and support services beginning in the freshman year and extending to upper-level writing-intensive courses (across the curriculum) offered throughout the University.

The following requirements apply to all freshmen entering in the fall of 1983 and thereafter; all transfer students entering in the fall of 1984 and thereafter; all students returning to the University in the fall of 1984 after more than two consecutive quarters' absence:

1) Students whose Washington Pre-College Test scores indicate a need

for additional work in English composition will be notified that they are required to pass English 100. *Review of Syntax and Usage*, before registering for English 101.

2) All students must satisfy Block A of the GUR Communications requirement during their freshman year, except Fairhaven College students who must take Fairhaven 101 and 118 during their freshman year.

3) All students who have completed 90 credits toward graduation must take a proficiency test in language and writing skills. (Students may take the examination as soon as they have completed 60 credits.) This examination, given several times each quarter by the Testing Center, will advise students of the level of proficiency they have acquired at this point in their academic careers. According to the results of the examination, students will be advised to a) enroll in a writing-intensive course (see #4 below); b) enroll in a writing-intensive course and participate in auxiliary support programs; c) not enroll in a writing-intensive course until they complete further coursework or auxiliary programs under advisement.

4) All students who have completed 90 credits toward graduation and have taken the writing proficiency test will take an upper-level course designated as "writing-intensive." This course will usually but not necessarily be in the student's major.

A complete description of the writing proficiency requirements is printed in the timetable of classes or may be obtained from the Academic Advising Center.

GENERAL UNIVERSITY REQUIREMENTS

General University Requirements are required by the College of Arts and Sciences, College of Business and Economics, College of Fine and Per-

forming Arts, Huxley College and School of Education. Fairhaven College students see Fairhaven College section.

General University Requirements must be completed by a candidate for a baccalaureate degree except where the student has demonstrated proficiency through an acceptable college-level examination or through challenge procedure (see "Advanced Placement and Course Challenge" in the Academic Regulations section of the catalog). Some requirements may be satisfied with high school work as indicated below.

The student should study carefully the requirements of his or her major and the course descriptions before planning courses to satisfy the General University Requirements, as some required courses in the major may also apply to General University Requirements. If questions arise, the student should confer with a credit evaluator in the Registrar's Office.

Aims of the General University Requirements:

- (a) To broaden and intensify the student's understanding of significant aspects of man's cultural heritage.
- (b) To introduce the student to the methods and tools of thought and expression.
- (c) To assist the student in integrating his or her knowledge.
- (d) To assist the student in developing his or her powers of aesthetic enjoyment and creativity.
- (e) To stimulate the student in formulating a philosophy of life based upon knowledge and reflection.

Twelve-Credit Limit Per Department

Twelve (12) credits from one depart-

Graduation Requirements

ment is the maximum that may be applied toward General University Requirements except from the Department of Liberal Studies.

Although more than 12 credits may be taken from the Liberal Studies Department to apply toward the *total* General University Requirements, the maximum for individual areas must be observed.

Grades in GUR Courses

Courses which are to apply to General University Requirements must be taken on an "A" through "F" grading scale. They may not be taken with Pass/No Pass grading.

Transfer Credit to Satisfy GUR

Transfer students from Washington community colleges may satisfy the GUR by taking courses listed in the *Transfer Advisers Handbook* which is available at each community college. Following these listings is generally the best way for the community college student to satisfy the GUR as applicability of courses does not depend upon receipt of an A.A. degree.

Approved Associate of Arts degrees from community colleges in Washington may fulfill all General University Requirements. Students at community colleges who wish to satisfy the General University Requirements by earning an Associate degree should check carefully with advisers, as only certain approved degrees will apply. To meet the GUR, an Associate degree must normally be earned **prior** to initial enrollment at Western as a transfer student.

COMMUNICATIONS

Complete Both A and B

All students must satisfy Block A of the Communications section of the General University Requirements prior to completion of 45 credits.

A. ENGLISH 101, Language and Exposition (4) (Waived for students demonstrating high English competency on Washington Pre-College Test or SAT.) English 101 must be completed with a "C-" or better.

B. One course from the following:

ENGLISH 201, Expository Writing (4); 202, Introduction to Fiction with Composition (4); 203, Introduction to Drama with Composition (4); 204, Introduction to Poetry with Composition (4); 301, Reading and Exposition (4); 302, Reading and Argumentation (4).

FOREIGN LANGUAGE 103 (5) or 104 (5)

PHILOSOPHY 107, Logical Thinking (3); 210abc, Extended Introduction to Philosophy and Critical Thinking (9)*.

SPEECH 101, Fundamentals of Speech (3); 205, Exposition and Argumentation (4).

HUMANITIES

Course work must be distributed among at least three departments with no more than 10 credits from any one department.

Select a minimum of 20 credits from the following:

AMERICAN CULTURAL STUDIES 302, Modern American Culture (4).

ART HISTORY 190, Art Appreciation (3); 220, Survey of Art History I (5); 230, Survey of Art History II (5); 240, Survey of Art History III (5).

CLASSICAL STUDIES 250, Survey of Classical Literature (5); 350, Greek and Roman Mythology (3).

ENGLISH 214, Introduction to Shakespeare (5); 215, Survey of British Literature (5); 216, Survey of American Literature (5); 238, Society Through its Fiction/Drama/Poetry

*Students who complete *Phil 210abc* in its entirety may receive 6 credits toward the Humanities requirement.

(5); 281, Western World Literature: Classical and Medieval (5); 282, Western World Literature: Renaissance and Neoclassical (5); 283, Western World Literature: Romantic and Modern (5); 336, The Bible as Literature (5) (English 336 and Liberal Studies 235 may not both be taken for GUR credit).

FOREIGN LANGUAGES, any foreign language course numbered 200 and above and involving actual instruction in the foreign language. (Advance placement credit may not be applied.)

HISTORY 103, Introduction to American Civilization (5); 104, Introduction to American Civilization (5); 111, Introduction to Western Civilization (Prehistory to 476) (5); 112, Introduction to Western Civilization (476-1713) (5); 113, Introduction to Western Civilization (1713 to Present) (5); 267, Christianity in History (5); 347, European Intellectual History (5); 348, European Intellectual History (5).

INTERDISCIPLINARY ARTS 110, Interdisciplinary Arts (3).

LIBERAL STUDIES 121, The Western Tradition I: Ancient (5); 122, The Western Tradition II: Medieval (5); 123, The Western Tradition III: Modern (5); 231, Introduction to the Study of Religion (4); 232, Myth and Folklore (4); 235, The Biblical Tradition (4) (Liberal Studies 235 and English 336 may not both be taken for GUR credit); 242, Music and the Ideas of Western Man (4) (Liberal Studies 242 and Music 105 may not both be taken for GUR credit); 243, Arts and Ideas (4); 332, Universal Religions: Founders and Disciples (4); 333, Religion in America (4).

MUSIC 104, The Art of Listening to Music (3); Music 105, Music in the Western World (3) (Music 105 and Liberal Studies 242 may not both be taken for GUR credit); Music 205, Survey of Non-Western Musical Cultures (3).

PHILOSOPHY 112, Introduction to Philosophy: Moral Issues (3); 113,

Philosophy of Religion: Understanding Religion (3); 201, Introduction to Philosophy: Knowledge and Reality (3); 210abc, Extended Introduction to Philosophy and Critical Thinking (9)*; 315, Introduction to Existentialism (3); 330, Society, Law and Morality (3); 340, Philosophy of Science (4).

POLITICAL SCIENCE 360, Introduction to Political Theory (5).

THEATRE/DANCE 101, Introduction to the Art of the Theatre (3); 201, Introduction to the Cinema (3); 231, Dance and Culture (3).

SOCIAL SCIENCES

Course work must be distributed among at least three departments with no more than 10 credits from any one department.

Select a minimum of 17 credits from the following:

ANTHROPOLOGY 201, Introduction to Cultural Anthropology (5); 210, Introduction to Archaeology (5).

ECONOMICS 203, Introduction to Micro-Economics (5); 204, Introduction to Macro-Economics (4).

EDUCATIONAL ADMINISTRATION AND FOUNDATIONS 311, Global Issues and American Education (4).

FAIRHAVEN 211, The American Legal System (5). (Only one of Fairhaven 211, Management 271, Political Science 311 may be taken for GUR credit.)

GEOGRAPHY 201, Human Geography (5); 205, Economic Geography (5); 209, Geography and World Affairs (2).

HUXLEY 202, Environmental Studies: A Social Science Approach (3).

JOURNALISM 340, The Press and Society (3).

LIBERAL STUDIES 105, Behavioral Science (5).

**Students who complete Phil 210abc in its entirety may receive 3 credits toward the Communications B requirement.*

Graduation Requirements

LINGUISTICS 201, Introduction to Linguistic Science (5); 204, Sociolinguistics (3).

MANAGEMENT 271, Law and Business Environment (4). (Only one of Management 271, Fairhaven 211 and Political Science 311 may be taken for GUR credit.)

PHYSICAL EDUCATION 201, Perspectives of Human Lifestyle and Wellness (3).

POLITICAL SCIENCE 101, Government and Politics in the Modern World (5); 250, American Political System (5); 270, Introduction to International Politics (5); 311, Jurisprudence (5). (Only one of Political Science 311, Fairhaven 211 and Management 271 may be taken for GUR credit.)

PSYCHOLOGY 201, Introduction to Psychology (5); 318, Psychology and Culture (3).

SOCIOLOGY 202, Introduction to Sociology (5); 251, Sociology of Social Problems (5); 302, History of Social Thought (5).

NON-WESTERN AND MINORITY CULTURAL STUDIES

This area focuses upon a study of East Asia, Southeast Asia and India, the Middle East, Sub-Saharan Africa, Latin America, the Minority Experience in America, and Cross-Cultural Studies.

Select a minimum of 8 credits from the following:

AMERICAN CULTURAL STUDIES 205, Introduction to Asian American Studies (3); 301, Comparative Cultural Studies (4).

ANTHROPOLOGY 353, Sex Roles in Culture (4) (Anthropology 353 and Psychology 219 may not both be taken for GUR credit); 361, Indians of North America (5); 362, Peoples of Asia (5); 363, Peoples of Africa (5); 364, Peoples of the Pacific (5).

ART HISTORY 270, Survey of Asian Art: India, China, Japan (5).

EAST ASIAN STUDIES 201, The Cultures of East Asia: Political-Material Aspects (5); 202, The Cultures of East Asia: Religio-Philosophic and Literary Aspects (5).

ENGLISH 234, Introduction to Afro-American Literature (5); 335, Literature of the Third World (4); 338, Women and Literature (4).

GEOGRAPHY 315, East and South Asia (5); 319, Africa (5); 321, India, Pakistan and Bangladesh (3); 322, The Middle East (3).

HISTORY 261, Black History in the Americas (5); 271, Introduction to Latin American Civilization (5); 273, Latin America (5); 275, The Indian in American History (5); 280, Introduction to East Asian Civilization (5); 285, Introduction to African Civilization (5); 286, Modern Africa (5); 287, Introduction to Islamic Civilization (5); 361, Black History in the Americas: The Slavery Era (5); 385, Precolonial Africa (5); 387, History of the Jews (5).

LIBERAL STUDIES 271, Humanities of India (4); 272, Mythology/Religion and Society in China and Japan (4); 273, Artistic Expression and Society in China and Japan (4); 274, Society and Literature in China and Japan (4); 275, Humanities of Japan (4); 276, Humanities in Africa (4); 277, Humanities of China (4); 370, Major Non-Western Traditions: The Traditional Order (4); 371, Major Non-Western Traditions: Their Modern Fate (4); 372, Individual and Society in Contemporary Non-Western Literature (4); 373, Ideology and Experience in the Contemporary Non-Western World: Conservatives, Reformers, Revolutionaries (4).

POLITICAL SCIENCE 346, Poverty, Minorities, and Government (5).

PSYCHOLOGY 219, The Psychology of Sex Roles (4) (Psychology 219 and Anthropology 353 may not both be taken for GUR credit).

WOMEN STUDIES 111, Introduction to Women Studies (4).

MATHEMATICS

Many students will complete mathematics or computer science courses as a part of their major programs. Normally, these courses will *also* satisfy the General University Requirement in mathematics. Students are therefore advised to study the requirements of their intended majors before registering for courses in mathematics or computer science.

Initial enrollment in mathematics courses is normally based upon the results of placement examinations. Students are advised to study the information on "academic placement" in the Department of Mathematics section of this catalog.

Complete Both Part A and Part B Below

Part A must be satisfied prior to the completion of 60 quarter hours of credit. Part B must be satisfied prior to the completion of 120 credits.

Note: Students who demonstrate that they are prepared to study mathematics beyond the level of Math 102 when they enter the University will satisfy the entire General University Requirement in mathematics by completing Part B.

- A. Mathematics 102, Intermediate Algebra. (Satisfy by passing Math 102, by passing a comparable achievement examination,* or, if placement scores are adequate, by completing Part B below.)
- B. Complete one of the following:
 1. Any mathematics course numbered 103 or higher (see #4 below if Math 151 is selected).
 2. Any computer science course except CS 101.
 3. Phil 102, Introduction to Logic, *plus* Math 102 or comparable achievement examination.*

4. Math 151, Introduction to Mathematics, *plus* Math 102 or comparable achievement examination.*
5. An examination demonstrating achievement at the level of Math 103 or higher.* (Students who pass this examination may wish to study additional mathematics, but will not be required to do so unless mathematics courses are necessary in the major field of study.)

NATURAL SCIENCES

Complete both A and B of Option I or complete Option II.

I. Students are advised to complete the three courses in Section A before enrolling in the course in Section B.

- A. One course from three of the four following areas (students with one year high school preparation at the level of grade 11 or 12 in Chemistry, Geology, Physics or advanced Biology may substitute this work for the 101 course in the corresponding area in up to a maximum of two areas):

BIOLOGY 101, Principles of General Biology (4); 121, Biological Diversity and Evolution (4).

CHEMISTRY 101, Chemical Concepts (4); 115, General Chemistry (5); 121, General Chemistry I (5).

GEOLOGY 101, General Geology (4); 211, Physical Geology (5).

PHYSICS 101, Physics for the Liberal Arts (4); 131, Principles of Physics I (5); 132, Principles of Physics II (5); 133, Principles of Physics III (5); 241, Physics with Calculus I (5).

**The achievement examinations comparable to Math 102 and 103 are administered regularly and may be attempted only once each. They do not yield academic credit, but when passed satisfy the comparable mathematics section of the General University Requirements.*



- B. One additional course from Section A above or one course from the following list:

ANTHROPOLOGY 215, Introduction to Biological Anthropology (5).

ASTRONOMY 103, Astronomy for the Liberal Arts (4); 315, General Astronomy: Solar System (4); 316, General Astronomy: Stars (4).

BIOLOGY 122, Biology of Organisms (4); 123, Cellular and Molecular Biology (4); 202, Field Biology of the Northwest: Flowering Plants, Conifers and Ferns (3); 205, Field Biology of the Northwest: Marine Biology (3); 223, Foreign Chemicals and Natural Systems (3); 384, Biology and Society (4).

CHEMISTRY 122, General Chemistry II (5); 123, General Chemistry III (5); 251, Elementary Organic Chemistry (5).

GEOGRAPHY 203, Physical Geography (5).

GEOLOGY 102, Plate Tectonics and Continental Drift (4); 212, Historical Geology (4); 214, App-

lied Earth Science (3); 215, Minerals, Energy, and Society (4); 252, The Earth and Its Weather (4).

HOME ECONOMICS 250, Human Nutrition (3).

HUXLEY 110, Environmental Studies: A Scientific Approach (3).

PHYSICS 242, Physics with Calculus II (5).

- II. Complete one of the following sequences:

BIOLOGY 121, 122, 123.

CHEMISTRY 121, 122, 123.

GEOLOGY 211, 212 and one of 214, 310, 316, or 340.

PHYSICS 131, 132, 133 or 241, 242, 341 and 351.

PROCEDURES FOR APPLYING FOR INITIAL BACHELOR'S DEGREE AND/OR TEACHING CERTIFICATE

Degrees and/or teaching certificates are not automatically awarded when requirements are completed. It is the responsibility of the student to make application in the Registrar's Office no later than the third week of the final quarter, and it is strongly recommended that the student appear for the evaluation and application at least two quarters in advance of completion. Complete instructions are available in the Registrar's Office.

Commencement activities are held in the spring and summer. All students who have graduated the fall and winter quarters immediately preceding and those who have applied for graduation for spring quarter are invited to participate in the spring commencement. All candidates for summer graduation will be invited to the ceremony in August. An informational mailing is forwarded to all eligible students.

All-University Programs

Western Washington University is organized into five colleges, a School of Education and a Graduate School. This organization not only accommodates Western's size and complexity, but also enables flexibility and innovation in Western's curriculum.

Some programs at Western are available through one department or college; some are interdisciplinary, involving several academic units; and some, the All-University Programs listed below, involve all or most of Western's departments, colleges and schools:

- University Extension
- University Conference Services
- Field Experience
- Foreign Study
- Honors Program
- Professional Transfer Programs

Academic opportunities available through Western's All-University Programs are described below.

UNIVERSITY EXTENSION

University Extension is Western's outreach program of resources and services to the State of Washington. Credit and non-credit courses and degree programs are offered during evenings and weekends, both on and off campus.

Special workshops, conferences, seminars and institutes are designed to meet the needs of communities, business and industrial organizations, and public, private and government agencies.

The Independent Study office affords an opportunity for study by correspondence as well as special project contract study.

Adults participate in the learning opportunities to upgrade their occu-

pational skills to acquire new skills, and to pursue a variety of special interests.

For further information or to receive the quarterly listing of courses, contact University Extension, (206) 676-3320.

UNIVERSITY CONFERENCE SERVICES

University Conference Services provides complete convention, workshop and conference services for University academic and administrative departments, as well as for professional associations and community groups with University sponsorship. Conference Services coordinates all facilities, housing and food arrangements, and can assist with programming, brochure development, financial record keeping and registration. Continuing Education Units (CEUs) or University credit may be available for short courses through University Extension. Guest lecturers and special events provide student access to additional expertise and current trends in many disciplines. Additional information may be obtained by calling (206) 676-3323, or by writing to University Conference Services, Western Washington University, Old Main 400, Bellingham, Washington 98225.

FIELD EXPERIENCE PROGRAMS

Western Washington University recognizes the value of work experience outside the classroom as a supplement to the student's general education and major area studies. Thus the University offers opportunities for field experiences, including practica, internships and cooperative education in a variety of community

businesses, organizations and governmental agencies. Students who wish to apply their theoretical classroom learning to on-the-job situations can spend several quarters (maximum of 15 credits) in one of these positions. Credit will be awarded upon a satisfactory employer/faculty evaluation and fulfillment of contractual agreements. These work experience situations are arranged beforehand to accomplish specific goals agreed upon by the student, sponsoring faculty member and employer. Students should contact the Career Planning and Placement Center for additional information.

FOREIGN STUDY

WWU offers a wide variety of study abroad opportunities. The most popular are quarter and year-round liberal arts programs in England, France, Germany, Italy, Greece, Spain and Mexico. Designed to give students a complete foreign study experience in the host country, each program includes numerous excursions to historical and cultural sites and a wide range of activities which complement formal classroom work. The Foreign Study office co-sponsors semester and academic year programs at universities in France, Spain, Japan and the People's Republic of China, which feature intensive language study, international business, civilization and culture. Through its membership in ISEP, WWU can provide year-long exchanges with 60 universities in 23 countries. Students register at WWU before departure, carry normal course loads for the quarter (12-15 credits) and may receive financial aid. Foreign Study courses within a department are normally assigned 137, 237, 337 or 437 numbers. Since special application and registration procedures are required for participation in foreign study programs, students should consult with the Foreign Study Office, Old Main 400, well in advance of their planned quarter abroad. As program size is limited,

early application is recommended.

Students may also receive credit for foreign study through (a) specialized programs sponsored by WWU departments or colleges, (b) programs sponsored by accredited U.S. colleges or universities, (c) study at foreign universities, and (d) independent study arranged through departments and colleges by the Foreign Study Office and Continuing Education. WWU offers a minor in foreign studies consisting of courses taken abroad, cross cultural study, and related academic work in a variety of disciplines. Contact the Foreign Study Office, Old Main 400, (206) 676-3298, for further information on study, travel and work abroad.

THE HONORS PROGRAM

Western's undergraduate Honors Program provides a challenging opportunity for students of high academic attainment to realize their potential more fully. Freshmen and transfer students are invited into the Honors Program on the bases of entrance exams, high school grade averages, recommendations and interviews. Students already enrolled at Western enter the program on the above bases and on the recommendation of a University instructor.

In addition to pursuing a normal course of study, students in the Honors Program are eligible for special honor courses and seminars in a wide variety of subjects, and also have the opportunity to undertake extended Honors independent study projects in their major fields.

Students interested in this program should contact the Honors Office, Miller Hall 228, (206) 676-3034, for more details.

Admission to the Program

Students admitted to Western are considered for admission to the Honors Program by any one of the following ways:

1. Scholastic aptitude test scores in

- the top five percent.
- 2. A grade point of 3.6 or above.
- 3. Faculty recommendation.

Requirements for Graduation through the Honors Program

Students who enter the program as freshmen must complete the following courses and seminars. Doing so satisfies all General University Requirements.*

- Freshman Honors
 - Fall Quarter: Honors 151, 152, 157**
 - Winter Quarter: Honors 153, 154, 158**
 - Spring Quarter: Honors 155, 156, 159**
- Sophomore Honors
 - Fall Quarter Honors 251, 255
 - Winter Quarter: Honors 252, 256
 - Spring Quarter: Honors 253
- Junior Honors
 - Two Honors Seminars
- Senior Honors
 - Completion of a senior project (mathematics majors can substitute a comprehensive examination, administered by the mathematics department, for the senior project)

Transfer students, and other students who have completed their General University Requirements:

- Completion of 12 credits in honors seminars
- Completion of a senior project (mathematics majors can substitute a comprehensive examina-

*Students with fewer than four years of college preparatory mathematics in high school must satisfy the mathematics requirement as described in this catalog.

**Waived for science majors. Math majors substitute one of the science sequences listed in Mathematics section of this catalog.

tion administered by the mathematics department for the senior project)

Additional requirements for graduation through the Honors Program:

- A cumulative grade point average of at least 3.5 for the last 90 graded credits of University-level work
- Completion of departmental requirements where they exist

Honors Courses (Non-departmental)

- 151 WESTERN CIVILIZATION (4)
Study of the political, cultural and social history of occidental civilization from pre-history to 1000 A.D. Taught in coordination with Honors 152.
- 152 WESTERN WORLD LITERATURE (4)
Study of literature in the Western tradition from antiquity to 1000 A.D. Taught in coordination with Honors 151.
- 153 WESTERN CIVILIZATION (4)
Study of the cultural, political, social and economic history of Europe from 1000 A.D. to the present. Taught in coordination with Honors 154.
- 154 WESTERN WORLD LITERATURE (4)
Study of literature in the Western tradition from 1000 A.D. to the present. Taught in coordination with Honors 153.
- 155 NON-WESTERN CIVILIZATION (4)
Study of the society of one or two of the following areas: Africa, India, China, Japan. Uses primary materials from a variety of sources, including literature, to examine the society's world-view and the historical context of that world-view. The diverse cultural experience which accompanies the transition from the colonial to the post-colonial age. Taught in coordination with Honors 156.
- 156 NON-WESTERN WORLD LITERATURE (4)
Study of non-Western literature (written in English or read in translation) from one or two of the following areas: Africa, India, China, Japan. Emphasizes the poem, play or novel of literary art, studied in the context of the culture from which it emerged. Close attention to the way the literature of a given society reflects and helps shape its history, values and cultural patterns during the transition from the colonial to the post-colonial age. Taught in coordination with Honors 155.

All University Programs

157 SCIENCE I — PHYSICS (4)

Laws of motion. Conservation of energy and momentum. Gravitation. Electricity and magnetism. Sound and light waves. Radioactivity. Fission and fusion. Taught in coordination with Honors 158 and 159.

158 SCIENCE II — GEOLOGY (4)

Origin of the earth. The ways in which different types of rocks form, how their ages can be determined, and the implications of those ages for the age of the earth. Volcanology, mountain building and evolution of the continents as a result of surface processes and plate tectonics. The theory of plate tectonics, including earthquakes and paleomagnetism. Taught in coordination with Honors 157 and 159.

159 SCIENCE III — BIOLOGY (4)

Basic biology, emphasizing cellular, molecular and evolutionary processes. The energetics of living systems, with emphasis on the activities of photosynthesis and respiration and their relationship to the first and second laws of thermodynamics. The physical structure of the hereditary material DNA and its involvement in information flow in the cell. Taught in coordination with Honors 157 and 158.

251 PSYCHOLOGY (5)

Examination of basic psychological processes utilizing results of research investigations. Taught in coordination with Honors 252 and 253.

252 SOCIOLOGY (5)

Basic problems and concepts in the study of society: social change and organization; human behavior in the family, education, religion, cities; social class, race, age, sex, and the structure of society; sociology of science and as response to human problems. Taught in coordination with Honors 251 and 253.

253 ANTHROPOLOGY (5)

The study of societies that contrast with Western civilization, leading to an acquaintance with the concept of culture and its importance to an understanding of human behavior. Emphasis on understanding each culture from its own point of view rather than our own. Taught in coordination with Honors 251 and 252.

255 ETHICS (3)

Introduction to philosophical thinking about moral problems. Seeks to understand central moral concepts such as good, right and duty in the context of contemporary issues. Taught in coordination with Honors 256

256 KNOWLEDGE AND REALITY (3)

Emphasis is given to the nature and possibility of knowledge, to related concepts such as truth, belief and evidence, and to select metaphysical problems. Taught in coordination with Honors 255.

350-359 SEMINAR (2-4 ea)

490 SENIOR PROJECT (2 credits per quarter up to a maximum of 6)

S/U grading.

PROFESSIONAL TRANSFER PROGRAMS

The following suggestions will assist students planning to complete a professional program at another institution. Students should seek advice from a pre-professional adviser as soon as possible. Completion of the suggested courses does not guarantee admission to a professional degree program. The institution to which the student is transferring determines admission to the program and makes decisions regarding the transferability of credit.

Catalogs from in-state institutions and assistance in clarifying transfer procedures are available in the Academic Advising Center. Programs undergo constant revision, and, as changes occur, the following program recommendations may become outdated. The student, therefore, must bear responsibility for continued contact with the transfer institution and the on-campus adviser.

Architecture

Western offers two years of undergraduate study which may be transferred to the University of Washington as the liberal arts component of a baccalaureate degree program in architecture. Pre-majors are required to complete a balanced distribution of courses during the first two years based on recommendations found in the University of Washington General Catalog.

Washington State University offers baccalaureate level architectural studies. Pre-major requirements

include completion of the General University Requirements and specifically recommended courses listed in the Washington State University Bulletin.

Program Adviser: Dr. Fred A. Olsen, Department of Technology

Dental Hygiene

Associate and baccalaureate programs in dental hygiene are available in several Washington institutions of higher education. Graduates of two- or three-year certificate or associate degree programs are generally limited to dental office practice and some public health positions. Hygienists with baccalaureate degrees may work in private practice, and with office experience are eligible for beginning dental hygiene teaching or administrative public health positions.

A list of dental hygiene programs in the State of Washington and prerequisite courses for admission to these programs is available from the program adviser.

Program Adviser: Dr. John C. Whitmer, Department of Chemistry

Dentistry

Admission to the professional schools of dentistry is highly competitive; therefore, a pre-dental program should be planned with care. Electives should be relevant to dentistry, and every effort should be made to maintain high scholarship.

Since dental schools give valuable advice and information about admission standards and requirements, it is wise for pre-dental students to contact dental schools early in their program. The following courses are required for application to the University of Washington School of Dentistry:

- Biology 121, 122, 123, 312, 469
- Chemistry 121, 122, 351, 352
- Physics 131, 132, 133 (or 241, 242, 341)

- Electives: Equally important is a background in the social sciences and humanities. Although there are no firm requirements, courses in English literature, economics, sociology, psychology, anthropology and philosophy are excellent scientific and humanistic studies for pre-dental students

For further information contact the pre-dental adviser.

Program Adviser: Dr. John C. Whitmer, Department of Chemistry

Engineering

Western provides two curricular paths to a career in engineering. The Two-Plus-Two program requires two years of study at Western followed by two years of study in electrical, mechanical, civil, chemical and aeronautical engineering at an engineering college.

The second path is a dual degree program, the Three-Two program, that requires three years at Western Washington University followed by two years of study at the College of Engineering at the University of Washington. At the conclusion of this five-year program students will receive two degrees: the Bachelor of Arts from Western and the Bachelor of Science in Engineering from the University of Washington.

The primary purpose of both pre-engineering programs is to provide a strong fundamental education in mathematics, physical science, computer science and liberal arts to develop skills necessary for success at an engineering college. In addition to courses in science and mathematics, engineering schools and colleges also require additional courses distributed in social sciences and humanities, which can be selected from Western's offerings, to meet the requirements of the specific engineering school to which the student intends to transfer. Note that some

All University Programs

engineering schools specify a minimum number of credits completed and a minimum grade point average for admission to a given engineering program.

Two-Plus-Two Program

While at Western students may complete two years of courses in physics, mathematics, chemistry, computer science and English. The choice of courses should be tailored to meet the requirements of the engineering school to which the student plans to transfer. Transfer generally occurs after two years of study.

Three-Two Dual Degree Program

Western cooperates with the College of Engineering of the University of Washington in a program of engineering education based upon a broad foundation of liberal arts. The program consists of three years at Western Washington University followed by two years in the College of Engineering at the University of Washington. The nature of the program makes it difficult to pursue by students who do not begin at Western as freshmen. A minimum of 135 credits must be completed prior to leaving Western for the University of Washington, and at least 40 of these must be earned at Western.

While at Western students may complete the pre-engineering courses listed below and take General University Requirements in communications, humanities, social sciences, non-western and minority cultural studies, math, and science for the Bachelor of Arts degree. Upon successful completion of the program the student will receive the Bachelor of Arts from Western Washington University and the Bachelor of Science in Engineering from the University of Washington. This two-degree program provides an excellent liberal arts, mathematics and science background prior to specialization in engineering. The combined program is competitive and designed specifically for students who have strong preparation in communication

skills, mathematics and science.

Although the curriculum offers considerable freedom of choice, it does *not* guarantee admission to the College of Engineering at the University of Washington. If, at the end of two years, students find their interest developing in a field outside science or technology, they can readily change to several non-science majors and graduate in two additional years. Similar options exist through the junior year for programs in science and technology. This flexibility is particularly advantageous to capable students whose abilities and interests span many fields.

Introductory core courses

- Chemistry 121, 122
- English 101; 201 or 301 or 402
- Mathematics 124, 125, 126, 205, 331
- Physics 241, 242, 271, 272, 341 and 351 (the entire sequence 241, 242, 341 should be completed to minimize transfer problems)
- Computer Science 210, 216

Chemical engineers should complete Chemistry 123, 351, 352, 353, 354, 355 in lieu of Physics 271, 272. Electrical engineers are not required to complete Physics 271, 272.

Check with your pre-engineering adviser for additional courses.

Students not prepared to take Mathematics 124 (Calculus) should enroll in a preparatory sequence, under advisement.

Program Advisers: Dr. Leslie E. Spanel and Dr. L. Barrett (Physics/Astronomy)

Fisheries

The College of Fisheries at the University of Washington provides baccalaureate programs in fishery biology with options in fish culture, invertebrate culture, recreational fisheries, aquatic resource management, water quality, fish industry, environmental studies, and biometrics. Students may complete at least

the first two years of a fisheries degree program at Western. Students may also complete a four-year degree program at Western in preparation for graduate work in fisheries at the University of Washington. Close consultation with the program adviser is essential.

Recommended freshman year curriculum:

- Biology 121, 122, 123
- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 105 or higher
- General University Requirements

Program Adviser: Dr. Charles J. Flora, Department of Biology

Forestry

Washington State University offers degrees in forest management and range management. The University of Washington offers degrees in forest resource management, logging engineering, wood science and technology, pulp and paper science and technology. Because of the differences in the various forestry curricula, students are urged to attend the pre-forestry advisement session prior to fall quarter registration or to consult with the program adviser as soon as possible. For some curricula, specific courses should be included among the electives.

The Three-Two Dual Degree Program is a cooperative major in forest biology offered by Western and Washington State University. This program culminates in a WWU baccalaureate in biology and a WSU Master of Science in forest and range management.

Forestry Adviser: Dr. Ronald Taylor, Department of Biology

Law

Most law schools require completion of a baccalaureate degree before the student begins professional legal education. They normally do not

specify preferred undergraduate majors, but do seek students who are broadly educated. Law schools want students who have proficiency in oral and written communications, an understanding of economic, political and social institutions, and well-developed objective and critical thought processes. Western's General University Requirements are intended to aid students in realizing these goals.

Careful selection of electives may enhance performance in law school, and undergraduate course selection should reflect the interests and professional objectives of individual students. Therefore, early consultation with the program advisers on course and program decisions is recommended.

The Law School Admission Test (LSAT), normally required of applicants to American and Canadian law schools, is offered on the Western campus several times each year. Applications and test schedule information may be obtained from the Testing Center. Students should plan to take the LSAT late in their junior year or early in their senior year.

Program Adviser: Dr. Eugene Hogan, Department of Political Science.

Medical Technology

At the University of Washington, the four-year medical technology program leads to a Bachelor of Science degree in medical technology. Students at Western may complete 90 quarter credits of study, concentrating on courses which parallel the University of Washington's medical technology program, prerequisites and distribution requirements. It is important to consult with the program adviser early in the first year of the transfer program.

Washington State University also offers a baccalaureate program in microbiology with the medical technology option.

All University Programs

Recommended curriculum:

- Biology 121, 122, 123
- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 105 or higher
- General University Requirements

Program Adviser: Dr. G. F. Kraft,
Department of Biology

Medicine

The faculties of the School of Medicine at the University of Washington and other medical schools in the U.S. believe that the appropriate level of scholarly achievement and preparation for medicine can best be developed in a liberal arts program with the emphasis on a major area of interest selected by the student. The major should be considered as the basis for a career or for graduate study in the event the student is not admitted to a medical school.

In recognition of the diverse opportunities afforded the graduate in medicine, specified entrance requirements are purposely kept to a minimum. This enables each student to pursue, as a major field of study, almost any area of interest — the physical sciences, biological sciences, or humanities — and still acquire the background necessary to pursue a medical curriculum. It should be noted that over half of those admitted to the University of Washington medical school in the past several years have been biology majors.

Admission to a medical program is highly competitive. Early consultation with the program adviser is strongly recommended. Students must contact the program adviser for discussion of graduation requirements, selection of an academic major, course sequences, AMCAS applications, scheduling of the MCAT, and other pertinent information. Students must contact the pre-professional advisement office (Old Main 270) during the first quarter of

their premedical program.

Typical freshman year curriculum:

- Biology 121, 122, 123
- Chemistry 121, 122, 123
- English 101
- Mathematics 105 or higher
- General University Requirements

Pre-med students choosing majors other than biology or chemistry should also seek advising in their major department.

Information regarding chiropractic and naturopathic education is also available from the program adviser.

Program Adviser: Contact Dr. G. F. Kraft, chief premedical adviser, Department of Biology, for a referral to the appropriate program adviser.

Nursing

See the Department of Nursing section of this catalog.

Occupational Therapy

Admission to a school of occupational therapy is highly selective. Students wishing to earn a Bachelor of Science degree in occupational therapy may complete their prerequisite courses at Western. The Western curriculum includes courses which will prepare students for transfer into the occupational therapy programs at the University of Washington and the University of Puget Sound. Since graduation requirements vary among institutions, students should obtain specific information concerning the programs prior to their first term of enrollment.

Required courses for transfer into occupational therapy programs:

- Biology 101, 348, 349
- Chemistry 101
- Physics 131
- Psychology 201, 314, 316
- Sociology 202

Additional courses recommended or required (determined by the individual occupational therapy school):

- Sociology 324, 333, 351
- Speech 204
- Educational Curriculum and Instruction 361, 465

Program Adviser: Dr. Evelyn E. Ames,
Department of Physical Education

Optometry

Schools of optometry generally offer baccalaureate, master's and doctoral degree programs. Western is able to provide one year of liberal arts studies as a background for more specialized training in optometry. Early consultation with the program adviser is recommended.

Recommended curriculum:

- Biology 101, 345, 348, 349, 370
- Chemistry 121, 122, 123, 351, 352
- English 101, 301 or 302
- Mathematics 124, 125, 126
- Physics 131, 132, 133, or 241, 242
- General University Requirements

Program Adviser: Dr. J. J. Veit,
Department of Physics

Pharmacy

The five-year program at Washington State University and the University of Washington leads to a Bachelor of Science degree in pharmacy. Western provides a two-year series of courses which prepare students for admission to the College of Pharmacy at either WSU or UW. Detailed information is available from each. Admission is highly selective, and students are encouraged to contact the school of their choice early in the first year and to consult with the program adviser at Western prior to registration.

Recommended curriculum:

- Biology 121, 123, 211, 212, 345
- Chemistry 121, 122, 123, 351, 352, 353, 354, 355
- English 101, 301
- Mathematics 155, 156
- General University Requirements from the Humanities

and/or Social Sciences (psychology, sociology, anthropology, economics) to total ten quarter credits

The University of Washington School of Pharmacy recommends elective coursework in interpersonal communications (Speech 207), computer sciences (CS 117), business (Accounting 241), typing, nutrition and first aid.

Program Adviser: Dr. Salvatore F. Russo, Department of Chemistry

Physical Therapy

Admission to a school of physical therapy is highly selective. Students may be admitted to an undergraduate certificate physical therapy program at the junior, senior or post-baccalaureate level. Many physical therapy programs are now only offered at the master's degree level, and most students will need to complete a baccalaureate degree prior to transfer. Degrees in health education or physical education are recommended. Students also may be required to submit scores from the Allied Health Professions Test of the Graduate Record Exam.

Western's curriculum includes courses which will prepare students for transfer into the physical therapy programs at the University of Washington, Eastern Washington University, and the University of Puget Sound.

Required courses for transfer into physical therapy programs:

- Biology 345, 348, 349
- Chemistry 121, 122, 251
- Physics 131, 132, 133
- Psychology 201 plus an additional course

Additional courses highly recommended:

- Physical Education 301, 302, 485

All University Programs

- Mathematics 240 or Biology 340
- Psychology 316

Program Advisers: Dr. Kathleen Knutzen (Physical Education), Dr. Evelyn Ames (Health Education)

Social Work

Students preparing for admission to a professional school of social work and students interested in securing social work positions that do not require professional education may satisfy their interests by completing the Bachelor of Arts degree in sociology, including the following elective courses in the major:

- Sociology 251 and 261
- Sociology 372, 373, 375, 473, 477
- Sociology 311 (in lieu of 310)
- Sociology 333, 340, 341, 351, 360, 380

Other courses strongly recommended include Sociology 353, 354, 367 and 369. For further recommendations of specific courses in sociology or cognate areas which may strengthen the student's preparation, consult with the program adviser.

Program Adviser: Dr. Charles Gossman, Department of Sociology

Theology

Students who are considering enrollment in a theological seminary or in other special training for religious work should seek advisement early in their academic careers. They should determine as soon as possible which graduate institution they wish to enter and what is required for admission. Broad study in the liberal arts (literature, history, philosophy, language, social sciences) is generally regarded as appropriate undergraduate preparation for seminary work, but expectations of particular institutions vary. In some cases the minor in the Study of Religion, offered through the Department of Liberal Studies, may form an appropriate

part of an undergraduate pre-theology program.

Program Advisers: Dr. Joseph Bettis, Dr. Robert Stoops and Dr. William Stoever. Contact the Department of Liberal Studies

Veterinary Medicine

The College of Veterinary Medicine at Washington State University requires at least seven years of study leading to completion of the Doctor of Veterinary Medicine degree. Western can provide a student with either four years of pre-veterinary training through a degree in biology or a three-year transfer program. It is not absolutely necessary to complete a baccalaureate degree; however, it is advisable to aim toward a degree in the event that a student is not admitted to a veterinary school. Admission is extremely competitive and students are strongly encouraged to consult early with the program adviser and to review the admissions requirements in the WSU catalog.

Academic requirements for WSU's professional program leading to a Bachelor of Science in Veterinary Science include 68 quarter hours in the physical and biological sciences and 45 quarter hours in electives and General University Requirements. (113 total quarter hours required.)

Recommended freshman year curriculum:

- Biology 121, 122, 123
- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 105
- Physics 131, 132, 133

Other Western courses which are required for admission include Chemistry 351, 352, 354, 355, and 371. Applied animal nutrition is also required. The WSU correspondence course AS 307X (or equivalent) will currently satisfy this requirement.

Program Adviser: Dr. Herb Brown, Department of Biology

The Graduate School

Dr. Sam P. Kelly, Dean

Old Main 430 Phone: (206) 676-3170

WWU is authorized by the State Legislature to award five graduate degrees:

- The Master of Arts (M.A.)
- The Master of Science (M.S.)
- The Master of Education (M.Ed.)
- The Master of Business Administration (MBA)
- The Master of Music (M.Mus.)

Approximately 15 departments and colleges —from Anthropology to Theatre/Dance — offer graduate study leading to one of the above degrees.

WWU's graduate programs are accredited by the Northwest Association of Schools and Colleges and by the National Council for the Accreditation of Teacher Education. The University is a member of the Council of Graduate Schools in the United States and adheres to the general policies and criteria established by this national association.

The purpose of graduate study at WWU is to provide students with quality graduate offerings, accompanied by opportunities for research and professional development. Graduate programs are intended to prepare able students for career advancement and further study. The programs provide service to the state and its major divisions, to the business and commercial sector, and to a number of professions.

Several of WWU's graduate programs offer courses or program elements at locations outside Bellingham, mainly in the Puget Sound region. The summer session on WWU's campus includes a number of special arrangements for graduate study: intensive study during a limited period of time, instructional and research seminars, professional seminars, and courses

offered by visiting faculty. The University's Summer Catalog lists these special arrangements.

Graduate assistantships are available in limited number in nearly all graduate programs. Graduate assistants must meet or exceed all criteria for maintaining graduate status and make satisfactory progress towards the degree.

These assistantships are competitive. Duties vary according to the department and program, the needs of the program faculty, and the student's graduate plan of study. Information about assistantships can be obtained from the Graduate School. Graduate students also are eligible for several types of financial aid; information can be obtained from the University's Office of Student Financial Resources.

Persons who plan to enter graduate study at WWU should read the graduate section of this catalog closely before applying for admission to graduate study or enrolling in any course intended to count toward a master's degree or advanced certificate of study (students working toward a fifth-year teaching certificate should contact the Fifth Year Office in the School of Education). Additionally, students should consult with the appropriate program adviser and the Graduate Office.

If you have questions not answered here, write to the Dean of the Graduate School, Western Washington University, Bellingham, WA 98225.

ADMISSION

Admission is granted by the Graduate School of Western Washington University with the concurrence of

Graduate School

the department or program unit in which the student will pursue graduate study. The Graduate Office informs applicants of the decision made on their applications. Application forms and other admission materials are available upon request to the Graduate School. An application fee is charged for each set of admission materials submitted by applicants, whether initial application or request to transfer into another WWU graduate program. Admission to the Graduate School is limited to a single program.

Note: The requirements and procedures listed below demand lead time. Applicants are urged to submit all necessary materials as early as possible before the beginning of the term for which admission is requested — at least two months prior to the start of the term. (Some departments have earlier, specific deadline dates.) Faculty review of application materials is unlikely during periods that the University is not in session.

General Requirements

Full Admission

- A baccalaureate degree from an accredited U.S. college or university, or an equivalent degree from a foreign university. The degree must be appropriate to the master's study intended.
- A 3.00 undergraduate grade point average (on a 4.00 scale). (See later section on provisional admission for certain exceptions.)
- Three letters of reference from professors in the applicant's undergraduate major field, or from professors of post-baccalaureate courses, or from others able to make an appropriate assessment of the applicant's academic or professional competence. (Forms available from Graduate School.)
- Graduate Record Examination (GRE) scores, which should be

received by the Graduate School along with other application materials. MBA applicants must provide the GMAT score at the time of application (but not the GRE).

- Favorable review and recommendation of applications by the graduate faculty in the program to which application is made.

Special Requirements

Certain programs have additional requirements or procedures; see the program descriptions. Most M.Ed. programs require at least a year's successful K-12 teaching; see the M.Ed. program requirements. Students who are not native speakers of English must demonstrate competence in written and spoken English. This can be done by a satisfactory score on the TOEFL examination or by other means of validation. (Write the Graduate Office for details.)

Foreign students must file with the Graduate Office a satisfactory statement of financial responsibility and of sponsorship. Current expenses for a full year's residence study are approximately \$10,000. Complete application materials should be received from foreign students at least three months before the term in which graduate study is expected to begin.

Provisional Admission

At times, students who do not meet all the requirements for full admission can be granted provisional admission; for example, marginal grade point average, certain undergraduate course deficiencies. For provisional admission to be granted, there must be strong reasons for waiving general admission requirements. And there must be a statement of support for provisional admission from the faculty of the applicant's intended graduate program. If provisional admission is authorized by the Graduate School, the provisions are stated in the letter that offers the student special admission to graduate study.

PROGRAM REQUIREMENTS

Graduate programs at WWU require at minimum 45 or 48 quarter credit hours (45 with thesis, 48 without thesis). This minimum requirement, the basic program, must contain at least 35 or 38 credits of approved 500- or 600-level courses. A maximum of 10 credits of 400-level coursework can be applied to the basic program (45 or 48 credits) if the 400-level courses are approved by the appropriate graduate adviser and if they are contained on the "Plan of Study" filed by the student.

Many programs require more than 45 or 48 credits for the basic requirement. Also, certain undergraduate deficiencies may add additional credit requirements to a particular "Plan of Study." (See later discussion of "Plan of Study.")

RESIDENCE

To earn a master's degree at WWU (except for one option under the MBA), the student must complete at least one quarter of residence on campus during which at least 10 credits are earned.

TIME LIMITS

Course work taken more than five years before the awarding of the degree does not count toward the degree. All program requirements, including the thesis or comprehensive examinations, must be completed within this five-year limitation.

ACADEMIC LOAD

For full-time graduate students, 16 credits in a single term is the maximum allowed (usually 14 or fewer for graduate assistants who have from 10 to 20 hours of work to perform for the department or program each week). Persons working full time are limited in the number of credits allowed in a single term; the maximum is 6 to 8 depending on circumstances and the program adviser's recommendation.

The Graduate School defines full-

time enrollment as 8 or more credits per quarter. However, for purposes of certain kinds of financial aid, the definition is 10 credits because of state or other regulations. Graduate assistants are governed by other regulations and should request a special information sheet from the Graduate office. Full-time graduate assistants must enroll for a minimum of 8 credits.

Note also the earlier stipulation under "Residence," which requires all master's candidates to complete at least one full-time quarter of 10 or more credits in residence.

TRANSFER, EXTENSION, CORRESPONDENCE, WORKSHOPS

Transfer credit is limited to 9 quarter hours, must meet stated program requirements and be approved by the program adviser and the Graduate School (forms available from the Graduate School). Such credit should be approved in advance to prevent any misunderstanding or false expectations.

Only certain University Extension courses from WWU can be applied toward a WWU master's degree. Such courses must meet the requirements and conditions expected of regular, approved graduate courses offered by the University. Approval of the courses must be obtained from the program adviser and the Graduate School (properly signed off on the student's Plan of Study).

No credit is given for correspondence courses.

Courses offered as workshops or in a shortened time frame often do not qualify for graduate credit toward a degree, even though the offerings bear a regular course number. Students should check with the Graduate Office or the program adviser before enrolling if graduate credit is of concern.

THESIS AND COMPREHENSIVE EXAMINATIONS

All master's programs require either a thesis, field project or a comprehensive examination. (Check the program descriptions that appear later in this catalog.) The Graduate Office certifies thesis committees upon request of the department chairperson or the program adviser. Minimally, the committee has three members; the chair must be from the student's major department. Guidelines for the thesis and field project are available from the Graduate Office. Departments that require the thesis customarily have information sheets available.

Comprehensive examinations vary among programs. The Graduate Office and the departments have information available about these examinations.

The comprehensive examination should be scheduled for the final quarter of the student's enrollment. It may be deferred until all course work has been completed upon request by the student and agreement by the graduate adviser. Comprehensive examinations, if failed, may be repeated once, but only if the graduate faculty of the particular program endorses the student's request to repeat the examination.

PLAN OF STUDY

The student and the program adviser together develop a "Plan of Study." This plan is signed by the adviser, the student and the graduate dean. Then it is filed in the Graduate Office, with copies to the student and the adviser. The plan should be completed before or during the student's first quarter of study at WWU. This is very important and should be attended to with dispatch. Amendments to the plan are made upon the request of the graduate program adviser and with the

agreement of the Graduate Office. Amendment forms are available from the Graduate Office.

GRADES, GRADING, RETENTION

A maximum of 10 credits of "C" is allowed toward completion of the basic program (45 or 48 credits). More than 10 credits of "C" or lower grades removes a student from the master's program. (No graduate credit is allowed for "D" grades.) There are certain courses that must be passed with a grade of "B" or better; program descriptions note such courses. A grade of "C" counts toward the 10 credit maximum, even if the course is repeated and a "B" or "A" is earned. Pass/Fail grades are not applicable toward a graduate degree, and "S" grades are not computed in the GPA. If a course is not completed, the "K" grade is assigned. If, after a calendar year, the course requirements have not been met, the "K" grade lapses to a "Z." Such "Z" grades are computed as failing grades in a student's grade point average and may affect retention in the master's program. Exceptions to the "K" grade rule are "K" grades which are received for thesis courses. In these cases, the "K" grades are allowed to stand until the thesis is completed, whereupon the grade is changed to the earned grade.

To remain a candidate for the degree, a student must maintain at least a 3.00 GPA in the core program (45 or 48 credit hours).

SPECIAL REQUIREMENTS

Program descriptions in this catalog provide information about special requirements: statistics competency, language competency, sequence of particular courses, and so on. Most graduate programs provide information sheets about such special requirements; the student should request this information from the program adviser.

DEGREE CANDIDACY — AWARDING OF THE MASTER'S DEGREE

Advancement to degree candidacy is formal recognition that the student has completed all admission requirements and has demonstrated satisfactory performance in at least 12 credits of graduate study. Advancement to candidacy is a prerequisite to earning the master's degree and should be accomplished

as early as the student is eligible. Advancement is granted by the Graduate Office upon the recommendation of the student's program adviser.

The master's degree is earned at the end of the quarter in which the student completes all degree requirements. Recommendation for the degree is made to the Graduate Council by the student's adviser or thesis chairperson. Application for the degree must be made no later

Summary of Procedures for the Master's Degree

<i>Procedure</i>	<i>Responsibility of</i>	<i>Where Initiated</i>	<i>When</i>
Application and Supporting Materials	Student	Graduate Office	Generally two months before term begins; preferably earlier since some programs require longer to review.
Registration	Student, Adviser, Graduate Office	Graduate Office	See the calendar in the front of this catalog.
Plan of Study	Student, Adviser, Graduate Office	Department	See preceding discussion of "Plan of Study."
Advancement to Candidacy	Adviser, Student	Department, then Graduate Office	See preceding discussion of "Degree Candidacy."
Thesis or Field Committee	Student, Adviser, Department, Graduate Dean	Department	When thesis or field project is required and following advancement to candidacy.
Submission of Thesis or Field Project Committee	Student	Department, then Graduate Office	At least four weeks before graduation. Obtain instructions from Graduate Office.
Comprehensive Exams	Student	Department, Graduate Office	Apply at beginning of quarter in which comps will be taken.
Application for Degree	Student	Graduate Office	See preceding discussion of "Awarding of the Master's Degree."

Graduate School

than the end of the second week of the quarter in which the student wishes the degree officially recorded. A student must be enrolled for at least two credits during the quarter in which the program is completed or during the preceding (calendar) quarter. Commencement is held each June and August.

TEACHER CERTIFICATION

The School of Education, not the Graduate School, deals with the certification of K-12 teachers. For information, contact the Teacher Admission and Advisement Office in Miller Hall 202.

UNDERGRADUATE ENROLLMENT IN 500-LEVEL COURSES

Undergraduates at WWU who are in their senior year and have at least a 3.00 grade point average can take a single graduate course during any quarter, but under certain provisions. There must not be an appropriate undergraduate course in their field that is equally available; permission must be obtained in advance from the graduate program adviser of the department offering the graduate course; and the Graduate Office must approve the enrollment. A senior who later enters a master's program at WWU may under certain conditions count one such graduate course toward a master's program.

NOTE: Undergraduate students can not enroll in 600-level courses.

THE GRADUATE COUNCIL

The Graduate Council is assigned responsibility within the University for graduate policy and procedures. The Council reviews all course proposals and conducts periodic reviews of graduate programs. The Council also hears and decides on requests for exceptions from standing policies and procedures that regulate graduate study.

LIST OF PROGRAMS AND ADVISERS

- Anthropology (M.A.)
Dr. Robert C. Marshall
- Art (M.Ed.)
Dr. David Templeton
- Biology (M.S.)
Dr. David Schneider
- Business Administration (M.B.A.)
Dr. Earl Benson
- Business Education (M.Ed.)
Dr. H. N. Thoreson
- Chemistry (M.S.)
Dr. Salvatore F. Russo
- Computer Science (M.S.)
Dr. Gary Eerkes
- Education (Administration and Foundations) (M.Ed.)
Adult — Dr. Richard Feringer
School Administration — Judy Gramm
Learning Resources — Dr. Les Blackwell
Student Personnel — Dr. John Utendale
- Education (Curriculum and Instruction) (M.Ed.)
Elementary — Dr. Roberta Bouverat
Exceptional Children — Dr. Sheila Fox
Secondary — Dr. Alden Nickelson
Reading — Dr. H. O. Beldin
- English (M.A.) — Dr. Knute Skinner
- Environmental Science (M.S.)
— Huxley College
Chair, Graduate Program Committee
- Geography (M.S.)
Dr. James W. Scott
- Geology (M.S.)
Dr. E. H. Brown
- History (M.A.)
Dr. George Mariz
- Mathematics (M.S.)
Dr. John Reay
- Music (M.Mus.)
Dr. Ed Rutschman
- Physical Education (M.Ed.)
Dr. Kathleen Knutzen
- Science Education (M.Ed.)
Dr. John Miller
- Political Science (M.A.)
Dr. Donald Alper
- Psychology (M.S.)
Dr. Fred Grote
- Sociology (M.A.)
Dr. Carl Simpson
- Speech Pathology and Audiology (M.A.)
Dr. Loren Webb
- Theatre (M.A.)
Dr. Doug VanderYacht

Anthropology

College of Arts and Sciences

GRADUATE FACULTY

- Boxberger, Daniel L., PhD, ethno-history, maritime anthropology, economic development and social change, North American Indians, Northwest coast.
- Grabert, G. F., PhD, new and old world archaeology, theory.
- Hammond, Joyce, PhD, sex roles, ethnic arts, symbol systems, social and cultural change; Oceania, Polynesian populations in North America.
- Kimball, Linda A., PhD, Southeast and Island Asia, anthropological linguistics, Pacific.
- Marshall, Robert C., PhD, political anthropology, economic anthropology, symbolism, Marxism of anthropology; East Asia, Japan
- Stevenson, Joan, PhD, anthropological genetics, human osteology, medical anthropology.
- Taylor, Herbert C., Jr., PhD, new world ethno-history, pre-history meso-America and the American Southwest, social change.

M.A. — ANTHROPOLOGY, THESIS ONLY

Program Adviser:

Dr. Robert C. Marshall

Prerequisites

Undergraduate major in anthropology or equivalent in social sciences, or departmental permission; candidates with insufficient backgrounds in anthropological history, theory and methods will be expected to take undergraduate courses as deemed necessary by the departmental graduate committee.

Basic Requirements

Anth 503	[1:5]
Anth 504	[1:5]
Anth 532	[1:3]

At least one upper-division or graduate course in each of the four major fields of anthropology [1:12-20]

Anth 691 [1:3-6]

NOTE: Not more than 12 credits allowable in any combination of Anth 690 and 691.

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Electives in Specialization

Courses selected under advisement from 400- or 500-level courses in anthropology; at least 35 credits from courses open only to graduate students.

Supporting Courses

Where appropriate to the student's specialty interests, the candidate may elect up to 15 credits from a related discipline, under Anthropology Graduate Committee advisement. [1:0-15]

Language Requirement

A reading or speaking knowledge in an appropriate foreign language. Foreign students for whom English is not the native tongue may be exempted. Subject to the approval of the department and the Graduate School, the candidate may substitute one of the following:

1. Computer science options.
2. A series of courses in linguistics to be determined in consultation with the graduate committee.
3. Statistics option.

Advancement to candidacy is granted upon successful completion of:

- (a) Anth 503
- (b) Anth 504
- (c) Anth 532
- (d) One course in each of the sub-fields of anthropology, which in the area of physical anthropology shall be chosen from either Anthropology 417 (Primate Behavior), 420, 423, or 511 or their equivalents.
- (e) The language requirement.
- (f) The Graduate Record Examination, General Test
- (g) Participation in the instruction of an introductory anthropology course where appropriate.

Art

College of Fine and Performing Arts

M.Ed. — THESIS AND NON-THESIS

Program Adviser:

Dr. David E. Templeton

GRADUATE FACULTY

Lawrence Hanson
R. Allen Jensen
Thomas Johnston
David Marsh
Patrick McCormick
Mary McIntyre
Thomas Schlotterback
Linda Smeins
David Templeton
Robert Urso
Gene Vike
Homer Weiner

Prerequisites

An undergraduate major or a balanced program of at least 45 hours in art.

The Applicant is Requested to Submit:

- a. A 300 to 500 word statement of purpose indicating why he or she wishes to pursue graduate work. This statement should be sent to the Graduate School.
- b. A selected portfolio of art works (and/or color transparencies and color photos of his works). The portfolio should be sent to Dr. David E. Templeton, Department of Art, WWU. If the applicant plans to have art works returned by mail, he or she should be sure the size will be within the limits prescribed by the postal department.

Specific Test Requirements

Graduate Record Examination. General Test prior to admission decision.

Basic Requirements

EdAF 501, 512, 513 [I and II:12]
Art 582 [I and II:4]

Art 690a or 690b [I:6]

Other Requirements

Art History 501 (3), one course in history of art (3), and two studio courses (3 each) each in a different medium. [I and II:12]

Requirements in Specialization

Art 582, three graduate-level studio courses, each in a different medium. [I and II:16]

Electives in Specialization

Under advisement, students will develop an area of specialization. The fields from which to choose are broad: art education, art history, studio, education, arts education, psychology and philosophy, to name a few. The area must be determined by the end of the second quarter of course work.

Biology

College of Arts and Sciences

GRADUATE FACULTY

Brakke, David F., PhD, limnology.
Brown, Herbert A., PhD, vertebrate zoology.
Dube, Maurice A., PhD, marine algae.
Erickson, John E., PhD, genetics.
Flora, Charles J., EdD, marine invertebrate zoology.
Fonda, Richard W., PhD, plant ecology.
Kendall, Ronald J., PhD, environmental toxicology.
Kohn, Hubertus, PhD, plant physiology.
Kraft, Gerald F., PhD, aquatic entomology.
Mason, David T., PhD, limnology.
Nickelson, Alden L., PhD, science education.
Parakh, Jal S., PhD, science education.
Riffey, Meribeth M., PhD, ornithology.
Ross, June R. P., PhD, DSc, evolution and ecology of marine organisms.
Schneider, David E., PhD, physiological marine ecology.
Schwemmin, Donald J., PhD, micro-biology.
Senger, Clyde M., PhD, mammalogy.
Slesnick, Irwin L., PhD, science education.
Suikin, Stephen D., PhD, invertebrate larval biology.
Summers, William C., PhD, marine ecology.
Taylor, Ronald J., PhD, systematic botany.
Webber, Herbert H., PhD, applied marine invertebrate ecology.
Williams, Don C., PhD, cellular and molecular biology.
Yu, Ming-Ho, PhD, environmental biochemistry.

APPLICATIONS

Applications for summer or fall quarter will be acted upon during the first week of the spring quarter by the Biology Department. Applications and supporting materials must be received by the Graduate Office by March 15 to be considered for a teaching assistantship. Students applying after the first week of spring quarter may jeopardize their chances of an opening. Applications made during summer usually do not allow sufficient review time to meet fall admission deadlines.

FOREIGN LANGUAGE, STATISTICS-COMPUTER PROGRAMMING PROFICIENCY

A student must show proficiency in either one foreign language or in statistics-computer programming before he or she is advanced to candidacy. The choice must be approved by the Advisory Committee. Proficiency may be demonstrated by:

1. A reading knowledge of an appropriate foreign language.
2. Passing Biol 340 with a grade of "A" or "B" and Computer Science 110 or 210 with a grade of "A" or "B."

THESIS AND EXAMINATION

Degree candidates will submit a thesis based on independent and original research on a problem approved by the Advisory Committee. A final oral examination will be conducted by the Advisory Committee. Degree candidates will present a seminar based on the results of the thesis research at a regular department seminar. No credit hours will be given for the seminar.

M.Ed. — NATURAL SCIENCE

Biology Specialization, Thesis and Non-Thesis

Program Adviser:

Dr. David E. Schneider

Prerequisites

An applicant is expected to have completed the equivalent of an undergraduate major in biology including at least one course in organic chemistry. The student also must have had Science Ed 383 and 492 (or the equivalents). Any deficiencies in these requirements must be made up outside the credit hour requirements for the Master of Education degree.

For curriculum requirements see "Natural Science" section.

M.S. — BIOLOGY, THESIS ONLY

Program Adviser:

Dr. David E. Schneider

Prerequisites

A bachelor's degree. Deficiencies in under-graduate courses or those subsequently revealed to the Advisory Committee must be removed. Applicants are directed to the current requirements of the basic B.S. degree with a major in biology for a summary of expected preparation for graduate work.

Specific Test Requirements

Graduate Record Examination, General and Subject in Biology

Requirements in Specialization

Thesis research (Biol 690) [I:12]
Graduate courses in biology, selected under advisement and approved by Advisory Committee [I:11]

Electives

Courses selected under advisement and approved by Advisory Committee

Graduate School

tee from 400- and 500-level courses in biology and supporting disciplines. No more than 10 credits may come from 400-level courses. [1:22]

Cooperative Environmental Biology Offering

The Department of Biology and Huxley College of Environmental Studies administer a cooperative graduate program offering in environmental biology leading to an M.S. degree in biology. This option focuses on the understanding and potential solution of environmental problems.

Business & Economics

College of Business and Economics

GRADUATE FACULTY

Benson, Earl D., PhD, finance.
Bryce, Wendy J., MBA/ABD, marketing
Fewings, David R., PhD, finance
Garcia, Joseph E., PhD, organizational behavior.
Griffiths, David T., PhD, macroeconomic/money theory.
Harder, K. Peter, PhD, international trade.
Haug, Peter, MBA, ABD, operations management.
Henson, Steven E., PhD, microeconomics, quantitative methods
Keleman, Kenneth S., PhD, behavioral science.
Lewis, L. Floyd, PhD, management information systems.
Lockhart, Julie A., MS/CPA, managerial accounting.
Lookabill, Larry L., PhD, financial accounting.
Mayer, Erwin S., PhD, labor economics, public policy
Meier, Robert C., PhD, decision sciences.
Merrifield, David E., PhD, microeconomics, managerial economics.
Mischaikow, Michael K., PhD, regional economics, comparative systems.
Moore, John, PhD, business policy.
Murphy, Dennis R., PhD, managerial economics/international finance
Nelson, David M., PhD, macroeconomic theory, money markets
Olney, Thomas J., MBA/ABD, marketing.
Owens, Eugene, PhD, behavioral science
Peterson, Lora, EdD, business education.
Plumlee, E. Leroy, DBA, business environment.
Rieck, Robin, PhD, business, government and society
Rystrom, David S., PhD, finance.

Safavi, Farrokh, DBA, marketing/international business.
Sailors, William, MS/CPA, auditing theory
Savey, Ronald, MBA/CPA, financial accounting, accounting theory.
Senge, Stephen V., DEIA, cost/managerial accounting.
Singleton, Ron, PhD/CPA, taxation.
Sleeman, Allan G., PhD, quantitative methods.
Thoreson, Hubert N., EdD, business education
Whalley, Pamela S., MA/A-3D, money and banking, public finance
Wonder, Bruce D., PhD, personnel administration.

MASTER OF BUSINESS ADMINISTRATION, NON-THESIS

Program Director:

Dr. Earl D. Benson

APPLICATIONS AND ADMISSION

A new class is admitted to start the program in June of each year. Some students may be able to have the first summer quarter classes waived and start the program in the fall. The program is offered on either a part-time or full-time basis.

Applicants must have a bachelor's degree; however, that degree need not be in business or a business-related area. Applications are made to the Graduate School and must include an official application form, the results of the Graduate Management Admission Test, official transcripts of all previous college-level work and a resume showing work experience. Applicants from non-English speaking areas must include their scores on the Test of English as a Foreign Language (TOEFL). Letters of reference may be submitted or requested.

Preferred consideration is given to applications received by March 15.

See the MBA Program section under the College of Business and Economics in this catalog for more information about the program of study, basic requirements and course listings.

M.Ed. — BUSINESS EDUCATION, THESIS AND NON-THESIS

Graduate Faculty

Peterson, Lois, EdD, business education.
Thoreson, Hubert N., EdD, business education.

Program Adviser:

Dr. Hubert N. Thoreson

Two Master of Education degree options are available to business education majors. Option I (thesis option) requires a minimum of 45 credit hours of course work and a thesis. A comprehensive examination may be required. Option II (non-thesis option) requires a minimum of 48 credit hours of course work and successful completion of comprehensive examinations in the areas of business education and education.

Prerequisites

Completion of the undergraduate major or its equivalent. Any deficiencies will be determined by the program adviser.

Basic Requirements

EdAF 501, 512, 513 [I and II:12]

Specific Test Requirements

Graduate Record Examination —
General and Subject in Education.

Requirements in Specialization

*Bus Ed 503, 504, 571, 572,
575, 595 [I and II:15]
Bus Ed 690 [I:6]

Electives in Specialization

Bus Ed 500, 551, 573
Selected under departmental advise-
ment

Electives in Related Areas

Selected under departmental advise-
ment

*Select a minimum of five courses.

Chemistry

College of Arts and Sciences

GRADUATE FACULTY

Briggs, W. Scott, PhD, organic chemistry.
Crook, Joseph R., PhD, inorganic chemistry.
Gerhold, George A., PhD, physical chemistry.
King, Donald M., PhD, analytical chemistry.
Kriz, George S., PhD, organic chemistry.
Lampman, Gary M., PhD, organic chemistry.
Miller, John A., PhD, science education/organic
chemistry.
Neuzil, Edward F., PhD, physical chemistry/nu-
clear chemistry.
Pavia, Donald L., PhD, organic chemistry.
Prody, Geraldine A., PhD, biochemistry.
Russo, Salvatore F., PhD, biochemistry.
Weyh, John A., PhD, analytical chemistry.
Whitmer, John C., PhD, physical chemistry.
Wicholas, Mark, PhD, inorganic chemistry.
Wilson, H. William, PhD, physical chemistry.

M.S. — CHEMISTRY, THESIS AND NON-THESIS

Program Adviser:

Dr. Salvatore F. Russo

Prerequisites

A bachelor's degree and departmen-
tal approval. Deficiencies revealed by
area competency examinations must
be removed.

Specific Test Requirements

Graduate Record Examination, Gen-
eral and Subject in Chemistry.

Requirements in Specialization

- Thesis option: Chem 595 (2 cred-
its), 690 (12 credits).
- Non-thesis option: Chem 595 (2
credits), 694 (6-12 credits), 501 (6
credits).
- Courses selected under advise-
ment and approved by the Chem-
istry Graduate Committee from
chemistry and supporting disci-
plines, when appropriate, to total
at least 31 credits (thesis option)
or 34 credits (non-thesis option).

Electives in Related Areas

Selected under advisement from
related fields.

*Community College
Internship Option
for Master of Science
Chemistry Students*

Students interested in pursuing a career as an educator in a community college can obtain practical experience and training in their desired vocation by participating as a community college intern in conjunction with studies leading to the M.S. degree in chemistry. This option stipulates course work over and above the 45 credits required for the M.S. degree. Two years should be allotted for the completion of degree including intern option.

A student will normally spend one quarter as an intern (in residence) in a selected community college. This will usually occur in the second year of study. It is the purpose of the internship to provide not only an experience in instruction but also an exposure to the community college philosophy.

In addition to the credit requirements for the M.S. degree the following courses are required or recommended:

- 1) Chem 696 (9-12) Internship in Chemistry in the Community College (required)
- 2) Psych 371 (3) Evaluation in the Secondary School (required)
- 3) Sci Ed 500 (2-5) Special Projects in Science (recommended)

Candidates for the M.S. degree plus intern option should notify the Internship Program adviser as early as possible during the first year of graduate study.

*Industrial Internship Option
for Master of Science
Chemistry Students*

Students interested in pursuing a career in industry can obtain practical experience by participating in the industrial internship program as part of their M.S. curriculum. Normally,

students choosing this option will earn a master's degree *via* the non-thesis option. However, in those instances where the research problem undertaken in the industrial setting can be coordinated with on-campus research, the student may exercise the thesis option, with approval of the Graduate Adviser.

A student will normally spend one or two quarters as an intern with a company which has been selected in advance. This internship will normally take place during the second year of graduate study. Students interested in an industrial internship should notify the program adviser as early as possible during the first year of graduate study. The department cannot guarantee that an internship opening will be available for all interested students.

In addition to the internship, students exercising this option will be expected to submit a comprehensive report, according to an approved format, describing the work accomplished during the internship. A seminar describing the work will also be expected. Additionally, the student will be expected to pursue a limited research problem on campus. This research problem will normally require the equivalent of one quarter's work, although it may be extended over more than one quarter.

M.Ed. — NATURAL SCIENCE

*Chemistry Specialization,
Thesis and Non-Thesis*

Program Adviser: Dr. John A. Miller

Prerequisites

Completion of an undergraduate teacher education major in chemistry. An evaluation of the undergraduate record will determine any deficiencies which must be made up outside the credit requirements for

the Master of Education program.

For curriculum requirements see "Natural Science" within Graduate School section on following pages.

Communication

See *Speech and Broadcast*.

Computer Science

College of Arts and Sciences

MS. — COMPUTER SCIENCE, THESIS AND NON-THESIS

Program Adviser:

Dr. Gary L. Eerkes

Students entering the program should have an undergraduate degree in computer science or a closely related field. In particular, the entering student should have completed the equivalent of Math 124, 125, 126, 205, Math-CS 207, 208, CS 210, 310, 331 and 332. Please refer to the Mathematics and Computer Science sections of this catalog for descriptions of these courses.

Admission to graduate study does not guarantee admission to all graduate courses offered in computer science; it may be necessary for students to take certain prerequisite courses. Subject to approval of the graduate adviser, a maximum of 10 credit hours of 400-level undergraduate work may be applied toward the M.S. degree.

Specific Test Requirements

Graduate Record Examination. General Test.

Basic Requirements

Common Core: Both degree options

require 24 credit hours of course work distributed over four core areas. These courses must be selected to include at least one 500-level course in each area. Contact the Computer Science Department for details concerning which specific courses may be taken to satisfy the topical areas.

Programming Languages [I and II:8]
Operating Systems and

Architectures [I and II:8]

Theoretical [I and II:4]

Database/File structures [I and II:4]

Thesis Option —

Common Core [I:24]

Electives [I:20]

Thesis [I:6]

Non-Thesis Option —

Common Core [II:24]

Electives [II:24]

Project [II:6]

Note: The present policy of the department is to have all students select the thesis option.

A student's M.S. program will be tailored according to the general requirements and the student's background and career intentions. Please refer to the Computer Science portion of this catalog for descriptions of specific courses. Inquiries about the M.S. in computer science should be addressed to the Computer Science Department. Admission to the program is through the WWU Graduate School.

Education

School of Education

Courses in the School of Education's graduate program which are offered by either the Department of Educational Curriculum and Instruction or the Department of Educational Administration and Foundations are designated according to the program from which each originates.

Curriculum and Instruction courses are designated EdCI.

Administration and Foundations courses are designated EdAF.

COMMON REQUIREMENTS

Admission

Students' applications are first reviewed by the Graduate School before consideration for admission by a specific program.

Computer Competency

Students admitted to programs in the School of Education are required to possess minimum computer competence prior to completion of their program and, when applicable, prior to being recommended for certification. Procedures for demonstrating or developing competence are available in Miller Hall 218.

On-Campus Study

Graduate programs require a minimum of one quarter of full-time resident study consisting of a minimum of 10 credits. This requirement may be met either during a summer session on campus or during any quarter of the regular school year.

Second Master's Degree

Enrollment must be for a single M.Ed. program. Students who have earned an M.Ed. may apply for admission to another M.Ed. program but all requirements of the second program must be met (with possible allowance for some course work taken in the first program).

EdAF 501 as Initial Course

All education graduate study programs require Ed AF 501 as an initial course. EdAF 501 must be taken before either 512 or 513 and within the first 15 credits of the master's program. A grade of "A" or "B" must be earned in EdAF 501 for the student to continue in the program. The course may be repeated once for improved grade but only with the permission of the chair of the appropriate School of Education department and upon the advice of depart-

mental faculty. No further credits can be counted toward the M.Ed. until the course has been repeated and an "A" or "B" has been earned.

Please note: Due to a review and revision process which may affect School of Education programs and courses, the information contained in the Education section of this catalog is subject to change.

Educational Administration & Foundations

School of Education

General Admission Requirements

Students must meet Graduate School requirements before being considered for admission to a specific program. All programs of the department require the Graduate Record Examination, General Test prior to the admissions decision.

M.Ed. — ADULT EDUCATION ADMINISTRATION

Program Adviser:

Dr. F. Richard Feringer

Program Goals

The Adult Education program is organized to prepare students for either entry-level or advanced level competence for work in any institution that sponsors educational programs for adults. A representative list of agencies and institutions which sponsor educational programs for adults includes continuing education departments of colleges and universities, YM/YWCAs, libraries, museums, churches and other voluntary agencies, and business and industry and public agencies which have inservice staff training.

Students have a choice of two areas

of specialization, one as an administrator/planner and the other as a teacher/educator.

The curriculum is designed to examine theory within the context of field experiences. Program design allows for part-time study when students are working professionals. All students must complete two projects. For working adults in human service agencies, however, their jobs may provide opportunities for the field experience.

Admission

Applicants in the Adult Education Administration program may be:

- a. Salaried employees of Human Services agencies as described above; or
- b. Persons who have, or can obtain, a volunteer or fellowship placement (paid by the agency) with institutions which fit the human service category and for which the specific work is relevant to the course of study; and
- c. A bachelor's degree.

Completion time for the program is a minimum of one year. Average completion time is three years.

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Graduation Requirements

Graduation Requirements

- 1) Thesis — 48 credit hours minimum of course work.
- 2) Non-Thesis — 52 credit hours minimum of course work.

Basic Requirements

EdAF 501, 512, 513, 518a, 578, 592h,j or 592k, 690a or b

Additional Requirements in Administration/Planning Specialization

EdAF 576 plus 8 credits of electives relevant to administration

Additional Requirements in Teacher/Education Specialization

EdAF 577 (plus 5-10 credits in

advanced work in content area of teaching)

Electives

Electives will depend upon the students' academic backgrounds, and their needs as related to professional goals.

Electives may be drawn from any relevant department under advisement of the program adviser.

M.Ed. — STUDENT PERSONNEL ADMINISTRATION IN HIGHER EDUCATION

Program Adviser:

Dr. John F. Utendale

Program Goals

This program is designed to prepare professionals for Student Personnel work in higher education. The program emphasizes the development of leadership and managerial skills, as well as theories of human and organization development.

The generic skill building, theoretical concepts, research activities and experiential opportunities provided by the program could be applied to a broad array of human services functions.

The program requires an in-depth internship and a non-thesis research project. Considerable flexibility for program completion exists.

Admission

A bachelor's degree and experience in student personnel or related human services work are required. Admission is by committee action, and a personal interview is required. Criteria include appropriate academic background and achievement, evidence of interpersonal communication skills, and commitment to a process of self-awareness and personal-professional development.

Graduate School

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Basic Requirements

EdAF 501, 512, 513 (12 credits)

Requirements in Specialization

Core courses — EdAF 555, 556, 557a, 557b, 557c, 558 (22 credits)

Research project — EdAF 559 (6 credits)

Internship — EdAF 592f (12 credits)

Electives (variable credit) to be selected under advisement.

These credits are supplemental to the student's SPA program and may or may not be counted toward Graduate School minimums.

M.Ed. — SCHOOL ADMINISTRATION

Elementary, Secondary, Learning Resources

Program Advisers

On-campus: Judy Gramm, MH 206E
Seattle Center: Dr. Linda Zurfluh
(206/464-6103)

Learning Resources: Dr. Les
Blackwell, MH 310A

Program Goals

The School Administration program is designed to prepare elementary and secondary school teachers to assume leadership roles as principals, vice principals or learning resource specialists. Candidates are recommended for the master's degree and/or principal certification.

Admission

- Course background appropriate to level of specialization.
- Application for admission to Graduate School.
- Letters of recommendation from sponsoring district.
- Official transcript(s) showing all previous course work.
- Writing sample.

- An interview with a program adviser may be required.

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Options

Consistent references will be made in this section to Options I and II. Option I is a minimum of 45 credits, including EdAF 690a (thesis) or 690b (field project). Option II is a minimum of 50 credits followed by comprehensive tests in the Foundations area and in the specialization.

Credit requirements in the two options will be indicated by a Roman numeral designation for the program option followed by the required number of credits. For example: I:6 means six credits are required in the Option I alternative.

Basic Requirements

EdAF 501, 512, 513 [I and II:12]
EdAF 690a or b [I:6]

Requirements in Specialization

EdAF 541a, 543a, 544c, [I and II:12]
EdAF 542a,b,c,d [II:6]

Electives in Specialization

Emphasis in specialized field(s): law, negotiations, finance, personnel, systems management, administration of learning resources and educational computers. [II:10]

Electives in Related Areas

Selections under advisement from supporting disciplines, e.g., political science, economics.

[I and II:10]

Principal's Initial Certificate

Candidates for the Washington State Initial Principal's Certificate must have a total of three years certificated experience, to include one year of successful teaching experience; a valid Washington State teaching certificate and a master's degree in school administration (program to include approved certification course work). A 9-credit internship is required in addition to the master's degree.

Individuals who have completed a total of three years certificated experience, to include one year of successful teaching experience, have a valid Washington State teaching certificate, and have a master's degree in a field other than school administration may become eligible for the initial principal's certificate by completing 32 credits of course work under advisement and a 9-credit internship.

Applicants for admission to this program should contact the School Administration Office.

Principal's Standard/Continuing Certificate

For the Washington State Standard/Continuing Principal's Certificate, 12 to 15 credits of course work beyond the requirements for the Provisional/Initial Certificate are required. Transfer credits are not allowed. Coursework must be done under advisement and after proper application has been made to the School Administration Office.

Certificate of Advanced Study (CAS)

A specialized post-master's degree program at the sixth-year level is now offered to a limited number of candidates. A program description is available from the School Administration Office.

Educational Curriculum and Instruction

School of Education

GRADUATE STUDY OPTIONS

Consistent references will be made in this section to Options I and II. Option I requires a minimum of 45 credits, including EdCI 690a (thesis) or 690b (field project). Option II requires a minimum of 48 credits, fol-

lowed by comprehensive tests in the Foundations area and in the area of specialization.

Credit requirements in the two options will be indicated by Roman numeral designation for the program option followed by the required number of credits. For example: I:6 means six credits are required in the Option I alternative.

Common Courses

Option I — Thesis or Field Project (minimum of 45 credits total)

EdAF 501, 512, 513 [I:12]
EdCI 690a or 690b [I:6-9]

Option II — Non-Thesis (minimum of 48 credits total)

EdAF 501, 512, 513 [II:12]

M.Ed. — ELEMENTARY

The Elementary program consists of the systematic, scholarly study of research, theories and practices related to education of children. This degree program is intended for individuals who plan to teach elementary and pre-school children or work in a consultant, supervisory or administrative capacity with adults interested in the education of children.

Advisement is provided to develop specializations in early childhood, curriculum and instruction, and consultant/supervisor programs.

Graduate Program Adviser:

Dr. Roberta Bouverat
Areas of specializations and advisers
Early Childhood Education
Dr. Bouverat
Curriculum and Instruction
Dr. Marvin Klein
Consultant/Supervisor
Dr. George Lamb

Prerequisites

Graduate Record Examination, General Test. Undergraduate preparation in elementary education and teaching experience; minimum score of 40 on the Miller Analogies Test.

Courses

EdAF 501, 512, 513 [I and II:12]

Graduate School

EdCI 521, 533b [I and II:8]
Two courses from
EdCI 531, 532 & 533 [I and II:8]
Electives under advisement (which
will determine the scope of the option
[I:8-11; II:20])
EdCI 690a or 690b [I:6-9]

M.Ed. — SECONDARY

The Secondary Education graduate program offers four areas of specialization. These are: (a) the high school/middle school track for students holding teaching certificates; (b) the high school/middle school track with teaching certification for students who do not hold a teaching certificate; (c) the curriculum consultant track for experienced teachers interested in curricular service careers; and (d) the curriculum consultant track with a computer applications focus.

Graduate Program Adviser:
Dr. Alden Nickelson

Areas of specialization
High School/Middle School
High School/Middle School with
Certification
Curriculum Consultant
Curriculum Consultant and
Computer Applications

Prerequisite

Graduate Record Examination, General Test. Approval of application by program adviser based on academic record and recommendations. Two years' successful teaching experience in grades 7-12 is required for the curriculum specialization and is considered desirable for the high school/middle school program. For the computer applications track, CS 210 or equivalent is required.

High School/Middle School Track
EdAF 501, 512, 513 [I and II: 12]
EdCI 481 or 484, 500, 522a and/or b,
and 523 [I and II:13-20]
Electives under advisement
[I:6-14; II:16-23]
EdCI 690a or 690b [I:6-9]

HS/MS with Certification Track
EdAF 501, 512, 513 [I and II:12]

EdCI 481 or 484, EdCI 500, EdCI 522a
and/or b, EdCI 523, 560 (or equivalent)
and 596 [I and II:21-28]
Certification courses: EdCI 320, 471,
472, 490a, 495, and Psych 351
(other required certification
courses replaced by courses listed
above) [I and II:30]
Electives under advisement
[I:6-14; II:16-23]
EdCI 690a or 690b [I:6-9]

Note 1: Only 10 of the 400-level credits and none of the 300-level credits may count toward the M.Ed.

Note 2: Candidates in this program should understand that any certification to teach is a separate action from the awarding of the master's degree. Both may or may not be achieved at the same time. The Certification Office of the School of Education determines eligibility for certification; the Graduate School awards the M.Ed.

Curriculum Consultant Track
EdAF 501, 512, 513 [I and II:12]
EdCI 522a, 522b, 523, and EdAF
543a [I and II:15]
EdCI 500 (to be used for research
background) and electives under
advisement, including content
electives [I:9-12, II:21]
EdCI 690a or 690b [I:6-9]
*Consultant with Computer
Applications Track*

Note: Only a field project option is available in this track.

EdAF 501, 512, 513 [I:12]
EdCI 522a, 522b, 523, and EdAF
543a [I:15]
EdAF 518, EdAF 544b, CS 310, 331
and 491, plus advised electives
[I:21-25]
EdCI 690b [I:9]

M.Ed. — READING

Advisement and course work is available in this field for developing either a reading consultant or remedial reading teacher specialization.

Graduate Program Adviser:
Dr. H. O. Beldin

Areas of specialization
 Reading Consultant
 Remedial Reading Teacher

Prerequisites

Graduate Record Examination, General Test. Minimum score of 40 on the Miller Analogies Test. Admission to the reading consultant area requires three years' teaching experience.

Courses

EdAF 501, 512, 513 [I and II:12]
 EdCI 584, 586, 587, 594 (either e,f,g or e,f,h) [I and II:24]

Electives under advisement [I:0-3; II:12]

Recommended electives (to be chosen with an adviser to assist with specialty development): Choose from EdCI 481, 484, 583, 585, 589, 686.

EdCI 690a or 690b [I:6-9]

M.Ed. — EXCEPTIONAL CHILDREN

The Exceptional Children program enhances an undergraduate degree and initial or continuing teaching certificate by adding seminars, regular classroom work, and practicum to the candidate's portfolio. The consultative teaching program is an alternative specialization in exceptional children. It reflects and responds to current practices in special education programs in public schools.

Graduate Program Adviser:

Dr. Sheila Fox

Areas of specialization
 Exceptional Children
 Consultative Teaching Program

Prerequisites

Graduate Record Examination, General Test. An undergraduate preparation in education is required, including EdCI 360, 361, 461, and 462 or their equivalents. Concurrent enrollment in these courses is permitted under advisement.

Exceptional Children Specialization

EdAF 501, 512, 513 [I and II:12]
 EdCI 561, 562, 563, 564, 566, and 598 [I and II:21-23]

Electives under advisement [I:1-6, II:13-15]

EdCI 690a or 690b [I:6-9]

Consultative Teaching Specialization

EdAF 501, 512, 513 [I and II:12]

EdCI 560a, 561, 562, 563, 564, 565, 565a, 566, and 598 [I and II:32-34]

Electives under advisement [II:2-4]

Suggested courses include Speech 507 and EdAF 544b. EdCI 690a or 690b [I:6-9]

English

College of Arts and Sciences

GRADUATE FACULTY

- Barthold, B.J., PhD, literature and rhetoric.
 Brown, R.D., PhD, literature and creative writing.
 Cary, Meredith, PhD, literature and rhetoric.
 Greenstein, Susan M., PhD, literature.
 Huff, Robert, MA, creative writing.
 Inniss, Kenneth, PhD, literature and rhetoric.
 Johnson, Ellwood, PhD, literature and criticism.
 Kalpakian, Laura, MA, creative writing.
 Keep, W. C., PhD, literature and creative writing.
 Larsen, Golden, PhD, literature.
 Mason, John B., PhD, English education and literature.
 Muldrow, George E., PhD, literature.
 Park, Douglas, PhD, literature and rhetoric.
 Peters, Robert A., PhD, literature and linguistics.
 Skinner, Knute, PhD, literature and creative writing.
 Symes, Ken M., PhD, literature and rhetoric.
 Wright, Evelyn C., PhD, English education.

M.A. — ENGLISH, THESIS AND NON-THESIS

Director of Graduate Studies:

Dr. Knute Skinner

The M.A. program in English offers three options of concentration: (1) literature, (2) writing, (3) rhetoric/composition.

Specific Test Requirements

Graduate Record Examination, General Test, writing sample (consult the director of graduate studies) and a 750-word statement of background and intention.

1. Literature (Thesis and Non-Thesis)

Core Requirements

Eng 501 and 25 credits in literature, criticism, rhetoric or Eng 513. Twenty of these 25 credits must be taken in scheduled courses. Electives: 18 credits (literature, criticism, creative writing, rhetoric, pedagogy, English language) for the non-thesis student; 10 credits from those areas for the thesis student and five credits in Eng 690.

2. Writing (Thesis and Non-Thesis)

Track one: Creative Writing (Thesis)

Core Requirements

Eng 501, 20 credits in creative writing (fiction, drama, poetry, non-fiction prose) and five credits in Eng 690. Electives: 15 credits in literature, criticism, rhetoric or Eng 513. Ten of these 15 credits must be in scheduled courses.

Track two: Professional Writing (Thesis and Non-Thesis)

Core Requirements

25 credits in writing (fiction, drama, poetry, technical writing and non-fiction prose). Note: English 690 counts as a writing course. Electives (20 for thesis students; 23 for non-thesis students) in rhetoric, literature, writing (including writing courses outside the Department of English), writing internship and/or an approved speciality in another field. Note: approval is based upon students' individual writing career plans.

3. Rhetoric/Composition (Non-Thesis)

Core Requirements

24 credits, including Eng 443, 471 or 474, 501, 510, 513 or 594. Electives: 15 credits in literature and criticism and nine credits in writing courses selected in consultation with the graduate adviser.

Credits

Routinely courses are taken at the

500 and 600 levels. With the permission of the graduate adviser a student may count up to a maximum of 10 credits in 400-level courses toward the degree requirements.

Language Requirement

Students in the literature option must demonstrate reading competence in a foreign language acceptable to the Graduate Committee. Students in the writing and the rhetoric/composition options will satisfy this requirement in a variety of other ways. For details, see the *Graduate Program Guidelines*, a copy of which may be obtained from the director of graduate studies.

Comprehensive Examination

Students must pass a written comprehensive final examination in their concentration, except as follows: students in the professional writing track may write a thesis instead of taking a comprehensive exam. For details, see the *Graduate Program Guidelines*, a copy of which may be obtained from the director of graduate studies.

Other

Requirements for admission to graduate status, advancement to candidacy, advisement and registration, course load and length of program, graduate assistantships and other financial aid, thesis areas and requirements, comprehensive exam-



ination reading lists, graduate plan of study, procedural and administrative matters pertaining to the language requirement, the comprehensive examination and graduation may be found in the *Graduate Program Guidelines*.

Foreign Languages

College of Arts and Sciences

M.Ed. — FOREIGN LANGUAGE EDUCATION, NON-THESIS ONLY (ALL OPTIONS)

At the present time, no applications for this program are being accepted. For further information, contact the chair of the Department of Foreign Languages.

Geography & Regional Planning

College of Arts and Sciences

GRADUATE FACULTY

- Critchfield, Howard J., PhD, applied climatology, Southwest Pacific.
 Monahan, Robert L., PhD, resource geography, Canadian-American studies (Director, Canadian-American Studies Center).
 Mookherjee, Debnath, PhD, comparative urbanization, regional development and planning.
 Scott, James W., PhD, historical geography of the North American West, history and bibliography of geography (Director, Center for Pacific Northwest Studies).
 Smith, Richard G., PhD, high latitudes resources, landform geography, (on leave)
 Terich, Thomas A., PhD, shoreline processes, urban and regional planning.

Adjunct Faculty

- Berg, Richard H., PhD, P.E., remote sensing, quantitative methods.
 Vernon, Manfred C., JD/PhD, environmental law, law of the sea.

M.S. — GEOGRAPHY, THESIS ONLY

Program Adviser:

Dr. James W. Scott

Program Goals

The Department of Geography and Regional Planning offers a program leading to the M.S. degree in geography. The primary objective of this program is to provide a disciplinary foundation with emphasis on regional analysis focusing either on natural resources or regional development. Among the essential components of the program are critical thinking in history and theory of geography, geographic techniques and applied spatial analysis. The program is designed for those students who wish to pursue careers in such diverse fields as business, government, planning, teaching or research/consulting, or for those students who desire to pursue advanced degrees.

Core Requirements

- Geog 501 History and Philosophy of Geography [1:4]
 Geog 510 Research Techniques [1:5]
 Geog 521 Seminar in Systematic Geography: Human OR
 522 Seminar in Systematic Geography: Physical [1:5]
 551 Research Problem [1:5]
 590 Graduate Colloquium [1:2]
 Geog 690 (Thesis) [1:6]

Electives in Specialization

To be chosen under advisement [1:9]

Supporting Courses

Under advisement, normally from either the social sciences or the physical sciences. A minimum of nine credits to be taken. [1:9]

Specific Test Requirements

Graduate Record Examination, General.

Other Requirements

Demonstrated competence (by course work or by specially administered test, as appropriate) in one or

Graduate School

more of the following techniques: statistics, computer science, cartography (including computer cartography), a foreign language.

Geology

College of Arts and Sciences

GRADUATE FACULTY

- Babcock, R. S., PhD, geochemistry, petrology.
Beck, M. E., Jr., PhD, geophysics, paleomagnetism.
Brown, E. H., PhD, metamorphic petrology, geochemistry.
Christman, R. A., PhD, mineralogy, earth science
Easterbrook, D. J., PhD, geomorphology, glacial geology.
Ellis, R. C., PhD, mineralogy, structural geology.
Engelbreton, D. C., PhD, tectonics, paleomagnetism.
Hansen, T. A., PhD, paleontology.
Kelsey, H. M., PhD, hydrology, geomorphology.
Schwartz, M. L., PhD, coastal processes, science education.
Suzcek, C. A., PhD, stratigraphy, sedimentary petrology, tectonics.
Talbot, J. L., PhD, structural geology, geotectonics.
Wodzicki, A., PhD, economic geology, geochemistry.

M.S. — GEOLOGY, THESIS ONLY

Program Adviser: Dr. E. H. Brown

Prerequisites

Applicants are expected to have completed (1) an undergraduate major in geology or earth science, or equivalent course work, including one year each of mathematics through calculus, chemistry and physics and an approved geology field course; or (2) an undergraduate major in chemistry, physics or biology plus a minimum of 26 credits from Geol 211 (5), 212 (4), 305 (3), 306 (5), 310 (5), 316 (5), 318 (5), 352 (4), 399 (1), 415 (4), 416 (1), 418 (3), 420 (5); and an approved geology field

course. For concentration in geophysics, applicants are expected to have completed the equivalent of the requirements for a B.S. degree in geophysics.

Basic Requirements of Specialization
Forty-five (45) credits; 35 or more credits from Geology graduate (500- and 600-level) courses (no more than 10 credits may apply from 400-level courses.) The 600-level credits shall include Geol 690 (12). The 500-level courses shall include Geol 580 (2) and Geol 595 (total of 3). Also included in the requirements is at least one of the following: Geol 523 (5), 524 (5), 525 (5), or 526 (5).

Specific Test Requirements
Graduate Record Examination, General and Subject in Geology; Department Comprehensive Examination.

Electives in Specialization
Courses are selected under advisement and must total at least 33 credits. Specialization within the Geology graduate program is by advisement through the program adviser and the thesis committee chairperson. Areas of specialization include, but are not limited to, coastal geology, economic geology, environmental geology, geochemistry, geomorphology, geophysics, glacial geology, hydrology, igneous petrology, metamorphic petrology, paleomagnetism, paleontology, sedimentary petrology, sedimentation, stratigraphy and tectonics. Specialization should be made as early as possible in the student's graduate career.

Supporting Courses

Selected under advisement from mathematics, chemistry, physics and biology.

M.Ed. — NATURAL SCIENCE

Earth Science Specialization, Thesis and Non-Thesis

Program Adviser:

Dr. Robert A. Christman

Prerequisites

Completion of an undergraduate major in earth science or geology. Undergraduate majors in chemistry, physics, physical science, geography, general science or biology may also be eligible provided the specific requirements below have been met.

The following courses or their equivalents must be completed: Geol 211 (5), 212 (4), 305 (3), 306 (5), 310 (5), 407 (4); Chem 121 (5) and 122 (5); Physics 131 (4) and Astron 315 (3) or 219 (5); Math 121 (5); plus an additional 13 credits in chemistry, physics, math or biology. Any deficiencies in these requirements may be made up outside the credit hour requirements for the Master of Education degree.

For curriculum requirements, see "Natural Science" section.

History

College of Arts and Sciences

GRADUATE FACULTY

- DeLorme, Roland L., PhD, 20th century American history, American West, Pacific Northwest
 Eklund, Don D., PhD, American social/intellectual and Native American history.
 Eurich, S. Amanda, PhD, early modern France and European social history.
 Helfgott, Leonard M., PhD, modern Middle East.
 Hiller, Harley E., PhD, western hemisphere (Canada/Latin America).
 Hitchman, James H., PhD, 20th century American and diplomatic history, U.S. maritime history.
 Horn, Thomas C. R., PhD, early modern Europe, Renaissance and Reformation.
 Jackson, Harry D., PhD, middle period in American history, American economic history, women in American history.
 Kaplan, Edward H., PhD, Chinese history.
 Mariz, George E., PhD, intellectual history of 19th century Europe, history of Great Britain.
 Mooers, Stephanie L., PhD, ancient and medieval history
 Radke, August C., PhD, Civil War and Reconstruction, American diplomatic history.

- Rhoads, James B., PhD, Director, Graduate Program in Archives and Records Management.
 Ritter, Harry R., PhD, modern Europe, historiography.
 Roley, Paul L., PhD, Soviet history.
 Schwarz, Henry G., PhD, Chinese and Mongolian history.
 Thomas, Leslie J., PhD, American colonial and revolutionary period, early national period, American constitutional history.
 Truschel, Louis W., PhD, African history.

Fields of Study

- Archives and Records Management
 African History
 Ancient and Medieval History
 East Asian History
 British History
 Historical Preservation
 Middle Eastern History
 Modern European History (1500 to the present, including Russia)
 United States History
 Latin American History
 Canadian History

M.A. — HISTORY, THESIS AND NON-THESIS

Program Adviser: Dr. George Mariz

Prerequisites

Admission to graduate status and to graduate courses requires completion of an undergraduate major in history or the permission of the department. Applicants must also complete both the General and Subject (history) sections of the Graduate Record Examination prior to admission to the program.

Program Options

The department offers two programs — Option A (thesis) and Option B (non-thesis):

<i>Option A Thesis: Basic Requirements</i>	
Hist 501, 502	[1:8]
Hist 690a,b,c (thesis)	[1:12]
Three reading seminars*	[1:12]
Elective courses	[1:13]

Note: The thesis option requires the writing of a comprehensive examina-

Graduate School

tion in *TWO* of the general fields of study listed above, as well as an oral defense of the completed master's thesis. It is recommended for those who wish to pursue further graduate-level study in history.

Option B Non-Thesis: Basic Requirements

Hist 501, 502	[I:8]
Three reading seminars*	[II:12]
Two writing seminars*	[II:8]
Elective courses	[II:20]

Note: The non-thesis option requires the writing of a comprehensive examination in *TWO* of the general fields of study listed above.

Electives

To complete a program in either option A or B, electives may be chosen, in consultation with the graduate adviser from other seminars, readings courses, 400-level undergraduate courses (maximum of 10 credits) or Hist 500 (in rare cases, only with permission of the graduate adviser).

Specific Test Requirements

Applicants are required to take the Graduate Record Examination (General and History sections) *prior* to acceptance into the graduate history program. As noted above, Option A requires an oral defense of the master's thesis and a comprehensive written examination in two fields of study. Option B requires a written comprehensive examination in two fields of study.

Language Requirement

Candidates must demonstrate a reading knowledge of an appropriate foreign language, to be determined by

**Reading and Writing Seminars: Reading seminars (designated "r" in the time table of classes) revolve around reading and discussion of special topics; shorter written exercises such as exploratory or bibliographical essays may be assigned, but not major papers. Writing seminars (designated "w") are extensions of reading seminars in which students write major research papers based on previous preparation in a reading seminar.*

successful completion of an examination administered by the Foreign Language Department (or, where appropriate and with departmental permission, a demonstrated competence in mathematics, statistics, accounting or computer programming).

GRADUATE PROGRAM IN ARCHIVES AND RECORD MANAGEMENT

Program Director:

Dr. James B. Rhoads

The department of History coordinates an inter-departmental graduate program leading to the degree of Master of Arts in history with a concentration in archives and records management. The program is offered in cooperation with a number of agencies and organizations throughout the Pacific Northwest, which provide practical experience in archives administration and records management. Two years are usually required to complete this degree.

Prerequisites

A baccalaureate degree from an accredited U.S. college or university, or an equivalent degree from a foreign university, with a minimum of 25 credit hours in history or an allied field, and a grade point average of 3.00. For further information on admission requirements and procedures, contact the program director.

Basic Requirements

Hist 501, 502	[I:8]
Hist 596	[I:6]
Hist 597 or 598	[I:4]
Hist 599a,b	[I:20]
Hist 690a,b,c	[I:12]
Three reading seminars	[I:12]
Elective courses	[I:12]

Electives

Electives, including appropriate courses in political science, business administration, computer science, or library science, as well as in history, should be chosen in consultation

with the graduate adviser and the program director.

Thesis Requirement

A thesis is normally required, although in special circumstances a field project may be substituted. Thesis topics involving the history of archives administration and records management, or an emerging problem in these disciplines, are encouraged.

Other Requirements

Specific test and language requirements are identical to those required for the regular M.A. in history. In addition, there is a requirement of demonstrated computer literacy, as reflected by course work or examination.

GRADUATE PROGRAM IN HISTORICAL PRESERVATION (NON-THESIS OPTION)

Program Director:

Dr. Harry D. Jackson

The Department of History offers a graduate level program leading to a specialization in historical preservation. The following courses represent the minimum requirements for the degree program. For further information, write or consult the program director.

Hist 591a,b	[8]
Hist 592a,b,c	[18]
Hist 501, 502	[8]
Elective courses	[20]

Huxley College

Huxley College of Environmental Studies

GRADUATE FACULTY

- Brakke, David F., PhD, limnology, watershed management.
- Kendall, Ronald J., PhD, environmental toxicology.

- Lacher, Thomas E., PhD, terrestrial ecology, behavioral ecology.
- Matthews, Robin, PhD, stream ecology, watershed management.
- Mayer, J. Richard, PhD, aquatic chemistry, ground water studies.
- Summers, William C., PhD, marine ecology.
- Webber, Herbert H., PhD, marine biology.
- Weiner, Ruth F., PhD, air quality, energy, science policy.
- Yu, Ming-Ho, PhD, environmental nutrition and biochemical toxicology.

M.S. — ENVIRONMENTAL SCIENCE, THESIS ONLY

Program Adviser: Chair, Huxley Graduate Program Committee

The M.S. in environmental science is a two-year curriculum which draws upon course work from Huxley College and the other colleges of WWU. It is directed toward the development and integration of scientific information in order to describe, predict and/or manage natural systems, and to assess human impact on those systems.

M.S. Options

Major program options are: *Applied Ecology*, focusing on natural systems; *Wildlife Toxicology*, focusing on the evaluation of toxic substances on wildlife; and *Environmental Chemistry*, which is concerned with the origin, transport and fate of chemicals in the environment. This last option may take the form of a cooperative offering with the Department of Chemistry.

Prerequisites

A bachelor's degree in the physical or life sciences, engineering, mathematics, interdisciplinary science program or equivalent area of study; one year of college-level general chemistry; background in organic chemistry and analytical chemistry; one year of college-level biology; background in ecology; background in calculus and analytic geometry; additional prerequisites depending on graduate program option.

Graduate School

Specific Test Requirements

Graduate Record Examination — General Test

Program Requirements

Forty-five (45) credits minimum; 21 or more credits, including Hux 501, of Huxley graduate coursework; 12 or more credits of an approved distribution of graduate courses from other Colleges at WWU; 12 credits of Hux 690 (thesis). Ten credits or less of approved 400-level coursework may be included in the program. A reading knowledge of an appropriate foreign language may be required.

For further information, write or consult the chair, Graduate Program Committee, or the dean of Huxley College.

M.S. — ENVIRONMENTAL SCIENCE, BIOLOGY OPTION, THESIS ONLY

Program Advisers: Chair, Huxley College Graduate Program Committee; Dr. David E. Schneider, Biology Department

Huxley College of Environmental Studies and the Department of Biology administer a cooperative graduate offering in environmental biology, leading to an M.S. degree in biology. This program focuses on the understanding and potential solution of environmental problems.

Program options and requirements are listed in the Biology section of this catalog.

M.S. — ENVIRONMENTAL SCIENCE, BEHAVIORAL TOXICOLOGY OPTION, THESIS ONLY

Curriculum Coordinators: Dr. Ronald J. Kendall, Huxley College; Dr. Richard W. Thompson, Psychology

The behavioral toxicology curriculum is a joint offering of Huxley Col-

lege and the Department of Psychology. The curriculum provides knowledge about methods to assess the nature and impact of various toxic substances on the behavior of animals and humans. The curriculum requires a minimum of 45 credits of course work and the completion of a thesis. Applicants will be reviewed by a committee of faculty from Huxley College and the Department of Psychology.

Prerequisite Courses

Biol 121, 123, 348, 349; Chem 121, 122, 251; Hux 358; Psych 201, 306, 321, 326.

Students enrolled in the behavioral toxicology curriculum in Huxley College must complete the following requirements for the M.S. in environmental science:

Hux 501, 538, 555, 556, 457/557, 690. Suggested electives: Hux 500, 517; Biol 408, 577.

Psych 501-503, 511-513. Suggested electives: Psych 556 and 559.

Mathematics

College of Arts and Sciences

GRADUATE DEGREE STATUS (DEPARTMENTAL REQUIREMENTS)

An entering graduate student will be granted graduate status if he or she has completed the following courses or the equivalent with grades of "B" or better: Math 205, 224, 312, 331, CS 210 and two courses at the 400 level.

A student can be admitted on provisional status if he or she has not met all of the above requirements; however, nine hours of course work completed while on provisional status is the most that can be included in a graduate degree program.

M.S. — MATHEMATICS, THESIS AND NON-THESIS

Program Adviser: Dr. John R. Reay

Specific Test Requirements

Graduate Record Examination, General Test.

Requirements — Thesis and Non-Thesis Options

The student's program must include at least 45 quarter hour credits and a thesis or 48 (without a thesis) credits of approved course work taken after receiving the baccalaureate degree. At most, 18 credits at the 400 level can be applied toward the master's degree (this is an exception to the general 10-credit limit of 400 numbered courses). The following courses or their equivalents are required for graduation: Math 404, 423, 441-2, M/CS 435 or 475, Math 504 or 505 or 564, 524, 525, and 431 or 532. A student who has had an equivalent course as an undergraduate may not have to take the course at Western; it depends upon the individual program of study.

Colloquium

Each student who does not write a thesis will give a one-hour talk to the mathematics graduate students and faculty. The talk is prepared under the direction of a faculty member and is usually an expository presentation of a topic chosen by the student. An announcement of the colloquium giving time, location and a one-paragraph description of the talk must appear one week in advance.

Qualifying Examination for Candidacy

Each student must pass a qualifying examination before being advanced to candidacy.

Advancement to Candidacy

Students are advanced to candidacy when they have demonstrated a

reasonable likelihood of completing their program. They must have completed at least 12 hours of approved course work with a "B" average, including at least one course numbered 500 or above, and have passed the qualifying examination.

Students are recommended for candidacy by the Graduate Committee. The student is responsible for initiating this action when he or she considers the conditions met.

FURTHER INFORMATION AND ADVICE

We urge the student to prepare a program of courses in consultation with his or her adviser as soon as possible after beginning work toward a degree. Deviations may be approved by the Graduate Committee upon request of the student's adviser. For the student's protection, such approval should be obtained before any deviations are made.

A student who wishes to include a course numbered 400, 499, 500 or 599 as part of his or her graduate degree program must obtain approval in advance from the Department's Graduate Committee. The Graduate Committee will consider approval on the basis of a detailed written description submitted by the student not later than three weeks before the date of registration. If the course is approved for graduate credit, the description will be retained in the student's file.

Music

College of Fine and Performing Arts

GRADUATE FACULTY

Frank, Barton, MMus, cello, double bass,
chamber music, music appreciation.

Graduate School

- Hill, Ford D., MMus, piano, keyboard pedagogy, performance studies.
- Iglitzin, Karen, MMus, violin, viola, chamber music, string pedagogy.
- Israels, Charles, BA, jazz studies, ensembles, string bass, electric bass.
- LaBounty, Edwin M., DMus, composition, piano, music education, theory/analysis.
- Morris, Jack, MMus, opera, voice.
- Pullan, C. Bruce, MA, Chair, opera, conducting, voice, vocal pedagogy, musicianship.
- Rutschman, Carla J., PhD, music history and literature, musicology, music education, lower brass.
- Rutschman, Edward R., PhD, graduate program advisor, theory/analysis, counterpoint, music history.
- Scandrett, Robert L., PhD, choral conducting, music history and literature, pedagogy, choirs.
- Shaw, Albert C., DMus Ed, music education, conducting, instrumental music, percussion.
- Terey-Smith, Mary, PhD, music history and literature, musicology, analysis, Collegium Musicum.
- Zoro, Eugene S., MMus., ear training, woodwind pedagogy, clarinet, chamber music.

MASTER OF MUSIC, THESIS ONLY

Program Adviser: Dr. Edward Rutschman

Basic Requirements for All Concentrations

- Music 541, 542, 543, 544
(select three) [1:12]
- Music 503 [1:4]
- Music 532 and 533 [1:6]
- Music 690 Thesis [1:6]

All students admitted to graduate study must register for at least one course in the area of basic requirements during each quarter of enrollment until those requirements are fulfilled.

Requirements and Electives for Each Concentration

Composition Concentration

- Music 534, 535, 536 [1:12]
- Electives [1:5]

History and Literature Concentration

- Music 443 (select two) [1:6]
- Music 441 [1:3]
- Music 540 (for three quarters) [1:6]
- Music 550 [1:3]

Performance Concentration

Elect one of the following courses in each of three quarters:

- Music 474, 475, 478, 481, 483, 540 [1:6]
- Music 511, 512, 513, 514 or 515 [1:9]
- Electives [1:2]

Conducting Concentration (Choral Conducting, Orchestral Conducting, Band Conducting)

- Conducting Studies [1:9-17]
- Music 501, 502, 531 and approved 400-level and/or 500-level course(s)

- Basic Musicianship [1:0-9]
- Courses to be selected from the following (any not selected under Basic Requirements): Music 541, 542, 543, 544, 550, 531, 534, 535, 536 and approved 400-level and/or 500-level course(s)

- Applied Music [1:0-9]
- Music 511-515 and/or approved 411-418 course(s)

- Ensemble [1:0-9]
- Approved 400-level and/or 500-level ensemble course(s)

Music Education Concentration (Instrumental Music Supervision, Choral Music Supervision, Choral Conducting, Orchestral Conducting, Band Conducting)

- Professional Understandings/Techniques [1:6-9]
- Music 501, 502, 521, 525 or any approved 400-level course(s)

- Basic Musicianship [1:3-9]
- Courses to be selected from the following: (any not elected under Basic Requirements) Music 531, 534, 535, 536, 541, 542, 543, 544, 550, or any approved 400-level course(s)

- Applied Music [1:0-9]
- Music 511-515, or approved 411-418

- Ensemble [1:0-9]
- Approved 400-level or 500-level ensemble course(s)
- Guided Electives in Professional Education in Departments of Education or Psychology [1:3-9]

Prerequisites and Examinations

1. Prerequisite for admission to the

M.Mus. program is an undergraduate major in music or its equivalent.

Students in the *Composition* concentration must submit at least two original compositions for evaluation and write a 24-hour composition examination.

Students in the *Performance* concentration must audition before a faculty committee or submit tape recorded performance for evaluation. Vocal performers must demonstrate competence in German, French and Italian diction.

Students in the *History and Literature* concentration must demonstrate strength in that area by interview with appropriate faculty members.

Students in the *Conducting* concentration must demonstrate ability and experience in conducting by interview with appropriate faculty members. In addition, they must prepare a curricular proposal for approval by an appropriate faculty committee.

Students in the *Music Education* concentration must prepare a curricular proposal for approval by an appropriate faculty committee, subject to final approval by the department.

2. Placement examinations in music theory and music history must be taken prior to beginning the program. Courses necessary to remove deficiencies are not credited toward the degree.
3. The Graduate Record Examination, General and Subject in Music must be taken, and the scores should be received by the WWU Graduate School along with other application materials.
4. Students in history and literature concentration must pass a reading examination in French or German.

5. Candidates for the Master of Music degree must successfully complete a comprehensive oral examination covering all course work taken for the degree, as well as material related to the thesis.

Natural Science/ Science Education

College of Arts and Sciences

M.Ed. — NATURAL SCIENCE/ SCIENCE EDUCATION

Adviser: Science Education Coordinator with advisement in specialized areas:

Biology: Dr. David E. Schneider

Chemistry: Dr. J. A. Miller

Earth Science: Dr. R. A. Christman

General Science, Physical Science:

Dr. J. A. Miller

Elementary Science: Dr. J.A. Miller

Basic Requirements

EdAF 501, 512, 513 [I and II:12]

Sci Ed 501, 513 [I and II:7]

Specific Test Requirements

Graduate Record Examination, General and Subject in Biology, Chemistry, Geology or Education, according to specialization.

Specializations — Secondary Programs

Biology, Thesis and Non-Thesis
Requirements in specialization

Biol 690 or Sci Ed 690 [I:6-9]

Sci Ed 598 [I:6]

Electives

Courses selected under advisement
[I:17-20, II:23]

For prerequisites, see Biology
Department listing

Chemistry, Thesis and Non-Thesis
Requirements in specialization

Sci Ed 580 or 590 [I and II:2-5]

Sci Ed 690 [I:6]

Graduate School

Sci Ed 598 [II:6]
Electives
Courses selected under advisement [I:15-18, II:18-21]

For prerequisites, see Chemistry Department listing

Earth Science, Thesis and Non-Thesis

Requirements in specialization
Geology field course [I and II:5-10]
Geol 690 or Sci Ed 690 [I:6-12]
Sci Ed 598 [II:6]
Electives selected under advisement [I:4-15, II:13-18]

For prerequisites, see Geology Department listing

General Science, Physical Science: Thesis and Non-Thesis

Requirements in specialization
Sci Ed 580 or 590 [I and II:2-5]
Sci Ed 690 [I:8]
Electives

Courses selected under advisement from astronomy, biology, chemistry, geology, physics and science education. Specialization in physical science will include 5-15 credits in chemistry and 5-15 credits in physics. [I:15-18, II:18-21]

Specialization — Elementary Program

Science Education, Non-Thesis Only
Option A is designed to prepare a science curriculum resource specialist, as well as increase a teacher's competence to teach science.

Option B is designed to increase a teacher's competence to teach science and includes more electives in Science Education, Education and Natural Sciences.

Requirements in Specialization

Courses selected under advisement from Sci Ed 430, 500, 582, 583, 584 [II:12-22]

Additional requirements for Option A
Sci Ed 511, 512 [I:6]
Electives

Courses selected under advisement from science education, education, biology, chemistry, geology or physics and related fields [II:8-16]

Prerequisites

An applicant should be a practicing elementary school teacher. Applicant should have completed two quarters of science methods courses and the natural science education sequence with grades of "B" or better. Applicants will be required to submit letters of endorsement from their principal or superintendent indicating willingness to cooperate with the in-service phase of the program.

Physical Education, Health & Recreation

College of Arts and Sciences

GRADUATE FACULTY

- Arnett, Chappelle, EdD, human growth and motor development/curriculum.
Brilla, Lorraine, PhD, exercise physiology/nutrition education/pedagogy
Clumpner, Roy, PhD, socio-cultural aspects of physical education and pedagogy.
Knutzen, Kathleen, PhD, biomechanics/kinesiology
Moore, James E., PhD, industrial recreation and fitness.
Vernacchia, Ralph, PhD, sport psychology/socio-cultural aspects of physical education and sport.
Wenos, Jeanne, PED, adapted physical education.

Adjunct Faculty

Brown, Daniel, MD, Cardiology/rehabilitation.

M.Ed. — PHYSICAL EDUCATION, THESIS OR FIELD PROJECT

GRADUATE PROGRAM

Graduate study leading to a Master of Education degree is offered in two areas: Mastery of Teaching (Option A) and Exercise Science (Option B) with support areas in adult fitness/cardiac rehabilitation, exercise physiology and biomechanics.

Program Advisers: Dr. Lorraine Brilla, Dr. Roy Clumpner, Dr. Kathleen Knutzen, Dr. Ralph Vernacchia

Prerequisites

Physical education major/minor or equivalent courses from the exercise science, socio-cultural and professional activity area. Applicants for the Mastery of Teaching option must present documented evidence of previous teaching experience (not substitute teaching).

Mastery of Teaching Option A

[I and II:48]

Exercise Science Option B

[I:54-55]

Specific Test Requirements

Graduate Record Examination, General Test prior to admission.

Other Requirements

Students must submit a written statement of purpose outlining areas of interest, goals for graduate study and future career plans relating to the degree. The maximum number of students enrolled into each area of study is limited. Students are encouraged to submit applications prior to May 1.

Requirements in Option A — Mastery of Teaching:

PE 504, 505, 506, 507, 520, 592 (2-6 credits), 690a or b (6 credits); EdAF 501, 512, 513 [I and II:26]

Electives in Option A — Select 10 credits under advisement, of which six must be from the following:

PE 509, 531, 540, 541, 542, 543, 584

Requirements in Option B — Exercise Science: PE 506, 520, 540, 543, 690a (6-9 credits); EdAF 501*, 512*, 513*

*Substitution of other courses for EdAF 501, 512, 513 is possible with agreement of graduate program adviser, graduate dean and School of Education dean.

[I:30-33]

Electives in Support Area of Option B:

1. *Adult Fitness/Cardiac Rehabilitation*: PE 510, 511, 513, 592 (6 credits) and credits under advisement (3-6)
2. *Exercise Physiology*: PE 507,

510, 511, 513 and credits under advisement (6-9)

3. *Biomechanics*: PE 507, 544, 546 and credits under advisement (8-11)

Political Science

College of Arts and Sciences

GRADUATE FACULTY

Alper, Donald K., PhD, American politics, political process.

Foisy, Maurice H., PhD, public policy and administration, policy analysis, political theory.

Hogan, Eugene J., PhD, public law.

Miner, Ralph E., PhD, public policy and administration, public finance, organization theory.

Rutan, Gerard F., PhD, comparative politics, political theory, national intelligence and security studies.

M.A. — POLITICAL SCIENCE, THESIS AND NON-THESIS

Program Adviser: Dr. Donald Alper

The Political Science Department offers a thesis and a non-thesis option leading to the Master of Arts degree in Political Science. The thesis option is offered for the student who wishes to do research in a specialized area.

Students may also specialize in public policy and administration (PP&A). This specialization is designed primarily for students planning or having careers in the public service and for others whose careers involve considerable participation in the public policy process.

Prerequisites

Completion of the requirements for a bachelor's degree and departmental approval of admission to the graduate degree program. Any deficiencies

Graduate School

must be made up before the candidate may enter the program.

Basic Requirements

Pol Sci 501, 502 [I and II:10]
Pol Sci 690 [I:6-9]

Specific Test Requirements

Graduate Record Examination, General Test.

Electives under Thesis

Courses selected under advisement from 400- or 500-level courses in political science (a candidate must complete at least 35 hours in courses available only to graduate students). The candidate is required to take the basic course in two of the following fields of concentration:

Fields	Basic Courses
Public Policy & Administration	Pol Sci 503
Comparative Government	Pol Sci 505
Politics & Government	Pol Sci 540
Political Theory	Pol Sci 560

Electives under Non-Thesis

Note that public policy and administration non-thesis specialization is separate.

Courses are selected under advisement from 400- to 500-level courses in political science (a candidate must complete at least 38 hours in courses available only to graduate students). A candidate is required to take the basic course in two of the following fields of concentration:

Fields	Basic Courses
Public Policy & Administration	Pol Sci 503
Comparative Government	Pol Sci 505
Politics & Government	Pol Sci 540
Political Theory	Pol Sci 560

Requirements in Public Policy and Administration Non-Thesis Specialization

Pol Sci 503, 510, 520, 521, 523, 540, 550 [II:27]

Electives in Public Policy and Administration Non-Thesis Specialization

Courses are selected under advisement from 400- to 500-level courses

in political science, economics, psychology, sociology, education, business administration, Huxley College and ethnic studies program. [II:11]

Other Requirements — Thesis and Non-Thesis

The student must meet one of the following requirements:

1. Demonstrate a reading knowledge of an appropriate foreign language by passing a test to be given by the Department of Foreign Languages. Foreign students for whom English is not the native tongue shall pass an English language competency exam.
2. Demonstrate competence in computer programming and statistics by successful completion of Computer Science 110 and Math 240.

Successful Comprehensive Examination

Written and Oral in Two Fields, Thesis and Non-Thesis except Public Policy and Administration Non-Thesis Specialization.

Written and Oral in Public Policy and Administration Non-Thesis Specialization.

Psychology

College of Arts and Sciences

GRADUATE FACULTY

- Carmean, Stephen, PhD, perception, thinking, communication.
- Crow, Lowell, PhD, physiological psychology, alcohol and behavior, psychophysiology.
- Cvetkovich, George, PhD, social psychology, environmental and population psychology.
- Diers, Carol Jean, PhD, general experimental, animal social.
- Dinnel, Dale L., PhD, educational psychology, cognition, problem solving.
- Elich, Peter J., PhD, educational, human learning, developmental.

- Grote, Frederick W., Jr., PhD, social development in children, early experience, child psychology and social issues.
- Hayden, Davis C., PhD, counseling psychology, counseling process research, computer simulations, family therapy.
- Jones, Elvet G., PhD, counseling psychology, school counseling.
- Kintz, B. L., PhD, general experimental, measurement and statistics, research design and computer uses in psychology.
- Kleinknecht, Ronald A., PhD, behavior therapy, fear/anxiety, health psychology.
- Lippman, Louis G., PhD, learning, verbal learning.
- Lippman, Marcia Z., PhD, cognitive development, psycho-linguistics, day care.
- Lonner, Walter J., PhD, cross-cultural psychology, tests, counseling.
- Meade, Robert D., PhD, human motivation, cross-cultural, human population problems.
- Miller, Laurence, PhD, experimental psychology, operant conditioning, psychological themes in films.
- Nugent, Frank A., PhD, counseling theory and practice, ethical consideration in practice and research, school psychological services.
- Panek, David M., PhD, clinical, community, mental health, novelty and stimulus change.
- Pielstick, N. L., PhD, school psychology, classroom learning, situational assessment.
- Prim, Merle M., PhD, sub-human primate behavior, physiological psychology, sensory, comparative.
- Rees, Rod, PhD, learning, decision and judgment, imagery, audition.
- Shaffer, Ronald W., PhD, learning, perception, phenomenology.
- Sue, David, PhD, clinical community counseling, Asian-American, sex therapy.
- Taylor, Christopher, PhD, industrial organizational, general experimental.
- Taylor, Sandra L., PhD, clinical, psychopathology, personality theory.
- Thompson, Richard W., PhD, physiological, comparative, psychopharmacology, history and systems.
- Thorndike, Robert M., PhD, multivariate statistics, measurement, evaluation of teaching.
- Trimble, Joseph E., PhD, social, cross-cultural.
- Tyler, Vernon O., Jr., PhD, clinical psychology, adolescence.

M.Ed. — SCHOOL COUNSELOR, THESIS AND NON-THESIS

The M.ED. school counselor program will not be offered during 1987-88.

Students planning to apply for the state certificate in school counseling

will take a minimum of five additional credits in 570 or 670 beyond the master's degree requirements and will pay additional fees for the state credential. State certification requires the review of the candidate by an approved State Certification Review Board before being recommended for certification.

Contact Dr. Marcia Lippman for more information about this program.

Prerequisites

Major or minor in psychology including a course in psychology of learning or background in professional education. The following specific courses or their equivalents are required: Psych 306 or EdAF 473, Psych 313, 314, 431, 471.

Admission to this program is by committee action. Since maximum enrollment for any one academic year is limited, applicants are advised to seek formal admission before making detailed plans. All prerequisites must be completed before fall quarter of year of residency. Documentation of personal suitability of applicants for counseling is required through statements of personal commitment, letters of reference, and interviews where possible.

Basic Requirements

EdAF 501, 512, 513 [I and II]
Psych 690 (for those students taking the thesis option) [I]

Specific Test Requirements

Graduate Record Examination, General and Subject in either psychology or education.

Requirements in Specialization

Psych 553, 555, 557, 561, 564, 565, 570 [I and II]

Electives in Specialization

To be selected under advisement from psychology, education, or sociology/anthropology [I and II]

M.S. — PSYCHOLOGY, THESIS ONLY

Program Adviser: Dr. Fred Grote

Prerequisites

General psychology, statistics through inference, and a laboratory course in psychology are required. Students deficient in prerequisites must satisfy them by the end of their first quarter of study. The following courses are strongly recommended: one course in abnormal or personality; one course in social or developmental; two courses from learning, sensation, perception, motivation and physiological. A course in the history or systems of psychology or in philosophy of science is also recommended. There are additional prerequisites for the behavioral toxicology curriculum (see below).

Specific Test Requirements

Graduate Record Examination, General and Subject in Psychology.

Admissions Procedures

All applicants are initially screened for admission to the M.S. program in psychology irrespective of curriculum choice. Following this initial screening, applicants are reviewed by the curriculum committee corresponding to the curriculum chosen (i.e., general psychology, clinical/counseling psychology, school psychology or behavioral toxicology). In addition to the test requirements stated above, applicants for the M.S. clinical/counseling psychology or school psychology curriculum will be required to submit additional materials as requested. Admission to, and completion of, a specified curriculum will be recorded on each student's transcript. Students will be admitted to one of the specialized curricula prior to the beginning of fall quarter.

Course Requirements

Each candidate is required to take the core, plus degree requirements. The core consists of Psych 501, 502, 511,

and 512. Psych 690 is also required. Minimum of 45 credits is required for degree. Additional courses are required as specified in each of the curriculum descriptions.

Other Requirements

Each candidate should note that the department has requirements affecting retention in the M.S. program which are in addition to those general requirements of the Graduate School. Among these are the requirements that all admission prerequisites be satisfied by the end of the first quarter of study and that full, continuing enrollment in the required courses be maintained as specified for each curriculum. Grades lower than "C" are unacceptable. More than 10 credits of "C" or lower grades removes a student from the master's program. Any course in which an unacceptable grade is earned may be repeated only upon permission of the admission/retention subcommittee, following consultation with the appropriate curriculum coordinator. It is necessary to maintain at least a 3.00 ("B") grade point average for all graded course work in order to be retained in the program. Retention in the clinical/counseling psychology or school psychology curriculum is also dependent upon the development of professional competence in interaction with clients, school district personnel and other professionals. Continuous evaluation by the appropriate curriculum committees will be the basis for retention of the student in the school psychology or clinical/counseling psychology curriculum.

Electives

Psych 500, 504, 514-516, 518, 519, 520-532 and any 400 and 500 courses in the departments of biological sciences, chemistry, education, Huxley College of Environmental Studies, mathematics, philosophy, physics and sociology or anthropology approved by advisement only.

M.S. IN PSYCHOLOGY — GENERAL PSYCHOLOGY CURRICULUM

Curriculum Coordinator:

Dr. Laurence Miller

The graduate curriculum leading to an M.S. degree in general psychology is designed to provide basic and fundamental knowledge of the various aspects of behavior. This goal is accomplished through several required foundation courses, seminars, statistics and design, thesis work and elective courses in psychology and related areas.

Students in the general psychology curriculum must complete the core course requirements for the M.S. psychology program (501, 502, 511, 512 and 690).

In addition to course requirements of M.S. Program (see above), students in the general psychology curriculum are required to take 503, 508, 513, and three seminars from the following three groups: Group 1: Psych 522, 525 and 528; Group 2: Psych 520, 521, 523 and 524; Group 3: Psych 526, 527, 529, 530 and 532. No more than two of these seminars may be from one group. Psych 514-516, 518 and 519 are also offered as electives.

A concentration offered within the general psychology curriculum is Measurement, Evaluation and Statistical Analysis (MESA). In addition to the core program (20 credits plus seminars), students will take the following psychology courses: 515, Multivariate Analysis (3); 516, Advanced Research and Evaluation Design and Data Analysis (3); 514, Topics in Quantitative Psychology (3-6); and 530, Seminar in Advanced Measurement Theory (3). A thesis on an appropriate topic is also required. Additionally, students will take other electives under advisement and appropriate course work in computer science, depending on prior experience.

The student completing this concentration will gain competencies applicable to areas of employment requiring research design, data analysis, statistical evaluation and computer skills.

M.S. IN PSYCHOLOGY— CLINICAL/COUNSELING PSYCHOLOGY CURRICULUM

Curriculum Coordinator:

Dr. David Sue

The two-year curriculum is designed to prepare students for careers in the field of mental health. The intent of the clinical/counseling concentration is to provide a general foundation in theoretical and applied perspectives which are used by mental health professionals. Special emphasis is placed on skill development, supervised practica with a variety of clients, and on-site internships in various community and mental health clinics. An important component of the clinical/counseling curriculum is exposure to cross-cultural counseling strategies. Attention to work with families and children is also included in the concentration.

The specialized curriculum in counseling psychology is open only to students who have been admitted to the master's program in psychology on the criteria described above. Further documentation of the personal suitability of applicants for counseling is required through statements of personal commitment, letters of reference and interviews where possible.

Students in the clinical/counseling psychology curriculum must complete the core course requirements for the M.S. psychology program (501, 502, 511, 512, 690). In addition, the following courses must be completed: Psych 504, 532, 550, 553, 555, 557, 558, 561, 564, 565, 570, 670 and one seminar from 520-531.

M.S. IN PSYCHOLOGY — SCHOOL PSYCHOLOGY CURRICULUM

The School Psychology curriculum will not be offered during 1987-89. For further information contact Dr. Marcia Lippman.

M.S. IN PSYCHOLOGY — BEHAVIORAL TOXICOLOGY OPTION

Curriculum Coordinators:

Dr. Richard W. Thompson,
Psychology
Dr. Ronald J. Kendall, Huxley
College of Environmental Studies

The behavioral toxicology curriculum is a joint offering of the Psychology Department and Huxley College of Environmental Studies. The curriculum provides knowledge about methods to assess the nature and impact of various toxic substances found in the environment on the behavior of animals and humans. The curriculum requires a minimum of 45 credits of course work and the completion of a thesis. Applicants will be reviewed by a committee of faculty from the Psychology Department and Huxley College.

Prerequisite Courses

Biol 121, 123, 348, 349; Chem 121, 122, 251; Hux 358; Psych 201, 306, 321, 326.

Students enrolled in the behavioral toxicology curriculum in the Psychology Department must complete the following requirements for the M.S. in psychology:

Psych 501-503, 511-513, 538 and 690. Suggested electives: Psych 556 and 559.

Hux 501, 555, 556, 457/577. Suggested electives: Hux 500, 517; Biol 408, 577.

Sociology

College of Arts and Sciences

GRADUATE FACULTY

- Call, Donald J., PhD. deviance, adolescence, theory.
Drake, George F., PhD. sociology of organizations, human resource planning.
Gossman, Charles S., PhD. demography, statistics, advanced quantitative methods.
Inverarity, James, PhD. research methods, criminology, methodology.
Mahoney, E. R. PhD. research methods, human sexuality.
Mazur, D. Peter, PhD. demography, statistics, public opinion.
Paulus, Ingeborg L. E., PhD. criminology/deviance, sociology of law, medical sociology.
Richardson, John G. (Department Chair), PhD. education, historical sociology, contemporary theory.
Simpson, Carl, PhD. education, criminology, theory, applied sociology.
Stephan, G. Edward, PhD. theory, human ecology, social demography.

For further information:

Contact: Dr. Carl Simpson, Graduate Program Adviser, Department of Sociology, Western Washington University, Bellingham, WA 98225 (206) 676-3617.

M.A. — SOCIOLOGY, THESIS ONLY

Program Adviser: Dr. Carl Simpson

Prerequisites

General sociology, research methods, statistics; a minimum of 20 quarter hours of upper-division sociology courses.

General Requirements

Normally students will complete requirements in the following order: (1) formal admission to the program; (2) completion of core and other graduate courses (at least 35 credit hours); (3) advancement to candidacy; (4) selection of thesis committee and problem; (5) submission of written thesis proposal; (6) oral defense of written thesis proposal; (7) submission of completed thesis.

Core Requirements

Soc 501, 502, 503, 505, 510, 515, 521, 530, and 690.

Electives

A maximum of 10 credits at the 400-level and any 500- or 600-level sociology courses. Courses from other departments must be approved by the Sociology Graduate Committee.

Specific Test Requirements

Graduate Record Examination, General Test.

Candidacy

For information concerning advancement to candidacy and specific program requirements, consult the "Sociology Graduate Students Manual," available through the department.

Speech and Broadcast

College of Arts and Sciences

M.A. — SPEECH, THESIS (I) AND NON-THESIS (II)

At the present time, no applications for this program are being accepted.

Speech Pathology & Audiology

College of Arts and Sciences

GRADUATE FACULTY

- McRandle, Carol C., PhD, audiology/aural rehabilitation/hearing science.
 Polen, Samuel B., PhD, speech/language pathology/speech science.
 Seilo, Michael T., PhD, audiology/aural rehabilitation/experimental phonetics.
 Speirs, James A., PhD, speech/language pathology.
 Webb, Loren L. PhD, audiology/aural rehabilitation.
 Zeine, Lina, PhD, speech/language pathology.

M.A. — SPEECH PATHOLOGY AND AUDIOLOGY

Options: Thesis and Non-Thesis

Graduate Coordinator:

Dr. Loren L. Webb

Prerequisites

Before acceptance into the speech pathology/audiology (SPA) graduate program a student must have completed an undergraduate major in SPA or an equivalent professional "core" curriculum (see department's graduate coordinator for details). Grade point average (GPA) requirements are consistent with the Graduate School. The Graduate Record Examination (GRE), General must be completed satisfactorily before being considered for acceptance to the program.

All students entering the program must purchase the *Western Washington University Handbook for Speech-Language and Audiology Majors* as well as the *Graduate Students Handbook*.

Basic Requirements

SPA 502	(4)
SPA 551	(3)
SPA 561	(3)
SPA 690 (Thesis)	(6-9)
SPA 691 (Non-Thesis)	(3)

Requirements in Specialization

1. Speech/Language Pathology specialization: In addition to basic requirements, students must complete SPA 550, 552, 553, 554, 556, 558, 568a, 599a*

Electives in Specialization

SPA 455, 465, 465a, 506, 545, 555, 557, 559, 560, 563, 564, 567, 570, 571, 574, 575, 575a, 576, 599b*, 599c*, 692, 696 and other 400, 500 and 600-level courses selected under departmental advisement.

Total — 51 credits

2. *Audiology and Aural Rehabilitation Specialization*

Graduate School

In addition to basic requirements, complete SPA 466, 558, 562, 563, 564, 565, 566, 568a,b,c, 570, 571, 599a*

Electives in Specialization

SPA 455, 465, 465a, 506, 545, 553, 557, 559, 560, 567, 574, 575, 575a, 577, 599b*, 599c*, 692, 696 and other 400, 500 and 600-level courses selected under departmental advisement.

Total — 51 credits

Clinical Competence

In addition to meeting academic requirements, students specializing in speech/language pathology must demonstrate satisfactory competence in diagnostic and clinical practicums by completing SPA 552, 558, 559 and 560 with grades of "C" or better in each course. Speech and language pathologists also must complete SPA 568a successfully with a grade of "C" or better.

Students specializing in audiology must complete SPA 558 with a grade of "C" or better. In addition, audiology specialists must complete SPA 568a,b,c with a grade of "C" or better in each course. SPA 564 must be completed with a grade of "B" or better. Students are permitted to retake a clinical practicum only once. If a satisfactory grade as specified in the preceding requirements is not achieved in the retake, students will not be permitted to continue in the practicum courses.

Not everyone is suited to work with clients in the clinical fields of speech-language pathology and audiology even though they may maintain a satisfactory academic record. The faculty and staff of the Department of Speech Pathology and Audiology thus reserve the right to counsel students with this in mind and to recommend a change of academic focus for the student who appears to

have personality traits that would prevent the student from being successful in the discipline.

Comprehensive Examinations

A written comprehensive examination is required. During the quarter preceding the final quarter of the completion of the graduate program, the student will take a written comprehensive examination (six hours) covering the contents of his/her graduate program to date. A minimum of 36 graduate credits must be completed before the comprehensive may be taken.

Further, in the same quarter in which a student expects to graduate, an oral examination based on the thesis or non-thesis paper and related items is required. Details regarding the written examination and oral defense are included in the *Western Washington University Handbook for Speech-Language Pathology and Audiology Majors* or students may consult the graduate coordinator for details.

Professional Certification Requirements

All students seeking certification as a Communication Disorders Specialist (CDS) in the public schools in the State of Washington must successfully complete a minimum of two quarters of public school externship in order to satisfy Program Unit requirements. Eligibility for the CDS certificate includes minimum scores of 80 on the Washington Pre-College Test or 700 on the Scholastic Aptitude Test; or 16 on the American College Test unless the individual holds any other education certification. Further information about CDS certification requirements may be obtained from the Externship Program director, or the graduate adviser.

The American Speech-Language-Hearing Association requirements for Certification of Clinical Competence in Speech-Language Pathology or Audiology stipulate the completion of 300 clock hours of practi-

*Although SPA 599a, b and c are 8 credits each, only a total of 6 (3 + 3, 599a and b, respectively) can apply toward the M.A. degree.



cum, 150 of which must be obtained at the graduate level. Also, the student must have a minimum of 9 hours of classwork and 35 clock hours in the minor area of study (speech-language pathology or audiology). Consult the *Western Washington University Handbook for Speech Pathology and Audiology Majors* for details.

Theatre/Dance

College of Fine and Performing Arts

M.A. — THEATRE

Program Adviser:

Dr. Douglas R. VanderYacht

The prospective student is urged to contact the adviser and request the "Guide to Graduate Study in the Department of Theatre & Dance."

Two options lead to the M.A. degree. The thesis (Option I — 45 credit hour minimum) is offered for the student primarily interested in research and planning to enter a Ph.D. program or

pursue other advanced academic training. It is also appropriate in some instances (e.g., directing, playwriting) as training for professional performance. Option II (48 credit hour minimum) is typical for the student pursuing a career as a professional performer, or as a teacher at the secondary level.

Prerequisites

An undergraduate major in theatre, or theatre and dance, or approval by committee. Evidence of qualifications will be requested of applicants.

Specific Test Requirements

Graduate Record Examination, General Test; Diagnostic Examination (administered by the Department of Theatre & Dance).

Core Requirements

All candidates must take the following:

Theatre/Dance 501	[I and II:4]
Theatre/Dance 522	[I and II:4]
Two courses from Th/D 528a,b,c,d,e	[I and II:6]
Theatre/Dance 570	[I and II:4]

Requirements in Specialty

Courses are offered in six speciali-

Graduate School

ties. The first course in each specialty (*italicized*) is called the "Key Course" in that specialty.

Acting

560, 561, 690a (I) or 690b (II) and 595 (II), and one Key Course outside specialty.

Creative Education

550, 551, 690a (I) or 690b (II) and 595 and one Key Course outside specialty.

Design/Technical Theatre

511, 512, 690a (I) or 690b (II) and 595 (II), and one Key Course outside specialty.

Directing

571, 572, 690a (I) or 690b (II) and 595 (II), and one Key Course outside specialty.

Dramatic Literature and Criticism

522, three additional courses (beyond core) from 528a,b,c,d or e, 690a (I) or 690b (II) and 595 (II), and one Key Course outside specialty.

Playwriting

585, 586, 690a (I) or 690b (II) and 595 (II), and one Key Course outside specialty.

Key Courses outside specialty are selected under departmental advisement.

Electives

Electives will be selected under departmental advisement. No more than 10 credits of course work at the 400 level may be applied to the M.A. degree. No more than six credits of Theatre/Dance 500 (Independent Studies) may be applied to the M.A. degree unless special departmental approval is granted in advance.

Language Requirement

Demonstrate a reading knowledge of an appropriate foreign language by passing a test to be given by the Department of Foreign Languages.

In most instances knowledge of the subject matter and techniques of an allied discipline prove a valuable research or performance tool for the student, as a substitute for the language requirement. The department may require, in lieu of a language, the

satisfactory completion of additional course work (beyond the basic 45-48 credits required for the M.A. degree) in 400- and 500-level courses in a collateral discipline. These courses must have the approval of both the student's advisory committee and the allied department.

Comprehensive Examination

After admission to candidacy at a time agreed upon by the candidate and the graduate adviser, the student will take a comprehensive examination demonstrating a broad competence in the theatrical and dramatic disciplines, and a more detailed knowledge in the student's specialty.

Faculty/Student-Designed Programs

M.A., M.S., M.Ed.

At times students and faculty are able to develop special programs that are more interdisciplinary than the master's programs described in this catalog. In each instance this requires a plan of study that has been worked out by a group of faculty and an individual student and thereafter has been approved by the University's Graduate Council. At least two graduate departments must be involved.

Programs of this type are restricted by several factors: current offerings which can provide a basis for the individual program; availability of appropriate faculty for special assignment (conference course, projects); the applicant's academic preparation and ability; and the internal logic, or relationship of the elements of the proposed program. Each case is considered on its merits.

Detailed information can be obtained by writing the Graduate Office, WWU, Bellingham, WA 98225. Ask for "Fact Sheet: Faculty/Student-Designed Programs." Procedures for applying are contained in the "Fact Sheet."

COLLEGE OF ARTS AND SCIENCES

Dr. Peter J. Elich, Dean

The College of Arts and Sciences, Western's largest academic division, contains 22 departments offering more than 60 major programs at both bachelor's and master's degree levels. Students may select majors in the traditional disciplines of the humanities, social sciences and natural sciences, and a variety of professional and applied areas. In addition, there is available a variety of interdisciplinary programs, and students may design their own majors through a program managed by the Department of Liberal Studies.

The College offers its undergraduate students a three-component liberal education: first, a program of education-in-breadth through *General University Requirements* (GUR) intended to prepare students for post-graduate life as educated persons and citizens; second, a program of education-in-depth in a disciplinary, interdisciplinary, professional, pre-professional or vocational *major* designed to prepare students for post-graduate careers or advanced courses of study; and third, a choice of *elective courses* which can help satisfy the student's curiosity about any of the multitude of subjects which the University's curriculum embraces.

The aim of such a liberal education is not only to prepare students for the special roles they will take on as baccalaureate graduates but also to help students acquire characteristics which distinguish educated persons. Thus, the faculty of the College, as a community of teachers and scholars, hope to produce graduates who are capable of informed and critical thinking; who have learned to tolerate ambiguity; who can appreciate cultural differences; who have developed moral and aesthetic sensibili-

ties; who have mastered basic tools of literacy and mathematics; and who have acquired levels of information about the worlds of man and nature in the past and present sufficient for responsible citizenship and for the enjoyment of civilized society.

Academic Programs Leading to Undergraduate and Graduate Degrees

American Cultural Studies	.....	BA
Anthropology	.....	BA, BA/Ed, MA
Anthropology/Biology	.....	BA
*Apparel Design	.....	BA
Biology	.....	BA, BS, MS
Biochemistry	.....	BS
Biology/Chemistry	.....	BA/Ed
Biology/Mathematics	.....	BS
Broadcast Communication	.....	BA
Canadian-American Studies	.....	BA
Chemistry	.....	BA, BS, MS
Chemistry/Mathematics	.....	BA/Ed
Chemistry/Physics	.....	BA/Ed
Child Development/ Family Relationships	.....	BA/Ed
Classical Studies	.....	BA
Community Health	.....	BS
Computer Science	.....	BS, MS
Earth Science	.....	BA/Ed
Earth Science/General Science	.....	BA/Ed
East Asian Studies	.....	BA
Electronic Engineering Technology	.....	BS
English	.....	BA, BA/Ed, MA
English: Writing Concentration	.....	BA
Environmental Engineering Geology	.....	BS
*Fashion Marketing	.....	BA
Foreign Languages (French, German, Spanish)	.....	BA
(French, German, Spanish)	.....	BA/Ed

*Upper division major available only in Seattle.

College of Arts & Sciences

Spanish)	M/Ed
General Science	BA/Ed
Geography	BA, BA/Ed, MS
Geology	BA, BS, MS
Geology/Mathematics	BS
Geophysics	BS
History	BA, BA/Ed, MA
Home Economics	BA, BA/Ed
Humanities	BA
Industrial Design	BS
Industrial Technology	BS
Interior Design & Merchandising	BA
Journalism	BA
Manufacturing Engineering Technology	BS
Marine Biology	BS
Mathematics	BS, BA/Ed, MS
Mathematics/Computer Science	BS
Natural Science	M/Ed
Nursing	BSN
Nutrition	BS
Philosophy	BA
Physical Education	BA, BA/Ed, M/Ed
Physics	BA, BS
Physics/Computer Science	BS
Physics/Mathematics	BA/Ed
Political Science	BA, BA/Ed, MA
Political Science/Economics	BA
Public Policy & Administration	BA
Psychology	BA, BA/Ed, M/Ed, MS
Psychology-Industrial	BA
Recreation and Parks	BA
School Health Education	BA/Ed
Science Education	M/Ed
Social Studies	BA/Ed
Sociology	BA, BA/Ed, BS, MA
Speech	BA/Ed
Speech Communication	BA
Speech/English	BA/Ed
Speech Pathology & Audiology	BA, MA
Student-Faculty Designed Major	BA, BA/Ed, BS
Technology Education	BS
Terrestrial Ecology	BS
Urban & Regional Planning	BA
Visual Communication	BS

Majors and Minors

In addition to the General University Requirements and other common degree requirements of the University, the candidate for a Bachelor of Arts or Bachelor of Science degree must complete a major area emphasis which is usually accompanied by supporting courses. A minor is optional. A few concentrations are offered which encompass both a

major and a minor. Students will confer with appropriate departmental advisers to plan study programs. Transfer students are expected to complete at least a portion of their work in the major and minor fields in this institution.

Student-Faculty Designed Majors

Students desiring concentrated study in areas not listed as majors by departments of the College of Arts and Sciences may design a major in conference with faculty members. Details of this procedure are available from the Academic Advisement Center or the chairman of the Department of Liberal Studies.

Academic Advisement

As the student completes the freshman year, which usually consists largely of courses that meet the General University Requirements, he or she is referred to the academic departments for continued personalized advisement in planning and selecting courses of study. Faculty within each department share responsibility for counseling students electing concentrations in their area. In some cases, faculty from several departments may cooperate with a student in constructing his or her own interdisciplinary major; in others, faculty members may recommend to the department chairman the waiving of certain course prerequisites (when it has been demonstrated that the student already has these competencies). Students who are undecided about a major may seek advisement through the Academic Advisement Center in Old Main.

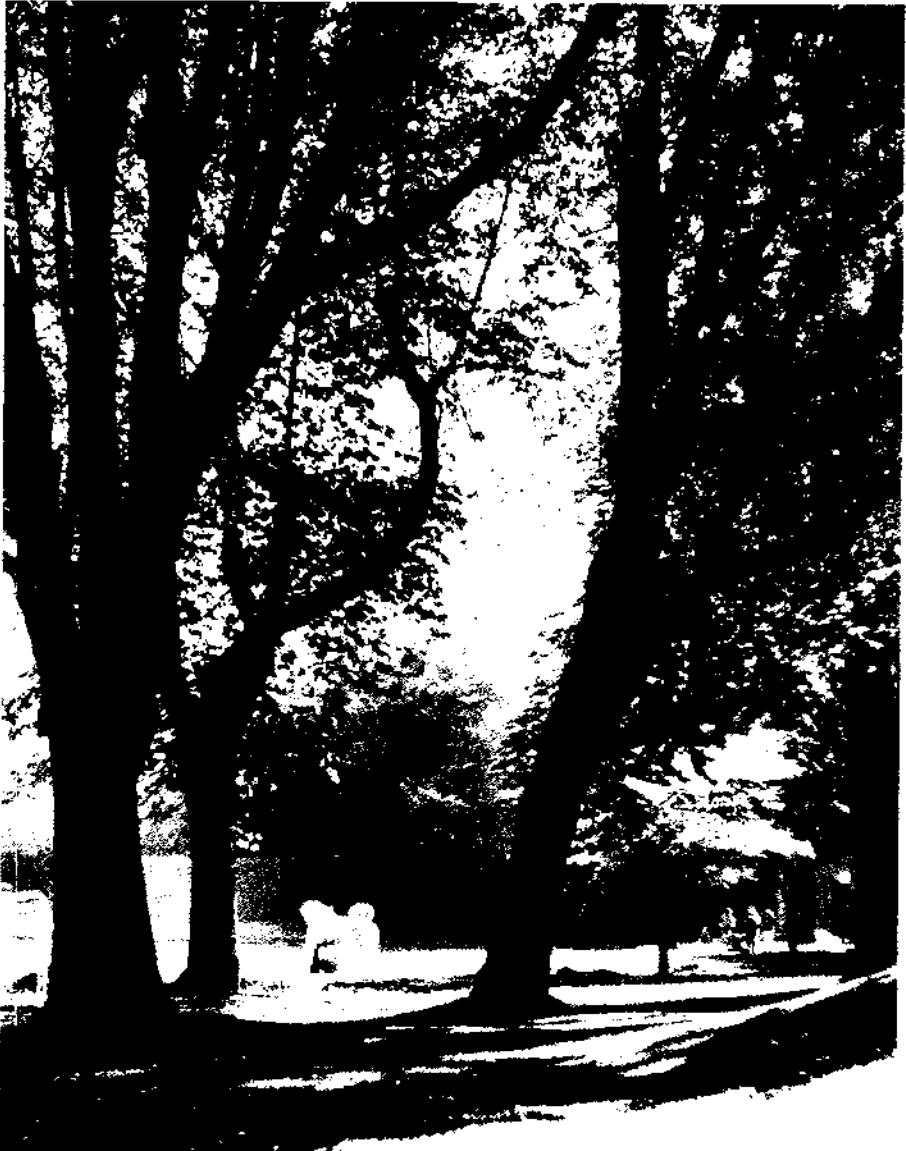
Department Chairs

Dr. Joan Stevenson	Anthropology
Dr. Ronald J. Taylor	Biology
Dr. Mark L. Wicholas	Chemistry
Dr. James L. Johnson	Computer Science
Dr. Douglas B. Park	English

College of Arts & Sciences

Dr. Rudolf Weiss ... Foreign Languages
& Literatures
Dr. Debnath Mookerjee ... Geography &
Regional Planning
Dr. Edwin H. Brown Geology
Dr. Roland L. DeLorme History
Dr. Rosalie R. King ... Home Economics
Gerson F. Miller Journalism
Dr. William Stoeber Liberal Studies
Dr. Thomas T. Reed Mathematics
Karen Moren Nursing
Dr. Hugh Fleetwood Philosophy

Dr. M. Chappelle Arnett P.E.,
Health/Recreation & Parks
Dr. Ajit S. Rupaal ... Physics/Astronomy
Dr. Donald K. Alper ... Political Science
Dr. Richard W. Thompson ... Psychology
Dr. John G. Richardson Sociology
Dr. Larry S. Richardson Speech
and Broadcast
Dr. Michael Seilo ... Speech Pathology/
Audiology
Dr. Paul E. Rainey Technology



Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this catalog. For an exact scheduling of courses at Western, students should consult the annual timetable of classes, the Summer Catalog and the University Extension bulletins.

The following programs are listed alphabetically in the "Interdiscipli-

nary" section following the department listings:

- American Cultural Studies
- Canadian American Studies
- East Asian Studies
- General Science
- Latin American Studies
- Linguistics
- Science Education
- Social Studies Education
- Student/Faculty Designed
- Interdepartmental Major
- Women Studies



Anthropology

Anthropology is that discipline which studies humankind in the widest perspective—its physical development, development through time, and the diversity of lifestyles people have created. Anthropology attempts to make generalizations about human nature, group life and culture. To achieve these goals, the anthropologist does fieldwork and comparative cross-cultural studies in time and space.

Anthropology shares techniques and methods with other behavioral sciences and also draws upon physical and biological sciences. Unlike other behavioral sciences, which deal primarily with the Western World, anthropology includes the broadest human context. Thus, anthropology provides theoretical and empirical bases for development of hypotheses about human behavior and for testing the limitations of such hypotheses.

Anthropology is divided into subdivisions.

1. Archaeology attempts to reconstruct the past through a study of material remains of extinct peoples.
2. Physical anthropology focuses on anatomical, physiological and genetic differences in past and contemporary human populations.
3. Anthropological linguistics investigates the interrelationships between human culture and language with special focus on unwritten languages, emphasizing the diversity of world languages and non-verbal human communication.
4. Cultural anthropology does fieldwork and attempts to describe each culture in its own perspective. On the basis of this experience, the study of hundreds of other field reports, and other information, he or she does

cross-cultural comparisons to test generalizations about human behavior.

Utilizing ethnographic, ethnological and ethnohistorical tools as well as information supplied by these subdivisions, the anthropologist does comparative studies of living and dead cultures and of the processes of human development.

The Anthropology Department provides training in all of these areas.

Opportunities for fieldwork and library research are available in all areas and for advanced research leading to the master's degree in all areas. Archaeological surveys and excavations are conducted most summers. The department engages in a series of funded ethnohistorical projects, providing a wide diversity of research opportunities. Library holdings include the complete Human Relations Area File for those pursuing cross-cultural and culture-area research. Linguistic specializations available include languages of South Asia, East Asia and the Northwest Coast.

Degrees offered are the B.A. and the B.A. in Education. In addition a combined Anthropology/Biology major is offered.

Careers for graduates in anthropology exist in both the public and private sectors of the economy and are increasing. Opportunities may be found in teaching (public school, community college and college), federal and state agencies, social services, applied health settings and museums.

ANTHROPOLOGY FACULTY

JOAN C STEVENSON (1979) Chair.

Associate Professor. BA, University of Washington, MA, PhD, University of Wisconsin-Milwaukee.

Anthropology

DANIEL L. BOXBERGER (1983) Assistant Professor. BA, The Evergreen State College; MA, Western Washington University; PhD, University of British Columbia.

GARLAND F. GRABERT (1967) Professor. BA, MA, PhD, University of Washington.

JOYCE HAMMOND, (1984) Associate Professor. BA, MA, Brown University; PhD, University of Illinois.

HOWARD L. HARRIS (1966) Associate Professor. BA, University of Iowa; MA, University of Missouri; M.Div., Hartford Theological Seminary.

LINDA AMY KIMBALL (1976) Associate Professor. BSEd, MA, PhD, Ohio State University.

ROBERT C. MARSHALL (1985) Assistant Professor. BA, Youngstown State University; PhD, University of Pittsburgh.

BACHELOR OF ARTS

Major — Anthropology

60 credits

- Anth 201
- Either Anth 202, 210 or 215
- Anth 247 or 348
- Anth 301
- A course in statistics under departmental advisement
- Electives in anthropology under departmental advisement

Archaeology Concentration

72 credits with electives under advisement

- Anthropology major requirements as noted under major requirements
- Elective credits in anthropology under advisement: 312 or equivalent field experience, 310, 311, 411, 414, 416
- 12 credits from the following areas (up to 10 credits in these courses may be substituted for anthropology electives): Geography 251 and either 351, 352 or 354; Geology 211 and 310 or other courses of comparable or more advanced content; Huxley 342 or 478; 1 course in computer science with course work in algebra, trigonometry and geometry strongly recommended

Minor 25 credits

- Anth 201 and either 202, 210 or 215
- Electives under departmental advisement

Combined Major — Anthropology/Biology

71 credits including 10 in supporting courses

This major will provide interested students the opportunity to study in two disciplines related through human biology.

- Anth 201, 210, 215
- 10 credits in anthropology under advisement
- Biol 121, 122, 123, 348, 349, 370, 490
- Biol 340 or Anth 335
- Chem 115 (or 121, 122, 123) and 251 (or 351, 352, 353)
- Recommended elective courses: Biol 307, 325, 465, 469, and 485; Anth 420, 423, 424, any "Peoples" courses relevant to the student interests, and additional courses under advisement

BACHELOR OF ARTS IN EDUCATION — ELEMENTARY OR SECONDARY EDUCATION

Major — Anthropology

45 credits

- Anth 201, 210 and 215
- Anth 481 strongly recommended
- Electives under departmental advisement:

At least one course from each of the following groups:

— Cultural area courses: Anth 361, 362, 363, 364, 462

— Topical cultural anthropology courses: Anth 247, 330, 351, 348, 353

Students in Elementary Education must also complete the Elementary Education professional program.

Students in Secondary Education must also complete the specific program requirements for Social Studies Education, including the Social Studies minor, as outlined in the College of Arts and Sciences Interdisciplinary Program section. Completion of this major/minor program leads to a teaching endorsement in anthropology and in social studies.

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an anthropology major who wishes to graduate "with honors" must demonstrate a reading knowledge of a foreign language and submit a senior thesis.

GRADUATE STUDY

For a concentration leading to a Master of Arts, see the Graduate section of the catalog.

COURSES IN ANTHROPOLOGY

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 201 **INTRODUCTION TO CULTURAL ANTHROPOLOGY (5)**
The study of societies that contrast with Western civilization, leading to an acquaintance with the concept of culture and its importance to an understanding of human behavior. Emphasis will be placed upon understanding each culture from its own point of view rather than our own.
- 202 **INTRODUCTION TO HUMAN ORIGINS (5)**
Human origins drawn from the fossil and archaeological records. Problems of human physical diversity and prehistoric cultural diffusion explored.
- 210 **INTRODUCTION TO ARCHAEOLOGY (5)**
The nature of archaeology as seen by classicists, art historians, historians and anthropologists. Methods, techniques and theories used in the different conceptions of the discipline.
- 215 **INTRODUCTORY BIOLOGICAL ANTHROPOLOGY (5)**
The biological side of anthropology; human osteology, primate paleontology, human variation, human evolution and primate behavior.
- 247 **LANGUAGE IN CULTURE AND SOCIETY (3)**
Prereq: Anth 201. Analysis of situational varieties of language level and vocabulary; social processes of language change; semantics and world-view; speech communities.
- 301 **DEVELOPMENT OF ANTHROPOLOGY (5)**
Prereq: Anth 201. The development of anthropology with emphasis on the period beginning with L.H. Morgan and E.B. Tylor
- 309 **CURATORIAL METHODS IN ANTHROPOLOGY (5)**
Prereq: Anth 201 and 210 and permission. Practical experience in museum techniques of cataloging, preparation, storage, preservation and curatorial methods. Ethnographic, archaeological and historic materials and collections of the Whatcom Museum of History and Art will be studied under the guidance of the museum staff. Students will assist the museum staff in this and other museum work and prepare a report of their activities and research.
- 310 **THE RISE OF CIVILIZATIONS (5)**
Prereq: Anth 201, and 202 or 210. Village agricultural societies as revealed by archaeology, crystallization of village farming societies into urban civilizations in the Near East, Egypt, India, China and New World parallel developments.
- 311 **PREHISTORIC BASES OF EUROPEAN SOCIETY (5)**
Prereq: Anth 201. Archaeological evidence for the introduction of agriculture, metallurgy, trade routes and complex social systems into Europe; sites and settlements beginning in the terminal Pleistocene and ending in the historical Roman period
- 312 **FIELD COURSE IN ARCHAEOLOGY (12)**
Prereq: Anth 201, 210 or equivalent and permission of instructor. On-site training in methods and techniques of archaeological survey and analysis.
- 330 **RELIGION AND CULTURE (5)**
Prereq: Anth 201. Comparative study of religious thought, belief, and behavior; relationship of religious experience and institutions to other aspects of culture and society.

Anthropology

- 332 **SOCIAL CHANGE AND MODERNIZATION (3)**
Prereq: Anth 201. A survey of the mechanisms, modes and variability of socio-cultural change and anthropological theories about change, through descriptive studies.
- 335 **QUANTITATIVE METHODS IN ANTHROPOLOGY (5)**
Prereq: Anth 201 and 10 additional credits in anthropology. Mathematics and statistics as applied to anthropological problems.
- 348 **ANTHROPOLOGICAL LINGUISTICS (3)**
Prereq: Anth 201. Language and other forms of communication. Traditions of spoken and written languages. Introduction to phonology, morphology and syntax. The role of language in anthropological fieldwork.
- 351 **FAMILY AND KINSHIP ORGANIZATION (5)**
Prereq: Anth 201. Cross-cultural study of family types and the definition of social roles through kinship organization.
- 353 **SEX AND GENDER IN CULTURE (4)**
Prereq: Anth 201. Examination of the concepts of sex and gender as they are applied cross-culturally.
- 355 **MYTH AND RITUAL (3)**
Prereq: Anth 201. Critical analysis of theories of symbolic form and function in culture as embodied in myth and ritual. Emphasis on the structural analysis of symbols developed by Claude Lévi-Strauss and his emendators.
- 361 **INDIANS OF NORTH AMERICA (5)**
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 362 **PEOPLES OF ASIA (5)**
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 363 **PEOPLES OF SUB-SAHARAN AFRICA (5)**
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 364 **PEOPLES OF THE PACIFIC (5)**
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 371 **FIELDWORK METHODS IN CULTURAL ANTHROPOLOGY (5)**
Prereq: 15 credits in anthropology. The anthropologist as fieldworker: overview of the techniques and methods of ethnographic fieldwork. Students will gain fieldwork experience through small ethnographic projects.
- 396a,b,c **HONORS TUTORIAL (3-5 ea.)**
- 409 **ARCHAEOLOGICAL FIELD METHODS (3)**
Prereq: Anth 201, 202 or 210, and permission of instructor. Site surveys and evaluation; mapping methods and recording of data; field experience in excavation techniques, preservation of artifacts. Offered every other year.
- 410 **ARCHAEOLOGICAL ANALYSIS AND INTERPRETATION (3)**
Prereq: Anth 201, 202 or 210. Archaeological laboratory methods: artifact identification, classification, measurement; map reproduction, soil and feature profiles, use of photographs and other graphic methods. Offered every other year.
- 411 **ARCHAEOLOGY OF NORTHWESTERN NORTH AMERICA (3)**
Prereq: 10 credits in anthropology including 210 or equivalent. The prehistoric archaeology of the Northwest Coast and Plateaus; current explorations and interpretations in a context of paleoenvironmental and ethno-historical evidence.
- 414 **ARCHAEOLOGY OF NORTH AMERICA (3)**
Prereq: 10 credits in anthropology including 210 or equivalent. Origins of Paleoindians of North America, their paleoenvironments and the cultural sequences leading to the historic peoples of the New World north of Panama. Mesoamerican and Mississippian cultures, those of the Southwest and the Woodland Archaic are examined.
- 416 **ARCHAEOLOGY OF SOUTH AMERICA (3)**
Prereq: 10 credits in anthropology including 210 or equivalent. Origins of Paleoindians of South America and their paleoenvironments. Modes for explaining the origin of the Andean civilizations and the peripheral societies as well as examination of the prehistoric cultural processes that operated in the lowlands and Amazonia.
- 420 **HUMAN OSTEOLOGY AND FORENSIC ANTHROPOLOGY (5)**
Prereq: 10 credits in anthropology or one year's experience in law enforcement and permission of instructor. After learning the human skeleton the student will be trained in techniques for recovery of the body, reconstruction of the body's history (age, sex, race, etc.) and how to aid the crime investigator.
- 423 **HUMAN EVOLUTION (5)**
Prereq: Anth 202 or 215. Detailed exploration of the fossil record leading to modern humans.

- 424 **MEDICAL ANTHROPOLOGY (3)**
 Prereq: Anth 201. Introduction to an area where biological and cultural anthropology interface. Includes health and disease in evolution, the relationships between disease and world view, the healer and the cultural milieu, and comparative studies of healing practices.
- 425 **CULTURE AND SOCIETY OF JAPAN (5)**
 Prereq: Anth 201. Overview of Japanese culture and society, its prehistory and historic formation, emphasizing contemporary social organization and social relations in urban and rural society. Examines Japan's solutions to the problems of modern industrial society.
- 426 **AGING: A CROSS-CULTURAL STUDY (3)**
 Prereq: Anth 201. A study of the aging process as a cross-cultural comparison from the great apes through hunting and gathering societies to agricultural villages to the modern world. Emphasis is upon role changes and forecast of future change.
- 427 **ETHNOHISTORY: RESEARCH AND ANALYSIS (3)**
 Prereq: Anth 201. Reconstruction of the past of human groups through the utilization of primary written sources and cognate archival materials. Particular attention is paid to ethnohistory as a check upon and a complement to the archaeological and ethnological records. Emphasis shall normally be placed upon Northwest aboriginal materials.
- 430 **ECONOMIC ANTHROPOLOGY (5)**
 Prereq: Anth 201. Comparative analysis of production, distribution and consumption in pre-industrial and peasant societies. Emphasis on relations of economic sphere to other aspects of society and problems of development in the post-colonial world.
- 448 **INTERMEDIATE ANTHROPOLOGICAL LINGUISTICS (3)**
 Prereq: Anth 348. Detailed examination of further topics in anthropological linguistics, including language universals, language acquisition, world language and script patterns, and ethnosemantics.
- 453 **ROLES OF WOMEN IN CROSS-CULTURAL PERSPECTIVE (3)**
 Prereq: Anth 201. An ethnographic survey of women's economic, social, religious, political and domestic roles. Current theoretical perspectives and the significance of biological, technoenvironmental and symbolic factors in determining women's roles will be emphasized.
- 462 **INDIANS OF THE NORTHWEST COAST (3)**
 Prereq: Anth 201. Tribal distributions, social organization, and ecological adjustment with emphasis on the Indians of Western Washington; problems of adjustment to the modern world.
- 463 **PEOPLES OF SOUTH AND SOUTHEAST ASIA (3)**
 Prereq: Anth 201. A survey of cultures on the Indian sub-continent, Mainland and Insular Southeast Asia. Emphasis on special topics, including ecology, pre-history, and selected cultural groups. Readings focus on original monographs.
- 464 **PEOPLES OF EAST ASIA (3)**
 Prereq: Anth 201. Ethnographic in-depth study of the national and minority peoples of China (including Taiwan), Korea, and Japan with emphasis on their distinctive cultures and societal structure.
- 467 **PEOPLES OF MEXICO (3)**
 Prereq: Anth 201 and written permission of instructor. Survey of the Indians of Mexico, covering the prehistoric period with particular reference to the Aztec and Maya and continuing with an examination of the effects of the Spanish conquest and subsequent amalgamation of cultures.
- 481 **CHILDHOOD AND CULTURE (3)**
 Prereq: 10 credits in anthropology. The process of socialization or enculturation viewed from a cross-cultural perspective.
- 484-489 **READING AND CONFERENCE (3-5)**
 The specific study topic will be determined by the instructor in consultation with each student.
 484 Cultural Anthropology
 485 Physical Anthropology
 488 Linguistics
 489 Archaeology
- 495 **TEACHING-LEARNING PROCESSES IN ANTHROPOLOGY (3)**
 Prereq: 25 credits in anthropology and permission of instructor. Practicum as discussion leaders in anthropology courses. May be repeated once for departmental credit if taken from a different instructor.
- 496a,b,c **HONORS TUTORIAL (3-5 ea)**

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.
Admission to Graduate School or special permission required. See Graduate School section of this catalog.

Anthropology

503 HISTORY OF ANTHROPOLOGY (5)

Prereq: graduate status and permission of department. Development of principal theoretical orientations and methods in the cultural and historical setting; development of anthropology as a discipline.

504 METHODS AND THEORY OF ANTHROPOLOGY (5)

Prereq: graduate status and permission of department. Analysis of major theoretical approaches; research methods and procedures; relationship of theory and method in formulating research problems.

511 HUMAN VARIATION (3)

Prereq: graduate status or permission of instructor. The biological adaptations of contemporary peoples to disease, altitude, cold, heat and nutritional stress are examined. The biological basis for populational differences in behavior is also explored.

522 SEMINAR: OLD WORLD PREHISTORY (3)

Prereq: Anth 503, 504 and permission of instructor. Seminar in selected topics of Old World prehistory, to cover topics from the Paleolithic to early historic civilizations. Assessments of methods, techniques and underlying theory behind the major Old World Archaeological Zones. Assumptions basic to the interpretations: economic-deterministic, cultural evolutionary and cultural ecological. Students to select their problem areas, study them and discuss in seminar sections.

523 SEMINAR: NEW WORLD PREHISTORY (3)

Prereq: Anth 503, 504 and permission of instructor. This seminar to be structured similarly to 522. New World pre-history; its problems and theoretical foundations. Problems of origins, distributions in the time-space of populations, the effects of changing environments, origins of agriculture, metallurgy. Problems of Old World diffusion, evidence for and against. Cultural-environmental relationships.

527 SEMINAR IN ETHNOHISTORY (3)

Prereq: minimum of 15 credits in undergraduate anthropology courses and permission of instructor. Reconstruction of the past of human groups with particular attention to ethnohistory and its relation to archaeological and ethnological records. Emphasis on Northwest aboriginal groups.

530 SEMINAR: VALUES (3)

Prereq: graduate status or permission of instructor. How scholars characterize cultures as wholes by references to value configurations, themes, world views or philosophies; difficulties in characterization of value systems in unself-conscious societies.



532 COMPARATIVE SOCIAL ORGANIZATION (3)

Prereq: minimum of 15 credits of anthropology undergraduate courses and permission of instructor. The study of the various ways in which people group themselves; the structure of roles, the recruitment and assignment of roles and status within groups, leadership and the legitimization of authority, and the relationships among groups. The sanctions governing relationships: gossip, ridicule, isolation and formal "legalistic."

540 ANTHROPOLOGICAL LINGUISTICS (3)

Prereq: permission of instructor. Language and ethnography; the differential relationships existing between the lexicon and the grammar of languages and their speakers' respective cultures, societies and world view.

584-589 SPECIAL PROBLEMS/ INDEPENDENT STUDY IN ANTHROPOLOGY (1-3 ea.)

Prereq: admission to graduate status. Topics chosen under advisement of faculty.

- 584 Cultural Anthropology
- 585 Physical Anthropology
- 588 Linguistics
- 589 Archaeology

690 RESEARCH (3)

Prereq: formal advancement to candidacy for the M.A. in anthropology. S/U grading.

691 THESIS (3)

Prereq: formal advancement to candidacy for the M.A. in anthropology. S/U grading.

Biology

Biology — the study of life — includes a broad spectrum of exciting subjects. Microbiology, ecology, environmental science, systematic biology, genetics, marine biology, biometry, molecular biology, botany, entomology, zoology, science education, animal and plant physiology and anatomy are some of the specialties to be found in Western's department. Many of our students prepare for professional careers in biology, the health sciences or for teaching in the public schools and community colleges. And a growing number of students select a degree program in biology just because they find it a fascinating area of study even though they may not plan to pursue a career in biology. Biology is a valuable second major which enhances employment opportunities. The department offers courses, majors and minors encompassing these and other possibilities.

MAJOR CONCENTRATIONS IN BIOLOGY

Professional career opportunities in biology are very diverse, and many of them require education beyond the baccalaureate degree. Medicine, oceanography, environmental law, fisheries, forest biology, veterinary medicine, sanitary engineering, and specialties in medical and dental technology involve additional studies after graduation from Western. Students interested in one of these professional careers normally complete one of the major concentrations (basic biology, ecology, marine biology) leading to the Bachelor of Science degree.

In addition to a strong core of basic biology, the B.S. degree includes supporting courses in the physical sciences and mathematics and is therefore recommended for those who wish to continue post-

baccalaureate studies in the biological sciences or to teach in secondary schools and community colleges.

For those who wish to become certified to teach biology, a Bachelor of Science is now considered to be the appropriate degree. Science students who wish to apply for admission to medical or dental schools should consider the Biology B.S. major and the Bachelor of Science combined Biology/Chemistry major.

The Biology/Mathematics combined major is offered for those students interested in quantitative biology, statistics, biometry, ecology and computer modeling of biological systems. The B.S. degree in molecular/cellular biology is designed for students who wish to pursue graduate study in molecular biology, biochemistry, or medicine. Finally a combined major (B.A.) is available in Biology/Anthropology for students whose interest spans these two disciplines.

Students who are interested in biology or one of its component specialties, but not directly interested in teaching or other specific professional careers, may wish to combine biology with an area such as history or political science. Combinations of this sort are particularly valuable to those interested in environmental science. Happily, there are many students who simply want to make the science of life the focus of a liberal education. These students are encouraged to consider the Bachelor of Arts degree in which the number of required courses has been kept low to permit the student to select areas of study and courses suited to his individual needs and interests. Programs one might design under this major include combinations of biology with another discipline such as art, economics, philosophy, physical education, psychology, political

Biology

science or speech.

The Biology Department maintains a program of advisement; students interested in any major or pre-professional program in biology should consult the undergraduate advisement coordinator, Dr. Jerry Kraft, as early in their university careers as possible. Early advisement will ensure appropriateness and proper sequence of courses. All biology majors must declare the major, and have it so signed in the bluebook by Dr. Jerry Kraft, no later than one year before the bluebook is approved for senior evaluation by the department chairman.

TEACHING CAREERS IN BIOLOGY

Many of Western's students are interested in careers in teaching. To be effective in teaching biology, one must also have a solid foundation in the other sciences. Thus, those interested in teaching in the secondary schools are urged to complete a B.S. (biology emphasis) including Science Education 491 and 492 as well as the professional education sequence (see Education). The state of Washington requires certification in two endorsement areas. By completing Geology 211 and 212 students will receive an additional endorsement in general science called "science" on the Washington endorsement list. The professional education courses may be included as electives in the baccalaureate program or may be taken during a post-baccalaureate year, part of which may be applied to the fifth-year requirement for standard certification. Students entering this program are urged to seek departmental advisement as soon as possible.

Those who wish endorsements in biology and chemistry should consider the B.A. in Education program in biology/chemistry.

Students planning to teach at the col-

lege level are advised to complete a B.S. (Biology) and graduate work leading to a master's or doctoral degree.

Students who wish to teach at the elementary or intermediate levels are advised to take the general science major (see the College of Arts and Sciences Interdisciplinary Programs section). Note that Science Education 383 is Biological Science for the Elementary School.

BIOLOGY FACILITIES

The Biology Department is housed in Haggard Hall and shares space in the Environmental Studies Center. Our teaching and research laboratories are adequate and well-equipped. The department frequently uses the facilities of the Sundquist Marine Laboratory at Shannon Point near Anacortes. This laboratory is an important focus of our strong program in marine biology. The Science Education Center, electron microscope laboratories, and the Computer Center also serve in support of special program areas. Learning by doing is a primary teaching mode in Western's Biology Department. Very often we find ourselves involved in open-ended laboratory or field projects. Our cell-tissue culture lab has attracted a number of students interested in modern techniques so important in research and industry. The beautiful nearby Cascades, and rich diversity of the marine habitats at our doorstep invite frequent class and individual projects focusing on the organismal and ecological aspects of biology, and the essential intricacy of our environment.

BIOLOGY FACULTY

RONALD J. TAYLOR (1964) Chair, Professor.
BS, Idaho State College. MS, University of Wyoming; PhD, Washington State University.

- HERBERT A. BROWN (1967) Associate Professor. BA, University of California, Los Angeles; PhD, University of California, Riverside.
- MAURICE A. DUBE (1963) Associate Professor. BS, Washington State University; MS, PhD, Oregon State University.
- JOHN E. ERICKSON (1964) Associate Professor. BA, University of Omaha; MA, Indiana University; PhD, University of Oregon.
- CHARLES J. FLORA (1957) Professor. BS, Purdue University; MEd, EdD, University of Florida.
- RICHARD W. FONDA (1968) Professor. BA, Duke University; MS, PhD, University of Illinois.
- HUBERTUS E. KOHN (1966) Associate Professor. PhD, University of Innsbruck, Austria.
- GERALD F. KRAFT (1961) Associate Professor. BA, San Jose State College. MS, Washington State University; PhD, Oregon State University.
- THOMAS E. LACHER, JR. (1981) Associate Professor. BS, PhD, University of Pittsburgh.
- JAL S. PARAKH (1966) Professor. BS, Osmania University, India; MS, University of Florida; PhD, Cornell University.
- MERIBETH M. RIFFEY (1957) Associate Professor. BS, MS, Northwestern University; PhD, Washington State University.
- JUNE R. P. ROSS (1967) Professor. BSc, PhD, DSc, University of Sydney, Sydney, Australia.
- DAVID E. SCHNEIDER (1966) Associate Professor. BS, Bates College, PhD, Duke University.
- DONALD J. SCHWEMMIN (1960) Associate Professor. BS, MS, PhD, University of Michigan.
- CLYDE M. SENGER (1963) Professor. BA, Reed College; MS, Purdue University; PhD, Utah State University.
- IRWIN L. SLESNICK (1963) Professor. AB, BS, Bowling Green State University; MS, University of Michigan; PhD, Ohio State University.
- DON C. WILLIAMS (1968) Professor. BA, Chico State College; MA, PhD, University of California, Davis.

Research Associates

- Juan Acosta-Urquidí
BS, University of California, Berkeley;
MSc, McGill University; PhD, University of Toronto
- Frederick M. Rhoades
BA, Swarthmore; MS, Oregon State University; PhD, University of Oregon
- Terence R. Wahl
BA, University of Washington
- Carl L. Withner
AB, University of Illinois; MA, PhD, Yale University

BACHELOR OF ARTS

Major 50 credits plus Supporting Courses

Basic biology emphasis

- Biol 121, 123, 210, 211, 212,
- Electives to total 50 credits in biology selected with approval of major adviser

(G. F. Kraft, adviser)

Cooperative Major — Forest Biology

In 1984, a Cooperative WWU Baccalaureate in Biology/WSU Master of Science in Forest and Range Management Program was developed. In this program, a student can take the basic science, supporting science, mathematics and non-science, and general university requirements in the first three years at WWU. Students with appropriate grade point averages would then transfer to Washington State University in Pullman and enroll in forestry and range management courses for the fourth year of their baccalaureate program. On satisfactory completion of that year, they can transfer the credits back to WWU and be awarded a B.A. degree in Biology. Those students eligible for admission to the graduate program in forest and range management would, after applying and being admitted to the program, complete a second year at WSU. Ideally, students would be able to complete a non-thesis Master of Science in Forest and Range Management within a year of admission to the Graduate School of Washington State University. Students who elect not to transfer to WSU or whose grade point average is not appropriate for transfer will be able to apply courses taken in forest biology to other biology degree programs at WWU.

Biology

Course Requirements at WWU:

- Biology courses: Biol 121, 122, 123; 210, 211 (212 recommended); 325, 340, 452, 479
- Supporting courses: Chem 121, 122, 123, 251; Geol 211; Math 124; Comp Sci 107; Eng 101, 301, 302; Speech 205; Econ 203, 204; GUR requirements

Course Requirements at WSU:

- FRM 302, 304, 311, 312, 320, 330
- FRM 348 or 351 or 371
- FRM 411, 412
- Soils 201, 316

(H. Kohn, adviser)

Combined Major — Biology/ Anthropology: Major Concentration

71 credits including 10 in Supporting Courses

- Biol 121, 122, 123, 348, 349, 370, 490
- Biol 340 or Anth 335
- Anth 201, 210, 215
- 10 credits in anthropology under advisement
- Chem 115 (or 121, 122, 123) and 251 (or 351, 352, 353)
- Recommended elective courses: Biol 307, 325, 465, 469, and 485; Anth 420, 423, 424, any "Peoples" courses relevant to the student interests.

(Advisers: J. Stevenson - Anthropology; J. Erickson - Biology)

BACHELOR OF ARTS IN EDUCATION

Combined Major — Biology/ Chemistry: Major Concentration 110-113 credits

- Chem 121, 122, 123, 333
- Option a: Chem 251, 461, 462, and Chem 371 or Biol 323
- Option b: Chem 351, 352, 353, 354, 471, 472, and 473 or 474
- Biol 121, 122, 123, 321, 325, 490

- 10 credits from Biol 210, 211, 212
- Biol 485 or Sci Ec 410
- Sci Ed 491 and 492
- Math 124, 125 (for Option a) and Physics 131, 132, 133 (or 241, 242, 341, 351)

(I. Slesnick, adviser)

NOTE: This program is specifically designed for students who wish to receive teaching endorsements in both biology and chemistry. Depending upon options chosen, the overall student program may involve more than 180 credits.

Teaching Endorsement

Recommendations for teaching endorsement with the chemistry-biology major concentration normally require completion of the program with a grade point average of 2.75 or better in the chemistry and in the biology courses.

BACHELOR OF SCIENCE

Pre-professional program for professional biologists, students pursuing graduate work, secondary teachers and related specialties

Major Concentration

110 credits

Basic biology emphasis

- Biol 121, 123, 210, 211, 212, 321, 323 (or Chem 471, 472), 325, 340, 485, 490
- Chem 121, 122, 123, 251 (or 351, 352 and 353)
- Math 124
- Physics 131, 132, 133 (or 241, 242, 341, 351)
- Teacher preparation only Sci Ed 491 and 492, Geol 211 and 212 and Sci Ed 410 in place of Biol 485
- Electives to be taken from biology, chemistry, computer science, geography, geology, mathematics, physics and Huxley College selected with approval of departmental adviser.

(G. F. Kraft, adviser)

Molecular/cellular biology emphasis

- Biol 121, 123, 211, 212, 321, 322, 323 (or Chem 471 and 472), 340, 345, 470, 471, 445 (3-6 credits)
- Chem 121, 122, 123, 333, 351, 352, 353, 354
- Math 124, 125
- Physics 131, 132, 133 or 241, 242, 341, 351

This program is specifically designed for students who wish to undertake graduate study in molecular/cellular biology.

(D. Schwemmin, adviser)

*Combined Major — Biology/
Mathematics: Major
Concentration* 110 credits

- Biol 121, 123, 210, 211, 212, 321, 323, 325
- Biol 471 or 490
- Math 124, 125, 126, 205, 241, 331, 341, 342; Math/Comp Sci 335 (or Physics 341, 351); Comp Sci 210, 439
- Chem 115, 251
- Physics 241, 242, 341, 351 (or Math/Comp Sci 335)

(C. Senger, adviser)

COOPERATIVE BIOLOGY/ ECOLOGY PROGRAMS

Western is the only four-year university on the West Coast that has natural habitats ranging from salt water to alpine within a one-hour drive of campus. Within this region are three national parks, three national forests, hundreds of miles of shoreline and numerous other natural features. The cooperative programs are designed to prepare students for graduate study or for field-oriented careers, taking advantage of "outdoor laboratories." Because of the complex interactions in natural systems, these programs have a broad core requirement involving several disciplines.

Students who choose to major in one of these programs can fulfill the requirements for a Bachelor of Science through the Department of Biology (see below) or through Huxley College.

*Combined Major — Biology/
Huxley
Major Concentration —
Marine Biology* 110 credits

- Biol 121, 123, 210, 211, 212, 325, 340, 403, 406 (or Hux 321a & b), 407 (or Hux 421a & b), 456, 460 (or 461)
- Chem 121, 122, 123, 251, 333 (or Hux 361)
- Physics 131, 132 (or 241, 242)
- Math 124
- Geol 211
- A quarter in residence at an approved marine laboratory
- Electives to total 110 credits: to be selected under advisement. Some suggested courses are Biol 321, 323, 460, 461, 462, 490 Hux 430, 431, 446, 456

(J. Ross and D. Schneider, advisers)

*Combined Major — Biology/
Huxley
Major Concentration:
Terrestrial Ecology* 110 credits

- Biol 121, 123, 210, 211, 212, 321, 452, 490
- Biol 340
- Biol 403 or 479
- Ecology Core: Biol 325, 404; Huxley 430, 431
- Chem 121, 122, 123, 251
- Chem 333 or Huxley 361
- Math 124
- Physics (10 credits)
- Electives selected with approval of adviser from appropriate courses in Biology and Huxley; Biol 407 and Biol 406 or Hux 321a,b are recommended for students who wish to get a background in marine ecology

(R. Fonda, adviser)

Biology

Combined Major — Biology/ Huxley

Major Concentration:
Watershed Studies 110 credits

Background preparation

- Biol 121, 123, 210, 211, 212
- Chem 121-123, 351, 352, 353
- Math 124
- Geol 211

Ecology Core

- Biol 325, 340
- Hux 361 or Chem 333
- Biol 402 or Hux 430
- Hux 432 or 434
- Geol 472
- Biol/Hux 433

Twenty credits of electives to be selected from one or more of the following topic areas:

- Watershed Processes
- Hux 438, 439, 446
- Geol 310, 473
- Geog 331, 431, 456
- Math 125

Environmental Chemistry

- Hux 456, 458, 462
- Geol 460, 461
- Math 125

Ecology

- Hux 421a,b, 431
- Biol 403 or 479, 404, 407, 425
- Biol 452, 456, 462, 490
- Math 125

(G. F. Kraft, Biology, and D. Brakke, Huxley, advisers)

Minor — Biology 25 credits

- Biol 121, 122, 123 plus a minimum of 14 additional credits in biology under advisement.

Students are advised to consult their major departments for remainder of credits.

At least 10 credits of biology must be taken at Western.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the Graduate section of the catalog.

COURSES IN BIOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 101 PRINCIPLES OF GENERAL BIOLOGY (4)
Major ideas and processes of modern biological science at molecular, cellular, organismic and community levels; stressing qualitative and quantitative dimensions of the discipline in lecture, laboratory, field and discussion settings. Laboratory included.
- 121 BIOLOGICAL DIVERSITY AND EVOLUTION (4)
Evolutionary trends and processes; organismal variation exemplifying evolutionary lineages.
- 122 BIOLOGY OF ORGANISMS (4)
Patterns of reproduction, development and tissue differentiation in selected groups of organisms; biological systems, e.g., nutrition, digestion, circulation, intraorganismal communication, etc., emphasizing integration and control of processes.
- 123 CELLULAR AND MOLECULAR BIOLOGY (4)
The structure of biological molecules and macro-molecules; cell structure and organization; energy production and utilization; the synthesis of DNA and proteins.
- 201-207 FIELD BIOLOGY OF THE NORTHWEST (3 ea)
Prereq: high school biology recommended. Recognition, life history, ecological relationships and distribution, evolutionary trends of representative groups of organisms. Field biology courses are not open to students who have credit for corresponding upper-division course.
 - 201 Mushrooms, Molds and Mosses
 - 202 Flowering Plants, Conifers and Ferns
 - 203 Insects and other Terrestrial Arthropods
 - 204 Algae of the Northwest
 - 205 Marine Biology
 - 206 Birds of the Northwest
 - 207 Mammals of the Northwest

- 210 **THE BIOLOGY OF LOWER ORGANISMS (5)**
Prereq: Biol 121, 123. An introduction to the basic biology of bacteria, fungi, algae, lichens, protozoa and sponges with emphasis on ecological relationships of lower organisms to one another and to other organisms, their occurrence in nature, and the classification of organisms.
- 211 **PLANT BIOLOGY (5)**
Prereq: Biol 121 and 123. Basic physiological principles; evolutionary trends and adaptations in structural development and reproductive systems of higher plants—Bryophytes through Angiosperms.
- 212 **ANIMAL BIOLOGY (5)**
Prereq: Biol 121 and 123. A course that stresses the ways in which animals cope with the basic problems of survival: locomotion, nutrition and the utilization of food; integration of activities on both community and individual levels, reproduction and development.
- 223 **FOREIGN CHEMICALS AND NATURAL SYSTEMS (3)**
Prereq: Biol 101 and Chem 101. An elementary treatment of the effect and mechanism of action of such currently encountered substances as pesticides, food additives, hallucinogenic drugs, and conventional drugs (alcohol, tobacco and coffee)
- 305 **NATURAL HISTORY OF THE NORTHWEST (5)**
Prereq: Biol 101. Kinds of plants and animals in the Northwest; their distribution and life histories; field trips to beaches, lakes and ponds, forests, mountains. Not applicable to a B.S. major in biology.
- 306 **CORAL REEF BIOLOGY (5)**
Prereq: Biol 205 or equivalent. A field study of the systematics and ecology of tropical coral reef organisms.
- 307 **HUMAN POPULATIONS AND NATURAL RESOURCES (3)**
Prereq: Biol 101. Growth of human populations; changes in natural resources resulting in growth, prospects and consequences of population increases and resource utilization.
- 321 **GENETICS (3)**
Prereq: Biol 121 and 123, plus 10 credits to be selected from Biol 210, 211, 212 or permission of instructor. Observations, theories and problems in genetics, as shown in organisms at all levels.
- 322 **GENETICS LAB (3)**
Prereq: Biol 321 or concurrent. Experimental genetic manipulation of *Drosophila*, fungi, bacteria and other organisms.
- 323 **CELLULAR, MOLECULAR AND DEVELOPMENTAL BIOLOGY (5)**
Prereq: Biology 121 and 123, plus 10 credits taken from 210, 211, 212 or permission of instructor; Chem 251 or 351 and 352. Students planning to take both Biol 345 and 323 should take 345 first. Cell organelle structure and function, membrane phenomena, energy utilization and production, cellular biosyntheses, control of cellular activities, developmental processes at the cellular level.
- 325 **ECOLOGY (5)**
Prereq: Biol 121 and 123 plus 10 credits taken from 210, 211, 212 or permission of instructor. Community energetics and organismal-environmental relationships in marine, fresh water and terrestrial habitats.
- 340 **BIOMETRICS (5)**
Prereq: Biol 121 and 123, plus 10 credits taken from 210, 211, 212 or permission of instructor. The design of biological experiments and appropriate statistical analysis of experimental data. Calculator required. Also listed as Hux 340.
- 345 **FUNDAMENTALS OF MICROBIOLOGY (5)**
Prereq: Chem 122 and 251; 10 credits in biology. Comparative morphology, taxonomy, physiology and relationship of microbes: bacteria, yeasts, molds and viruses.
- 348,349 **HUMAN ANATOMY AND PHYSIOLOGY (5 ea)**
Prereq: Biol 101; Biol 348 prerequisite to 349. Structure and function of the human body; emphasis on physiological principles and homeostatic mechanisms.
- 370 **HUMAN GENETICS (4)**
Prereq: Biol 101. Basic principles of heredity, human genetic problems; radiation and mutation, chromosomal errors, eugenics.
- 384 **BIOLOGY AND SOCIETY (4)**
Prereq: Biol 101 or 121 and junior standing. Recent developments in biology and their impact on the individual and on society; emphasis on potential effects on individual values and social implications of selected developments in such areas as behavior control, genetic alteration and organ replacement

Biology

- 402 **BIOLOGICAL LIMNOLOGY (5)**
Prereq: Biol 325. Physical and chemical characteristics of fresh water in relation to biotic communities; field trips.
- 403 **PHYSIOLOGICAL ECOLOGY OF ANIMALS (5)**
Prereq: Biol 212 and 325. Field and laboratory studies of physiological responses of marine animals to environmental factors; methods for design and analysis of experiments.
- 404 **PLANT ECOLOGY (5)**
Prereq: Biol 325; Biol 211 recommended. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Weekend field trips included
- 405 **FIELD ECOLOGY (3)**
Prereq: Biol 325 and permission of instructor; Bio: 452 and 404 recommended. Analysis and investigation of vegetation patterns in Arizona, California, or other regions. Field trip. May be repeated for credit.
- 406 **GENERAL OCEANOGRAPHY (5)**
Prereq: one quarter each of college physics, college chemistry and college biology. Biological, chemical, physical and geological oceanography. Limited laboratory study of oceanographic techniques.
- 407 **MARINE ECOLOGY (5)**
Prereq: Biol 325 (ecology). The interaction of physical, chemical, and biological processes in the functioning of marine ecosystems. Productivity, food webs, nutrient cycles and community ecology will be discussed. Investigative laboratory studies of local shallow-water marine and estuarine ecosystems.
- 408 **THE BIOCHEMISTRY OF DRUG ACTION (3)**
Prereq: Biol 323 (or Chem 471), Chem 251. The effect and molecular mechanism of action of selected natural and synthetic chemical compounds, both naturally occurring and introduced, upon target and non-target organisms. Topics include selected drugs, pesticides, chemical mutagens and certain natural exochemicals produced by plants and animals. Normally offered in alternate years.
- 411 **INTERNSHIP IN BIOLOGY (3-6)**
Prereq: senior standing in biology and permission of department. Full- or part-time work with a cooperating agency or firm. Oral and written report required. Elective in major. S/U grading.
- 415 **FIRE ECOLOGY (4)**
Prereq: Biol 325, 404, and permission of instructor. Consideration and discussion of the literature of wildfire ecology; emphasis on the basic concepts of wildfire as a natural environmental factor, and on the role of wildfire in the vegetative formations in North America.
- 423 **FIELD ENTOMOLOGY (1-2)**
Prereq: Biol 212. Insect collecting and field identification; preparation of insect collections; intersession course of one or two weeks duration.
- 424 **ENTOMOLOGY (5)**
Prereq: Biol 212. Insects: their morphology, physiology, metamorphoses, classification and economic importance.
- 425 **AQUATIC ENTOMOLOGY (3)**
Prereq: Biol 212; 424 recommended. Classification and ecological relationships of insects in streams and lakes.
- 430 **SCIENTIFIC WRITING FOR BIOLOGISTS (3)**
Prereq: 40 credits in biology and permission of instructor. The techniques of writing a biological journal article; elements of style; line drawings, lettering and reproduction of figures; reading and reviewing biological papers.
- 433 **WATERSHED AND LAKE MANAGEMENT (4)**
Prereq: Biol 402 or Hux 430; Hux 432 and Geol 472 recommended. Management of watershed units and interaction between land and water (stream and lake) environments. Lake management and lake restoration procedures and applications. Bio-manipulation as a management strategy.
- 449 **PATHOPHYSIOLOGY (5)**
Prereq: Biol 348, 349. A study of the mechanisms of disease, the responses of the body to the disease process and the effects of the pathophysiologic mechanisms on normal function.
- 452 **SYSTEMATIC BOTANY (5)**
Prereq: Biol 121 or previous course in botany. Taxonomy of higher plants with emphasis on the characteristics and phylogeny of flowering plant families; collection and identification of local species.
- 453 **ALPINE ENVIRONMENT AND VEGETATION (5)**
Prereq: background in ecology and plant taxonomy. Interaction of plant species and environmental factors and resulting vegetation of the Alpine Zone. Offered only during the summer.

- 454 **MYCOLOGY (5)**
Prereq: Biol 210. Taxonomy of the fungi with emphasis on morphology, phylogenetic trends, collection and identification of common species. Several weekend field trips are required
- 456 **ALGAE (5)**
Prereq: Biol 210. Collection, culture, identification, classification, distribution and economic importance of marine and freshwater algae.
- 458 **BRYOPHYTES (5)**
Prereq: Biol 211. Collection, identification, physiological ecology, distribution and evolution of mosses and liverworts. Normally offered in alternate years.
- 460 **INVERTEBRATE ZOOLOGY (5)**
Prereq: Biol 212. Classification, anatomy, physiology, development and general biology of invertebrate animals.
- 461 **MARINE INVERTEBRATE ZOOLOGY (5)**
Prereq: Biol 212. Laboratory and field study of local marine invertebrates.
- 462 **ICHTHYOLOGY (5)**
Prereq: Biol 212. Form and function of fishes, life histories; behavioral adaptations; ecological relationships; distribution; evolution and classification; socio-economic value.
- 463 **ORNITHOLOGY (5)**
Prereq: Previous course in zoology. Evolution of morphological adaptations of birds; classification, distribution; annual cycle including migration, breeding and population dynamics, laboratory study, field trips. Normally offered spring quarter of alternate years.
- 465 **MAMMALOLOGY (5)**
Prereq: Biol 212. Structural and physiological adaptations, population dynamics, distribution and classification of mammals with laboratory emphasis on local species. Normally offered in alternate years.
- 468 **INVERTEBRATE EMBRYOLOGY (5)**
Prereq: Biol 460 or 461. Development of invertebrate animals, laboratory study of local, marine invertebrates. Taught only at the Shannon Point Marine Center during the spring or summer quarters. Normally offered in alternate years.
- 469 **COMPARATIVE VERTEBRATE ANATOMY AND EMBRYOLOGY (5)**
Prereq: Biol 212. Morphological adaptations, developmental anatomy and evolution of organ systems in vertebrate animals. Laboratory study of adults and embryos of shark, frog, chick, cat and pig.
- 470 **CELL AND TISSUE CULTURE (3)**
Prereq: Chem 123 and 20 credits in Biology. Principles and basic techniques for in vitro culturing and manipulation of cells and tissues of plants and animals.
- 471 **MOLECULAR GENETICS (5)**
Prereq: introductory genetics, Biol 345, and Biol 323 or Chem 471. A study of the structure, replication, expression and control of genetic information. Laboratory experiments on the biochemical genetics of molds, bacteria and viruses.
- 479 **PLANT PHYSIOLOGY (5)**
Prereq: Biol 211; Chem 251 or 351 and Chem 352. Basic principles of physiology including cell structure and function, plant-soil-water relationships, absorption and translocation of materials, transpiration, photosynthesis, respiration, mineral nutrition, growth and development, hormonal regulation
- 480 **ADVANCED GENETICS (3)**
Prereq: Biol 321. Biol 322 recommended. Genetic mechanisms and interactions, chromosome behavior, cytogenetics, mutation; recombination, the gene.
- 481 **PHYSIOLOGICAL ECOLOGY OF PLANTS (5)**
Prereq: Biol 211 and Biol 325. Field and laboratory study of physiological responses of plants to environmental factors, methods of design and analysis of experiments. Normally offered in alternate years.
- 485 **HISTORICAL AND PHILOSOPHICAL PERSPECTIVES OF BIOLOGY (5)**
Prereq: 20 credits in science, 15 in biology. The origins and development of biology as a science viewed in historical and philosophical perspective; the interaction of biology and society
- 490 **PRINCIPLES OF ORGANIC EVOLUTION (4)**
Prereq: Biol 121, 123. Biol 321 recommended. Principles, patterns, processes, and mechanisms of evolution in the organic world

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of the catalog.

NOTE: Biol 503, 568, 571, 577 and 583 are broad-titled courses that deal with a variety of topics in

Biology

biology. Each year there are usually several different subjects offered under these titles, each one taught by a different professor. Examples of recent course titles are: ecological methods; cave ecology; plant cell physiology; biosystematics of lichens; ecology of arctic shorelines; reproductive ecology of birds; chromosomal genetics.

503 ADVANCED TOPICS IN ECOLOGY (4)

Prereq: 25 credits of biology and permission of instructor. Analysis of current literature on fundamental properties of ecosystems, communities, populations, species and characteristic environments.

506 OCEANOGRAPHY (5)

Prereq: 20 credits in biology, one year of chemistry, and one quarter of both physics and geology. Specific studies in biological, physical, chemical and geological oceanography and their interrelationships.

514 VEGETATION OF WASHINGTON (4)

Prereq: 25 credits of biology and permission of instructor (Biol 404 recommended). Consideration and discussion of the literature on the vegetation of Washington; emphasis on the pattern of vegetation in the five physiographic provinces and environmental factors controlling distribution of species.

515 PLANT GEOGRAPHY OF NORTH AMERICA (4)

Prereq: 25 credits of biology and permission of instructor (Biol 404 and 452 recommended). Vegetative zonation of North America emphasizing factors controlling distributional patterns and paleogeographical history of major biomes.

524 ADVANCED TOPICS IN AQUATIC ENTOMOLOGY (4)

Prereq: Biol 424, 425, and permission of instructor. Taxonomy and ecology of selected orders of aquatic insects.

552 EVOLUTIONARY SYSTEMATICS OF VASCULAR PLANTS (4)

Prereq: 15 credits in botany and permission of instructor. Evolutionary systematics of vascular plants, phylogeny and evolutionary trends.

554 MYCOLOGY (5)

Prereq: 10 credits of upper-division botany and permission of instructor. Biology of fungi with emphasis on collection, culture, and laboratory identification of all major groups. Important interrelationships with other organisms and phylogenetic trends will also be covered. Students will make a detailed collection and study of one group of fungi.

556 PHYCOLOGY (5)

Prereq: graduate status or permission of instructor. Identification, classification, and distribution of marine and freshwater algae, with emphasis on life history study through field and culture work.

559 PLANT SPECIATION (4)

Prereq: 25 credits of biology; Biol 490 recommended. Reproductive strategies and evolutionary patterns relating to formation and stabilization of discrete biological units (microspecies, species and higher categories) among higher plants.

560 EVOLUTIONARY RELATIONS OF INVERTEBRATES (5)

Prereq: graduate status or permission of instructor. Advanced analysis of phylogeny and classification of invertebrates including recent information on morphology, physiology, development and ecology.

568 TOPICS IN DEVELOPMENTAL AND COMPARATIVE MORPHOLOGY (4)

Prereq: 25 credits of biology and permission of instructor. Structural changes, cellular interactions, and control mechanisms operating during growth and development or evolution of selected organisms.

571 ADVANCED TOPICS IN GENETICS (4)

Prereq: 25 credits of biology and permission of instructor. Inheritance and gene action in plant, animal and microbial systems; illustrative experiments with *Drosophila*, *Aspergillus* or other organisms.

577 ADVANCED TOPICS IN PHYSIOLOGY (4)

Prereq: 25 credits of biology and permission of instructor. Topics in general, microbial or comparative physiology; laboratory work illustrating processes or experimental techniques.

578 PROTEIN STRUCTURE, FUNCTION AND EVOLUTION (4)

Prereq: upper-division course in biochemistry. Detailed investigation into the molecular structure and function of such proteins as enzymes, antibodies, histones, muscle proteins and hemoglobins. The use of proteins in establishing evolutionary relationships between organisms.

579 ENZYMOLOGY LABORATORY (3)

Prereq: upper-division course in biochemistry. Techniques in isolation and characterization of various enzymes; purification techniques and determination of various kinetic parameters.

583 ADVANCED TOPICS IN BIOSYSTEMATICS (4)

Prereq: 25 credits of biology and permission of instructor. Role of morphology, cytology, biochemistry and genetics in taxonomy; systematic study of a specific group of local organisms.

584 POPULATION AND COMMUNITY BIOLOGY (4)

Prereq: upper-division course in genetics. Study of populations and communities as interacting, functioning systems, and the changes in the numbers and proportions of organisms in populations and the diversity of species in communities; also factors influencing changes in populations and communities.

595 TEACHING PRACTICUM (1-3)

Prereq: permission of instructor. Intended for the student who wants experience in teaching a biology course of his/her choice. May be repeated for a maximum of 6 hours total credit. S/U grading.

599 SEMINAR IN BIOLOGY (2)

Prereq: 40 credits in biology. Selected problems in biology, with emphasis on current literature. May be repeated for credit.

690 THESIS RESEARCH (1-12)

Prereq: permission of thesis adviser. Research contributing to a graduate degree program. Graded "K" until thesis completed. May be repeated for credit. S/U grading.



Chemistry

The Department of Chemistry offers undergraduate degree programs in chemistry and biochemistry. American Chemical Society accreditation is available to B.S. graduates in chemistry. Major graduate and professional schools have readily accepted chemistry and biochemistry majors from Western.

The Department of Chemistry—in addition to its core of fundamental studies in physical, inorganic, organic, analytical and biochemistry—has added a variety of elective courses that offer diversity in training, study and research at both the undergraduate and graduate levels. Within the department, faculty members are active in research and teaching, in coordination, of chemistry and the molecular structures of transition metal complexes small ring compounds, photochemistry and natural products, organic reaction mechanisms, protein and nucleic acid biochemistry, electrochemistry, atmospheric and environmental chemistry, molecular biology of viruses, molecular spectroscopy, and new areas of computer applications.

Every effort is made to update and modernize coursework and teaching methods. Several faculty members have authored successful textbooks that have found wide usage at major universities. Western's graduates have a long and enviable record of success in Ph.D. programs at major research-oriented universities and in a variety of medical, dental and pharmacy programs.

CHEMISTRY FACULTY

All of the members of the department hold the Ph.D. degree and most have had postdoctoral experience before coming to Western. All are encouraged and supported in research. As a result, the department has an active

undergraduate research program, and it offers as a unique feature an unusual degree of personal contact between faculty and students. Furthermore, faculty members are aware of campus policies and resources, and both academic and career counseling is readily available to all chemistry students.

- MARK WICHOLAS (1967) Chair. Professor. AB, Boston University; MS, Michigan State University; PhD, University of Illinois.
- W. SCOTT BRIGGS (1984) Lecturer. BS, University of Washington; PhD, Stanford University.
- JOSEPH R. CROOK (1970) Associate Professor. BS, University of Nevada; PhD, Illinois Institute of Technology.
- GEORGE A. GERHOLD (1969) Professor. BS, University of Illinois; PhD, University of Washington.
- DONALD M. KING (1966) Associate Professor. BS, Washington State University; PhD, California Institute of Technology.
- GEORGE S. KRIZ (1967) Professor. BS, University of California, Berkeley; PhD, Indiana University.
- GARY M. LAMPMAN (1964) Professor. BS, University of California, Los Angeles; PhD, University of Washington.
- JOHN A. MILLER (1966) Professor. BS, Oregon State University; PhD, Iowa State University.
- EDWARD F. NEUZIL (1959) Professor. BS, North Dakota State College; MS, Purdue University; PhD, University of Washington.
- DONALD L. PAVIA (1970) Professor. AB, Reed College; MS, PhD, Yale.
- GERALDINE A. PRODY (1984) Assistant Professor. BS, PhD, University of California, Davis.
- SALVATORE F. RUSSO (1968) Professor. BA, Wesleyan University; PhD, Northwestern University.
- JOHN A. WEYH (1968) Professor. BA, College of Great Falls; MS, PhD, Washington State University.
- JOHN C. WHITMER (1969) Professor. BS, University of Rochester; MS, PhD, University of Michigan.
- H. WILLIAM WILSON (1966) Professor. BSc, University of Alberta; PhD, University of Washington.

Research Associate

Fred Foley (1983) BA, University of British Columbia.

PROGRAMS AND CAREER OPPORTUNITIES

The programs of study offered by the Chemistry Department are diverse and challenging, and provide the following benefits to the student:

- A wide variety of accredited programs, designed to meet diverse career goals.
- A faculty committed to excellence in undergraduate education.
- Close student-faculty contact and relatively small classes.
- Direct access to modern laboratory equipment and instrumentation.
- Opportunity for research work at the junior/senior level under the direction of a faculty adviser.

The Chemistry Department offers three basic degree programs: Bachelor of Science, Bachelor of Arts, and Bachelor of Arts in Education. All three programs have a common core of study:

- One year of general chemistry and one year of college-level calculus (first year)
- One year of organic chemistry, one year of college physics and one quarter of analytical chemistry (second year)
- One year of physical chemistry (third year)

This provides the foundation for elective courses in the student's area of interest. Through choice of degree programs and electives, the student can prepare for careers in industry or government, teaching at the secondary level, or further study at the graduate level.

Students planning to major in chemistry or biochemistry or to begin university transfer programs involving chemistry courses are advised to consult the department at the beginning of the first year to arrange for proper sequence of courses.

Students planning to transfer to Western after completing two years of college study elsewhere should complete as many of the following program requirements as possible prior to transfer in order to avoid delays in degree work completion:

- One year of general chemistry
- One quarter or one semester of analytical chemistry
- One year of organic chemistry
- One year of college-level calculus
- One year of college-level physics

Bachelor of Science. The department offers B.S. programs in chemistry and biochemistry. These are specifically designed for students interested in graduate study or careers in industry and government as laboratory scientists.

Bachelor of Arts. This program provides less intensive training in chemistry but, when combined with a minor in a related area, prepares students for a variety of career opportunities in fields such as:

- Chemical Sales & Marketing
- Computer Sciences
- Technical Writing (Journalism)
- Environmental Sciences
- Secondary School Teaching

Bachelor of Arts in Education. This program provides several program emphases (chemistry-biology, chemistry-mathematics, and chemistry-physics). Although requirements within these options differ in detail, the three programs are similar enough that the prospective teacher need not choose among them until the sophomore or junior year. Successful graduates are qualified to teach in their areas of concentration at the middle school or high school level. Prospective teachers with qualifications in more than one area will have a distinct advantage in seeking such positions. Detailed descriptions

Chemistry

of each of these degree programs and course descriptions are given below.

BACHELOR OF ARTS DEGREE

The Bachelor of Arts degree (major or minor) can be combined with a variety of other programs on campus. Careful program planning and early advisement is strongly suggested.

Major — Chemistry 56 credits plus Supporting Courses

- Chem 121, 122, 123, 333, 351, 352, 353, 354, 355, 461, 462, 463, 464, 465, 434 or 441, plus elective
- Supporting courses: one year college physics and Math 105, 124, 125
- Sci Ed 491, 492 (teacher preparation only, see section for B.A. Ed.)

Minor 24 credits

- Chem 121, 122, 123
- A minimum of 9 credits under approval of the Chemistry Department from Chem 251, 333, 351, 352, 353, 354, 371, 461, 462, 463, 482, 483

To obtain minor approval a minimum of four credits of those required must be taken in chemistry at Western Washington University under Chemistry Department advisement.

Teaching Endorsement

Students planning on careers as high school teachers must take Sci Ed 491 and 492 plus the secondary education program in addition to the Bachelor of Arts degree. Because certification to teach high school now requires more than four years, advisement prior to or at the beginning of the third year is absolutely necessary to avoid lengthening the program.

BACHELOR OF ARTS IN EDUCATION

Combined Major — Chemistry/Mathematics — Secondary 88-90 credits plus Supporting Courses

This major leads to recommendation for teaching endorsement in both areas.

- Chem 121, 122, 123, 461, 462, 463
- 9-11 credits in chemistry to include a minimum of five credits in organic chemistry under departmental advisement
- Math 124, 125, 126, 224
- Math 205, 241, 305, 360, 483
- CS 210
- Sci Ed 491, 492
- Supporting courses: one year college physics

Combined Major — Chemistry/Physics — Secondary 78-80 credits plus Supporting Courses

This major leads to recommendation for teaching endorsement in both areas.

- Chem 121, 122, 123
- Chem 461, 462, 463
- 9-11 credits in chemistry including five credits in organic chemistry under departmental advisement
- Physics 241, 242, 341, 342, 343, 351, 352, 353
- 9 credits in physics under departmental advisement
- Sci Ed 491, 492
- Supporting courses: Math 105, 124, 125, 126

Combined Major — Chemistry/Biology

See Biology Department section of catalog for details.



Teaching Endorsement

The BA Ed degrees above require completion of the Secondary Education Certification Program in the Department of Educational Curriculum and Instruction. Recommendation for teaching endorsement in chemistry normally requires completion of one of the above majors with a grade point of 2.50 or better in the chemistry courses. As certification to teach high school now requires more than four years of study, advisement prior to or at the beginning of the third year is absolutely necessary to avoid lengthening the program.

BACHELOR OF SCIENCE DEGREE

Major — Chemistry 110 credits

- Chem 121, 122, 123, 333
- Chem 351, 352, 353, 354, 355
- Chem 434, 441, 461, 462, 463, 464, 465
- Supporting courses: Physics 241, 242, 341, 351, Math 124, 125, 126, 205; Comp Sci 110 or 210
- Advanced electives with prior departmental approval in chemistry, biology, geology, computer science, physics and mathematics to total 110 credits including above required courses.

NOTE: The Chemistry Department at Western Washington University is approved by the American Chemical Society and students who complete the Bachelor of Science in Chemistry program receive ACS certification of their degree.

A typical four-year program leading

to a Bachelor of Science (ACS certified) is outlined below:

First Year

Chem 121, 122, 123; Math 124*, 125, 126

Second Year

Chem 333, 351, 352, 353, 354, 355; Comp Sci 110 or 210, Physics 241, 242, 341, 351

Third Year

Chem 461, 462, 463, 464, 465; Math 205

Fourth Year

Chem 434, 441 plus electives (see above).

Major — Biochemistry

110 credits

- Biol 121, 123, 321, 345
- Chem 121, 122, 123, 333, 351, 352, 353, 354, 461, 462, 466, 471, 472, 473, 474, 475
- Math 124, 125, 126
- Physics 131, 132, 133 or 241, 242, 341, 351

A minimum of four credits in biology or chemistry electives selected with prior departmental approval.

This program is specifically designed for students who seek employment or wish to undertake graduate study in either molecular biology or biochemistry.

DEPARTMENTAL HONORS

Students participating in the University Honors Program may also earn Departmental Honors by completing both the University Honors Program requirements and Chemistry 498.

*Students not prepared for calculus should begin with Math 103 or 105.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see Graduate section of catalog.

COURSES IN CHEMISTRY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 101 CHEMICAL CONCEPTS (4)
A survey course for non-science students. Fundamental topics of chemistry such as: atoms and molecules, periodic table, organic and biochemistry, radioactivity. Applications to selected and variable topics. Laboratory included.
- 115 GENERAL CHEMISTRY (5)
Principles and laws of chemistry developed from the properties, structure, and reactions of matter; an abbreviated course in general chemistry for students not requiring Chem 121, 122 in their programs. Laboratory included.
- 121, 122, 123 GENERAL CHEMISTRY I, II, III (5 ea)
Prereq: Math 102 or one and one-half years of high school algebra. Each course prerequisite to the next. Stoichiometry, atomic and molecular structure, states of matter, solutions, thermodynamics, chemical equilibrium, kinetics, electrochemistry. Laboratory
- 208 INDUSTRIAL CHEMISTRY (3)
Prereq: Chem 115 or 121. Industrial chemistry and chemical technology in the contemporary world.
- 209 INDUSTRIAL CHEMISTRY LABORATORY (2)
Prereq: Chem 208 or concurrent. Small scale experiments of industrial processes; field trips to chemical industries.
- 251 ELEMENTARY ORGANIC CHEMISTRY (5)
Prereq: Chem 115 or 121. Reactions, nomenclature, and uses of carbon compounds; an abbreviated course in organic chemistry primarily for persons not requiring the Chem 351-354 series.
- 305 GLASS WORKING (1)
Prereq: permission of instructor. One hour of demonstration and three hours of lab per week. Basic glass working and construction of simple glass apparatus. May be repeated once for credit. S/U grading.
- 308 INTRODUCTION TO POLYMER CHEMISTRY (3)
Prereq: Chem 115, Tech 333 or Chem 208. Types of polymers, methods of polymerization, and preparation of important commercial thermoplastic and thermosetting plastics. Addition and condensation polymers are prepared in the laboratory.
- 333 INTRODUCTORY ANALYTICAL CHEMISTRY (5)
Prereq: one year of general chemistry. Theory and practice of gravimetric, volumetric, potentiometric and spectrophotometric methods of analysis. Selected analytical topics such as ion exchange resins, non-aqueous solvents, chelates, extractions, chromatography.
- 341 CHEMICAL PERIODICITY (3)
Prereq: Chem 333. Descriptive chemistry of the representative elements and transition elements. Laboratory emphasis on qualitative analysis and inorganic synthesis.
- 351, 352, 353 ORGANIC CHEMISTRY (4,4,3)
Prereq: Chem 122; each course prerequisite to the next. Chemistry of carbon compounds with emphasis on structural theory, reactions, and mechanisms.
- 354 ORGANIC CHEMISTRY LABORATORY I (2)
Prereq: Chem 352 or concurrent. Techniques of organic chemistry: reactions, separations and syntheses of organic compounds.
- 355 ORGANIC CHEMISTRY LABORATORY II (2)
Prereq: Chem 353 and 354 or concurrent. Techniques of organic chemistry: reactions, separations; syntheses and introduction to practical spectroscopy.
- 371 ELEMENTARY BIOCHEMISTRY (5)
Prereq: Chem 251. Not recommended for students with Biol 323. Outlines of structures and metabolisms of carbohydrates, lipids, proteins, and nucleic acids; biochemical functions of vitamins, hormones, and some co-enzymes; basic properties of enzymes. Laboratory.
- 375 PHARMACODYNAMICS (3)
Prereq: Chem 115, 251, 371, Biol 348, 349. Study of the variability of drug actions on biochemical/physiological adaptations of man.
- 399 SEMINAR IN CHEMISTRY (1)
Prereq: 25 credits in chemistry. Presentation and discussion of papers in chemistry. S/U grading.

- 401 **PROJECT IN CHEMISTRY (1-3)**
Prereq or concurrent: Chem 461 and Chem 333; junior status in chemistry and an overall 3.0 g.p.a. in chemistry courses. Permission of instructor required. Individual projects under supervision. Presentation and discussion of projects encouraged. S/U grading.
- 425 **ADVANCED TOPICS IN CHEMISTRY (3)**
Prereq: Chem 461 (or concurrent) and permission, and any additional prerequisites as listed. A series of senior electives in chemistry.
- 425a Natural Products Chemistry
Prereq: Chem 353.
- 425b Organic Reactions
Prereq: Chem 353.
- 425c Physical Organic Chemistry
Prereq: Chem 353, Chem 463 or concurrent.
- 425d Group Theory and Spectroscopy I
Prereq: Chem 463.
- 425e Group Theory and Spectroscopy II
Prereq: Chem 425d and 463.
- 425f Advanced Physical Chemistry
Prereq: Chem 463
- 425g Theoretical Inorganic Chemistry
Prereq: Chem 441.
- 425h Enzyme Chemistry
Prereq: Chem 463 or 466, 471.
- 425j Physical Biochemistry
Prereq: Chem 462, 471.
- 425k Stereochemistry
Prereq: Chem 353
- 425m Organometallic Chemistry
Prereq: Chem 441
- 434 **INSTRUMENTAL ANALYSIS (4)**
Prereq: Chem 333, Chem 462 prerequisite or concurrent. Theory and experimental techniques of optical, electrical and other physical measurements applied to chemical analysis.
- 441 **ADVANCED INORGANIC CHEMISTRY (5)**
Prereq or concurrent: Chem 462. Chemical periodicity, bonding and structure of inorganic molecules, transition metal and coordination chemistry, and the chemistry of the non-metallic elements. Laboratory.
- 454 **ORGANIC SPECTROSCOPY (5)**
Prereq: Chem 123, 353 and 355. Identification of organic compounds by spectroscopic methods: infrared, nuclear magnetic resonance, ultraviolet, and mass spectroscopy. Laboratory work includes application of spectroscopy in identifying unknowns with confirmation by chemical methods.
- 461, 462, 463 **PHYSICAL CHEMISTRY (4,4,3)**
Prereq: one year of college physics, Math 125, and one year of general chemistry; each course prerequisite to the next. Atomic and molecular structure, states of matter, solutions, chemical thermodynamics and equilibria, chemical kinetics, and electrochemistry.
- 464, 465 **PHYSICAL CHEMISTRY LABORATORY (2 ea)**
Prereq: Chem 333 and 461, 462, 463; Chem 464 and 465 may be taken concurrently with Chem 462 and 463 respectively. Includes formal report writing.
- 466 **BIOPHYSICAL CHEMISTRY (3)**
Prereq: Chem 462. Physical chemistry applied to biochemistry. Topics such as biochemical kinetics, ligand binding, sedimentation, electric fields, biochemical spectroscopy and X-ray diffraction.
- 471, 472, 473 **INTRODUCTORY BIOCHEMISTRY (3 ea)**
Prereq: Chem 123, 353 or concurrent, and Biol 123; each course prerequisite to the next. Chemistry of carbohydrates, proteins, nucleic acids, and lipids; intermediary metabolism of these substances; reaction mechanisms leading to biosynthesis of various compounds of biological importance.
- 474 **INTRODUCTORY BIOCHEMISTRY LABORATORY (3)**
Prereq: Chem 123, 354 and Chem 472 or concurrent. Analysis of carbohydrates, amino acids, proteins, lipids, and nucleic acids by means of current techniques. Isolation and purification of enzymes and measurement of enzyme kinetics.
- 475 **MOLECULAR BIOLOGY LABORATORY (3)**
Prereq: Chem 473 or concurrent; Chem 474. Introduction to the current techniques of molecular biology including nucleic acid manipulation, radio labeling and sequencing.
- 482 **NUCLEAR CHEMISTRY (3)**
Prereq: Chem 123, Physics 133 or equivalent, and Math 125. Theoretical and applied nuclear and radiochemistry.
- 483 **NUCLEONICS LABORATORY (2)**
Prereq: Chem 123 or Physics 133 or 241. General experimental techniques in nuclear and radiochemistry for chemistry, biology, geology and physics majors.

Chemistry

494 INDUSTRIAL WORK EXPERIENCE (3)

Prereq: 30 credits in chemistry including Chem 333 and permission of department. Academic credit awarded for chemical employment in industry or government in areas such as research, development or quality control. Written report required. May be repeated once. See Chemistry Department for information. S/U grading.

498 RESEARCH PROJECT IN CHEMISTRY (6-3 in each of two successive quarters)

Prereq: permission of instructor. Investigation of a problem under departmental supervision. The project must extend over a minimum of two quarters with credit granted after the presentation of an oral report and submission of an acceptable written report. S/U grading.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

501 RESEARCH PROJECT IN CHEMISTRY (2-6)

Prereq: permission of instructor. Advanced individual laboratory projects under supervision. May be repeated for credit.

510 SPECIAL TOPICS (1-3)

Prereq: permission of instructor. Specialized lectures on a conference basis for a particular area of interest. May be repeated for credit.

511 ADVANCED LABORATORY METHODS (1-3)

Prereq: Chem 463. Specialized laboratory on a conference basis for a particular area of interest. May be repeated for credit.

531 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (3)

Prereq: Chem 434 and 463. Special methods of separation; acid-base relationships in non-aqueous solvents; chromatography, coulometric and potentiometric methods, determination of organic functional groups, micro-analytical operations and methods. May be repeated for credit.

540 ORGANOMETALLIC CHEMISTRY (3)

Prereq: Chem 441. Classes of organometallic compounds; structure, bonding, general patterns of reactivity; reactions, industrial homogeneous catalysis.

541 THEORETICAL INORGANIC CHEMISTRY (3)

Prereq: Chem 441 and 463 or permission. Ligand field and molecular orbital approaches to the bonding in inorganic compounds, electronic and vibrational spectra, magnetic behavior, and stereochemistry of inorganic complexes.

551 PHYSICAL ORGANIC CHEMISTRY (3)

Prereq: Chem 353 and 463, or permission of instructor. Modern concepts of physical organic chemistry and their use in the elucidation of reaction mechanism; relation of structure to chemical reactivity.

552 CHEMISTRY OF NATURAL PRODUCTS (3)

Prereq: Chem 353 or permission. Isolation, structure, synthesis, biosynthesis and photochemistry of selected classes of natural products.

553 ORGANIC REACTIONS (3)

Prereq: Chem 353 or permission. Organic chemical reactions as applied to problems in organic synthesis.

554 STEREOCHEMISTRY (3)

Prereq: Chem 461 (or concurrent) and Chem 353. Stereochemistry of organic molecules including such topics as optical activity, chirality, resolution methods, stereochemistry of cyclic compounds, conformational analysis and optical rotatory dispersion.

561 ADVANCED PHYSICAL CHEMISTRY (3)

Prereq: Chem 463. Statistical treatment of thermodynamics and principles of chemical kinetics.

562 GROUP THEORY AND SPECTROSCOPY I (3)

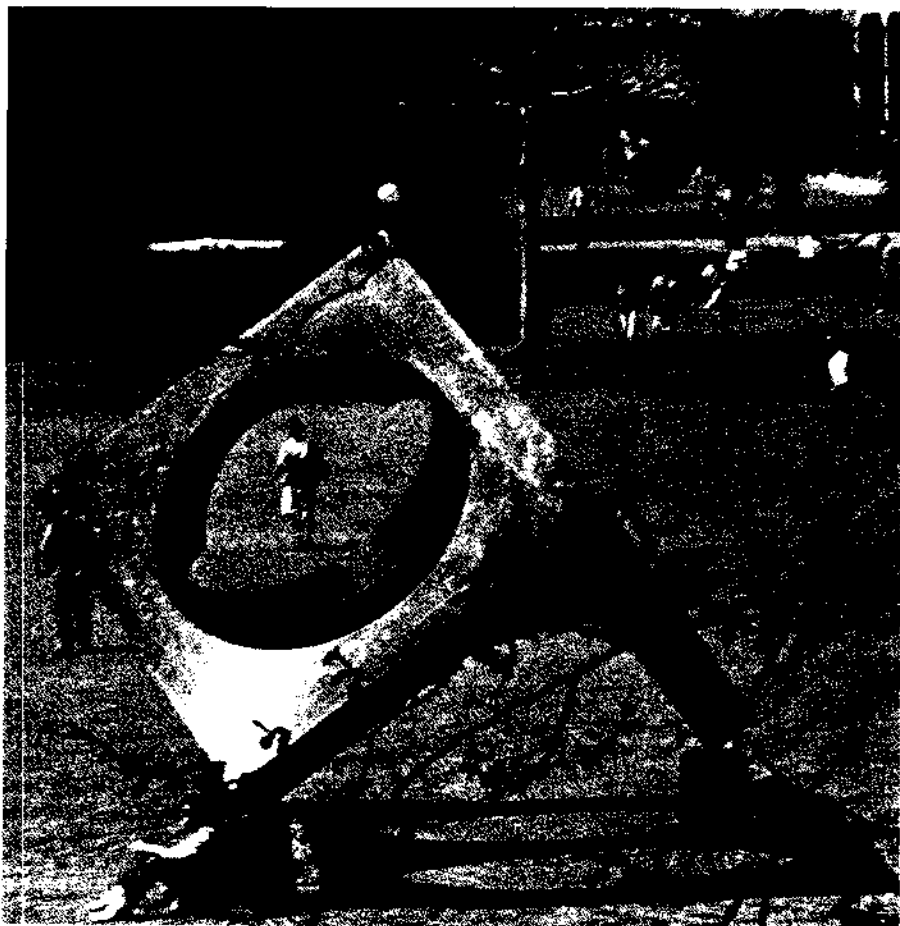
Prereq: Chem 463. Correlation of mathematical group theory with molecular symmetry, and application of symmetry groups to the interpretation of molecular spectra. Principle applications will be to infrared and Raman vibrational spectra.

563 GROUP THEORY AND SPECTROSCOPY II (3)

Prereq: Chem 463, 562. Continuation of Chem 562 with applications of symmetry and group theory to quantum chemistry, molecular orbitals, and electronic spectra of molecule and crystals.

573 ENZYME CHEMISTRY (3)

Prereq: Chem 463 or 466, 471. Normally offered in alternate years. Preparation and measurement of activities of enzymes; mechanism of enzyme reactions; properties of individual enzymes and coenzymes.



574 PHYSICAL BIOCHEMISTRY (3)

Prereq: Chem 462, 471, or permission of instructor. Normally offered in alternate years. Quantitative methods applicable to the study of macro-molecules, particularly in systems of biological interest.

595 SEMINAR (1)

Presentation of contemporary subjects in chemistry. S/U grading. Repeatable to a maximum of 2 credits.

690 THESIS (1-6)

Research in chemistry under faculty direction terminating in a master's thesis. S/U grading. Repeatable for credit.

694 INDUSTRIAL INTERNSHIP IN CHEMISTRY (6)

Prereq: Advancement to candidacy and permission of Graduate adviser. A supervised technical field experience in chemical laboratory practice. The experience may be in an industrial or government laboratory setting in such areas as research and development, chemical sales, manufacturing, process development, clinical chemistry, analytical chemistry, quality control or environmental control. A project report following an approved format will be required in this course. S/U grading. May be repeated once.

696 INTERNSHIP IN CHEMISTRY IN THE COMMUNITY COLLEGE (9-12)

Prereq: permission of instructor. An in-depth experience in instruction at a selected community college; also provides an exposure to the philosophy of the community college. S/U grading.

Computer Science

The Department of Computer Science offers majors and minors in computer science. Combined majors are offered with mathematics, physics, business, and accounting.

Computer Science is the study of techniques involved in the processing of information. Some areas which are represented in such a study are abstract structures for the organization of knowledge, algorithms to guide the processing of information, architectures of devices used in these activities, and the analysis of appropriate tools, such as compilers and operating systems. The goals of the program are a broad conceptual base as well as considerable experience with applications.

The curriculum in computer science is broad and well-balanced. Introductory-level courses are offered at several levels, some acting as service courses for students who wish to obtain a certain degree of computer literacy, others delving more deeply into the underlying concepts. Several high-level languages are taught, including Pascal, FORTRAN, Ada, Modula 2, and COBOL. More advanced topics include algorithm analysis, computer architectures, database theory, compiler construction, operating systems, computer simulations and computer graphics. There are courses oriented toward business, such as "Business Computer Systems," and "Systems Analysis." There are courses oriented toward mathematical applications, such as "Numerical Analysis" and "Operations Research."

The major computer support for the undergraduate program is a VAX 8650, running VMS. This machine is equipped with most of the major compilers and editors, and there are a large number of terminals for student access. Additional departmental

equipment includes a VAX 11/750, a SUN III workstation and two AT&T System 3B-2s, all running UNIX. Graphics devices are available. Several laboratories containing microcomputers are open for student use. A hands-on laboratory is available for computer science majors. The laboratory is organized around LSI 11/xx equipment.

ACADEMIC PLACEMENT

Students seeking advice in registering for courses in computer science should go to the department office in Bond Hall 302.

Requirements for Admission to the Major

The department has established a policy for admission to the computer science major, and for admission to the various combined majors with mathematics, physics, business and accounting. The complete statement of the procedures may be obtained in Bond Hall 302 or by writing to the chair of the Computer Science Department.

Advice to Freshmen

Freshmen should note that the first computer science course is CS 210, for which there is a prerequisite of one quarter of calculus. Students who have not taken calculus in high school should start their studies with Math 124 (Calculus I), or with an earlier course, depending upon previous preparation. A placement examination is available through the Mathematics Department which will determine the proper first mathematics course.

An adviser is normally assigned to the student after admission to the major.

Prior to that time, however, the student is encouraged to seek advice in the departmental office, Bond Hall 302.

Advice to Transfer Students

Computer science majors who expect to enter Western from a two-year college should attempt to obtain certain mathematics and computer science courses at the two-year college. In particular, such students should take as many of the following mathematics courses as possible: linear algebra, discrete structures, probability, and three quarters of calculus. They should, if possible, learn to program in a higher level language, preferably Modula-2, although Pascal is acceptable. The equivalent of CS 210 should include, in addition to the study of a structured programming language, an overview of computer organization and an introduction to simple machine language. A structured approach to algorithm design and problem solving should be emphasized. Those students who have followed a program of studies centered around data processing are welcome to the computer science program at Western. They will find, however, that a certain number of their courses will not apply toward a degree in computer science. For example, courses in BASIC or JCL will not apply toward a degree in computer science.

Transfer students must complete at this institution a minimum of nine upper-division credits for a major in the department or five upper-division credits for a minor in the department.

INFORMATION

Persons interested in the study of computer science are welcome to write, phone, or visit the chair of the Department of Computer Science, Western Washington University, Bellingham, Washington 98225, Phone: (206) 676-3805.

COMPUTER SCIENCE FACULTY

- JAMES L. JOHNSON** (1981) Chair.
Associate Professor. BS, University of Louisville; MS, PhD, University of Minnesota.
- GARY L. EERKES** (1985) Associate Professor.
BA, MS, Western Washington State College; MS, Washington State University; PhD, University of Oregon.
- JAMES W. HEARNE** (1986) Assistant Professor.
BA, MA, PhD, University of California.
- FRED M. IVES** (1971) Associate Professor. BA, MS, PhD, Washington State University.
- GEOFFREY B. MATTHEWS** (1985) Assistant Professor. BA, University of California; MA, PhD, Indiana University.
- LARRY DEAN MENNINGA** (1970) Associate Professor. BA, University of Iowa; MA, MS, PhD, University of Washington.
- MARTIN L. OSBORNE** (1977) Associate Professor. BA, Hamilton College; MA, University of Oregon; PhD, Oregon State University.
- PETER ROWAT** (1986) Visiting Assistant Professor. BA, MA, Cambridge University; MS, PhD, University of British Columbia.
- SAIM URAL** (1979) Associate Professor. BS, MS, PhD, Middle East Technical University, Ankara.
- PETER N. VAN DEN BOSCH** (1986) Assistant Professor. BS, MS, PhD, University of British Columbia.

BACHELOR OF SCIENCE

Major — Computer Science

99 credits plus supporting courses

Students should note that because of the large number of credits required in this major, either their electives outside of the program will be relatively limited or more than four years will be required for the B.S. degree.

- CS 210, 310, 320, 331, 332, 401, 405, 410, 420, 425, 430, 460 plus 14 credits selected from CS 400, 415, 417, 439, 450, 471, 480, Math-CS 335, 435, 436, 475, 476. A maximum of 6 credits from CS 400 special projects courses may be counted toward the major.
- Six additional credits from CS 215, 216, 217
- Math 124, 125, 126, 205
- Math-CS 207, 208, 375
- A supporting sequence chosen from: Biol 121, 123, 321; Chem

Computer Science

- 121, 122, 123; Geol 211, 212, and any 300-level course; Physics 241, 242, 341; Tech 251, 352, 354
- Two additional courses of a supporting nature, each chosen by one of the two methods: (i) a course in the same discipline as the supporting sequence chosen above, but of a higher level; or (ii) a course from a different discipline than the supporting sequence chosen above, but restricted to the list above

Minor — Computer Science

28-29 credits

- CS 210, 310, 331, 332
- Math 124 or 156
- At least 8 additional credits of upper-division computer science courses

Minor — Computer Science Education 29 credits

- CS 210, 310, 331, 332, 410
- EdAF 444, 457a, 457b

Combined Majors

The Computer Science Department cooperates with other departments in offering combined majors for students wishing to achieve considerable depth in both areas.

Accounting/Computer Science: See Accounting Department section for details.

Business Administration/Computer Science: See Finance, Marketing and Decision Sciences Department section for details.

Mathematics/Computer Science: See Mathematics Department section for details.

Physics Computer Science: See Physics Department section for details.

GRADUATE STUDY

For concentration in computer science leading to the Master of Science degree, see the Graduate section of this catalog.

COURSES IN COMPUTER SCIENCE

Courses numbered X37: X97; 300, 400, 417; 445 are described on page 38 of this catalog.

101 PERSONAL COMPUTERS (3)

Study of home and small business computers. Microcomputer organization; hardware options; software options; relationship between hardware, operating system and application software; hands-on experience with standard packages, such as wordprocessing and spreadsheets; brief introduction to programming.

110 ELEMENTARY PROGRAMMING (4)

Prereq: Math 102 or equivalent. Basic concepts of computer programming, using PASCAL. Not open to students who have credit in CS 210. Students who intend to take upper-division Computer Science courses should take CS 210.

210 PROGRAMMING FUNDAMENTALS (4)

Prereq: Math 124 or 156. Introduction to computer science. Intended as the first course for students who plan to take upper-division computer science courses. Design and implementation of algorithms, currently using Modula-2; overview of machine language and operating systems. Emphasis on good programming practices which are transferable between programming languages.

215 PROGRAMMING LANGUAGE LABORATORY (1-3)

Prereq: CS 210 or equivalent; some languages may require CS 331. Students who already know how to program may take this course to learn additional programming languages. May be repeated for credit in different languages. Languages will be available subject to student demand and staffing. Credit is determined on the basis of the programming language studied. S/U grading.

216 FORTRAN (1)

Prereq: CS 110 or 210. Programming using the FORTRAN language. S/U grading.

217 COBOL (3)

Prereq: CS 110 or 210. Programming using the COBOL language; emphasis on file handling.

- 310 **ASSEMBLER LANGUAGE PROGRAMMING (4)**
 Prereq: CS 210. Computer structure, data representation; assembly language; addressing techniques; program segmentation and linkage; macros and conditional assembly; accessing operating system services including I/O; structure of assemblers.
- 320 **COMPUTER LABORATORY (4)**
 Prereq: CS 310 or equivalent. Machine level programming; input/output; interrupts; device controllers. implementing system primitives.
- 331 **DATA STRUCTURES AND ALGORITHMS I (4)**
 Prereq: CS 210. Data structures and programming and design techniques. Data structures include records, lists, stacks, queues, binary trees and sets. Other topics include abstract data types, hashing, recursion, internal sorting and searching, and introduction to algorithm efficiency.
- 332 **DATA STRUCTURES AND ALGORITHMS II (4)**
 Prereq: CS 331. Advanced data structures. Data structures include generalized trees, graphs, storage allocation structures and various file organizations: direct, indexed, hashed, sequential. External sorts.
- 431 **COMPUTABILITY AND AUTOMATA (4)**
 Prereq: CS 332, Math-CS 208. Computability, recursive functions, grammars and their accepting automata.
- 405 **DESIGN AND ANALYSIS OF ALGORITHMS (4)**
 Prereq: CS 332, Math-CS 208. Derivation of time and space complexity of algorithms. Typical algorithms investigated include sorts, graph traversals, string matching. Algorithm paradigms: divide and conquer, greedy algorithms, backtracking, branch and bound. Discussion of NP-completeness. Correctness proofs of algorithms.
- 410 **PROGRAMMING LANGUAGES (4)**
 Prereq: CS 310 and two languages from CS 215, 216, or 217. Introduction to the structure of programming languages; syntax and semantics; properties of algorithmic languages; special purpose languages.
- 415 **BUSINESS COMPUTER SYSTEMS (4)**
 Prereq: CS 217, 332, Acctg 241. Components of a business computer system (accounts receivable, accounts payable, etc.), controls, systems flowcharting, programming project.
- 420 **COMPUTER ORGANIZATION (4)**
 Prereq: CS 320 and Math-CS 208. Digital logic; arithmetic logic, control unit logic; microprogramming, memory and addressing logic; input/output logic; advanced computer architectures; communications.
- 425 **HISTORICAL AND SOCIAL ASPECTS OF COMPUTING (4)**
 Prereq: CS 420. Historical development of computing machines and concepts; social implications of computers.
- 430 **DATABASE THEORY (4)**
 Prereq: CS 332. Data structures required for the flexible representation of data relationships; implementation of these structures. Models used in database design, including semantic data model, entity-relationship model, relational model and the CODASYL network model. Query languages. Theory of functional dependencies; normal forms of relations. Programming projects exercising several of the models.
- 439 **COMPUTER MODELING AND SIMULATION (4)**
 Prereq: a college-level course in statistics; a college-level course in calculus, CS 110 or 210. Basic concepts of dynamic modeling and system simulation, design and methodology of simulation models, model validation, simulation languages, application to decision making.
- 450 **COMPILER THEORY AND DESIGN (4)**
 Prereq: CS 332, Math-CS 208, CS 410 (may be taken simultaneously). Theoretical foundations of all phases of compilation, including lexical analysis, parsing, semantic analysis and code generation. Emphasis is on thorough understanding of relevant formalisms. Students will implement components of a compiler.
- 460 **OPERATING SYSTEMS (4)**
 Prereq: CS 332 and 420. Principles of operating systems, concurrent processes; resource management; process management, file systems, protection.
- 471 **SYSTEMS ANALYSIS, DESIGN, AND IMPLEMENTATION (3)**
 Prereq: CS 415. Steps in analysis and design, planning tools, cost analysis, implementation analysis and post-implementation analysis and long-range systems planning. The discussion of design and implementation emphasizes computerized systems.

Computer Science

480 COMPUTER GRAPHICS (4)

Prereq: CS 332, and Math 205. Overview of the hardware, software and techniques used in computer graphics. raster, and vector display devices; input devices; display files; 2D and 3D transformations; windowing; clipping, simple surface rendering

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

502 ARTIFICIAL INTELLIGENCE (4)

Prereq: Math-CS 208, CS 332 or equivalent. Advanced topics in artificial intelligence. Possible areas include knowledge representation, LISP or PROLOG, search strategies, heuristics, goal refinement, theorem proving and symbolic problem solving

505 VLSI COMPLEXITY THEORY (4)

Prereq: CS 405 or equivalent. Mathematical models of complex graph problems, such as those encountered in VLSI design. Investigation of time and space complexity of silicon implementations of algorithms.

515 SOFTWARE ENGINEERING (4)

Prereq: permission of instructor. Formal approach to techniques in software design and development. Teamwork required to organize and implement a large software project. Formal models. Demonstrations of program correctness. Advantages of information hiding. Iterative enhancement. Strength and coupling measures. Reliability analysis. Measures of program complexity and error content.

530 DATABASE MANAGEMENT SYSTEMS (4)

Prereq: CS 430. Continuation of CS 430. Concurrent processing, locking protocols, distributed databases. Mathematical models of data dependencies in database design. Optional topics may include design of a (part of) a database management system or applications to operating systems.

550 ADVANCED COMPILER DESIGN (4)

Prereq: CS 450 or equivalent. Efficient LR parsing techniques, machine dependent and machine independent optimization techniques; code generation.



565 COMPUTER COMMUNICATIONS NETWORKS (4)

Prereq: permission of instructor. Electronics of the physical layer through high level representations of the abstract layers of communications protocols. Network architectures, dataflow models and analysis, local area networks, industry standards

570 REAL-TIME OPERATING SYSTEMS (4)

Prereq: CS 460 or equivalent. Hardware needed in real-time systems. Alternative architectures. Specialized operating systems. Models of event-driven machine behavior. Real-time languages. Reliability in real-time environment.

575 VERY LARGE SCALE INTEGRATION (4)

Prereq: CS 420 or equivalent. Design of VLSI circuits. Physical technologies. Modeling tools. Silicon compilers. Chip simulations.

580 ADVANCED COMPUTER GRAPHICS (4)

Prereq: CS 480 or equivalent. Advanced topics in computer graphics.

590 MICROPROCESSOR SYSTEM DESIGN (4)

Prereq: CS 420 or equivalent. Design of digital systems using microprocessors as controlling elements. Comparison of microprocessor architectures and system bus structures. Microprocessor communications and interfacing. Software/hardware tradeoffs.

690 THESIS (1-8)

English

The English major is one of the central liberal arts degrees. In addition to engaging students in our literary heritage, it fosters the development of sophisticated abilities in analysis, reading, effective communication and expression. These abilities provide graduates with a sound basis for pursuing careers in law, business, publishing and government.

The Department of English offers majors for the liberal arts student and for the teacher education student.

Two programs lead to the Bachelor of Arts in English. One focuses on the study of British and American literature in an historical context and, then, through a large number of elective credits, allows students to select English courses of their choice. The other program is a writing concentration. Here courses in literature supplement a focus on writing courses, either creative writing (fiction, drama, poetry) or non-fiction prose, exposition and argumentation.

In teacher education, the department prepares majors for teaching at the secondary and the elementary levels. Students are urged to support their major by means of auxiliary courses in drama, reading, linguistics, speech, journalism, history and computer science, or work in other subjects that are related to English language and literature.

ENGLISH FACULTY

- DOUGLAS B. PARK (1979) Chair.
Professor. AB, Hamilton College; Ph.D., Cornell University
- BONNIE J. BARTHOLD (1980) Associate Professor. BA, University of Arizona; MA, Ohio State University; Ph.D., University of Arizona
- ROBERT D. BROWN (1965) Professor. AB, MA, Ph.D., Indiana University.
- MEREDITH B. CARY (1964) Professor. BA, Central Missouri State College; MALS, University of Michigan; MA, Michigan State University; Ph.D., University of Washington.

- MARJORIE J. DONKER (1967) Professor. BA, Western Washington State College; MA, Ph.D., University of Washington
- RICHARD L. FRANCIS (1969) Professor. AB, Kenyon College; MA, Duke University; Ph.D., Yale University.
- SUSAN M. GREENSTEIN (1980) Associate Professor. BA, Wellesley College; MA, Ph.D., Indiana University.
- ROBERT E. HUFF (1964) Professor. AB, AM, Wayne State University.
- KENNETH B. INNIS (1966) Associate Professor. AB, AM, Indiana University; Ph.D., University of Kansas.
- ELLWOOD G. JOHNSON (1963) Professor. BA, MA, Ph.D., University of Washington
- WILLIAM C. KEEP (1966) Associate Professor. BA, Ph.D., University of Washington.
- GOLDEN LARSEN (1956) Associate Professor. BS, MS, Utah State University; Ph.D., University of Washington.
- LAWRENCE L. LEE (1962) Professor. BA, MA, Ph.D., University of Utah.
- MERRILL E. LEWIS (1962) Professor. BA, MA, University of Oregon; Ph.D., University of Utah.
- JOHN B. MASON (1986) Associate Professor. BA, University of Northern Colorado. MA, DA, Ph.D., University of Oregon.
- REED B. MERRILL (1969) Associate Professor. BS, MA, University of Utah; Ph.D., University of Colorado.
- GEORGE M. MULDROW (1960) Professor. BJ, MA, University of Missouri; Ph.D., Stanford University
- ROBERT A. PETERS (1964) Professor of English and Linguistics. BA, Ohio State University. MA, Western Reserve University; Ph.D., University of Pennsylvania
- KNUTE SKINNER (1962) Professor. AB Colorado State College; MA, Middlebury College; Ph.D., State University of Iowa
- KEN M. SYMES (1967) Professor. BA, MA, Utah State University; Ph.D., University of New Mexico.
- EVELYN C. WRIGHT (1972) Associate Professor. BS, Illinois State University. MA, Ph.D., Northwestern University.

BACHELOR OF ARTS

Major — English 70 credits

- Eng 304
- Two courses from Eng 306, 307, 308
- Two courses from Eng 309, 310, 311
- Eng 317, 318
- One course from Linguistics 201, Eng 305, 370, 405, 471

English

Electives: Of the remaining elective hours, 24 credits must be taken at the 300 and 400 levels, with at least 12 of these credits at the 400 level. Elective courses are chosen from among the variety of departmental offerings: literature, creative writing and rhetoric courses. Students may consult with the undergraduate adviser.

Major — English — Writing Concentration 75 credits

- Eng 304
- 26 credits in literature of which at least 16 must be at the 300 or 400 level
- Two of the following: Eng 301, 302, 351, 353, 354, Th/D 285 (or Th/D 385)
- Three of the following: Eng 305, 370, 371, 471, 474, Interdisciplinary Arts 110
- 12 credits from one of the following four groups:
 - Eng 451, 455, 457
 - Th/D 485, 486, 487, 488; Eng 455
 - Eng 453, 455, 456
 - Eng 454, 455(Eng 451, 453 and 454 may be repeated for a total of three times with a limit of one course per quarter.)
- 8 additional credits in upper-division writing courses selected from Eng 301, 302, 401, 402 or any of the 400-level creative writing courses listed above. With the approval of the undergraduate adviser, all or part of these 8 credits may be taken in art, music, or theatre/dance, or in writing courses outside of English Department.
- Electives

Minors 24 credits

A. English 24 credits

- Eng 304
- Electives to total 24 credits, with a minimum of twelve of the elective credits at the 300-400 level.

Students may choose among English

courses to complete the elective requirements of the minor. Those students who wish to concentrate elective credit in one area may do so; for example, elective courses might be selected with emphasis on American literature, British literature, rhetoric, or expository writing.

B. Creative Writing 24 credits

- Eng 304
- Four creative writing courses including work in at least two genres
- Electives under advisement from the 300 and 400 levels

C. Women's Literature 24 credits

- Two courses from Eng 314, 321, 341
- Electives under advisement, to be selected from topic courses focused on the work of women authors

BACHELOR OF ARTS IN EDUCATION

Major — English —

Secondary 68 credits

- Eng 304, 370, 442, 443, 444, 474, EdCI 481
- Eng 414 (Shakespeare) and one other 300 or 400 level course in British literature before 1800
- Two courses at the 300-400 level in British Literature after 1800
- Eng 317
- One of the following: Eng 318, 319, 320, 322, 323, 324, 325, or an appropriate 400-level course in American literature selected under advisement
- One of the following: Eng 301, 302, 351, 353, 354, 401
- One of the following: Eng 314, 321, 327, 338, 341, 422, or other appropriate courses
- Electives
- Recommended additional courses: Eng 305, 364, 371; Speech 319

The department strongly recommends that students include courses in literary theory and criticism in their electives.

Major — English — Elementary 45 credits

- Eng 304, 370, 440, 441, 442
- One of the following: Eng 301, 302, 351, 353, 354, 451, 453, 454
- One of the following: Eng 321, 327, 338, 341, 422, 429, or other appropriate courses under departmental advisement
- One of the following: Eng 336, 427, 430
- Electives

Students should consult the English education faculty adviser for distribution of electives, and should consult the elementary program adviser for teacher certification requirements.

Interdisciplinary Major Concentrations

English/Speech 94 credits
(English 49 credits and Speech & Broadcast 45 credits)

English 49 credits

- Eng 304
- Eng 370, 442, 443, 444
- Eng 414 (Shakespeare) and one other 300- or 400- level course in British literature before 1800
- Two courses on the 300- or 400- level in British literature after 1800
- One of the following: Eng 301, 302, 401
- One of the following: Eng 317, 318, 319
- One of the following: Eng 320, 321, 322, 323, 324, 325, 327
- Recommended additional courses: Eng 371; either Eng 471 or 474

Speech and Broadcast 45 credits
(See Speech and Broadcast section of catalog.)

English/Theatre 94 credits
(Theatre 45 credits and English 49 credits)

English 49 credits

- Eng 304
- Eng 370, 442, 443, 444
- Eng 414 (Shakespeare) and one other 300- or 400- level course in British literature before 1800

- Two courses in the 300- or 400- level in British literature after 1800
- One of the following: Eng 301, 302, 401
- One of the following: Eng 317, 318, 319
- One of the following: Eng 320, 321, 322, 323, 324, 325, 327
- Recommended additional courses: Eng 342, 364, 474

Theatre 45 credits
(See listing under Theatre/Dance section of catalog.)

Teaching Endorsement

Recommendation for an endorsement in teaching secondary English normally requires completion of the Bachelor of Arts. secondary major, or of the interdisciplinary major concentrations. A grade point average of 3.0 or better in English is required.

Recommendation for a supporting endorsement in teaching secondary English requires completion of the minor in English-Secondary. No other minors are accepted for a supporting endorsement. A grade point average of 3.0 or better in English is required.

Program Standards

In certain situations the English education adviser may call a case conference, involving public school faculty and/or faculty acquainted with a student and a student's work, to determine his/her qualification for admission or retention in the Bachelor of Arts in Education program.

Minor

English — Supporting Endorsement — Secondary 36 credits

- Eng 304, 370, 442, 443, 444
- Eng 301 or 302 or 351 or 353 or 354
- One elective in British literature 300-400 level
- One elective in American literature 300-400 level
- Electives under advisement

English

English — Elementary Education 24 credits

- Eng 304, 370, 441, 442
- One course from Eng 301, 302, 351, 353, 354
- Electives under advisement

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an English major who wishes to graduate "with honors" must complete Eng 427, one course in criticism, and an upper-division course in philosophy or in literature read in a foreign language.

THE VERTICAL COMPOSITION PROGRAM

These courses are designed to allow the student to improve writing skills progressively throughout the four years of college. They do not constitute a minor; they are available to anyone interested. The courses consist of Eng 101, 201, 202, 203, 204, 301, 302, 354, 371, 401, 402.

GRADUATE STUDY

For options leading to the Master of Arts degree, see Graduate section of the catalog.

COURSES IN ENGLISH

Courses numbered X37: X97: 300, 400, 417, 445 are described on page 38 of this catalog.

General University Requirement Courses

English courses which satisfy GUR requirements are as follows:

Communications: 101, 201, 202, 203, 204, 301, 302

Humanities: 214, 215, 216, 238, 281, 282, 283, 336

Non-Western and Minority Culture Studies: 234, 335, 338

The following entries indicate courses routinely offered by the department. The lettered sub-

heads offer examples of some but not all of the sections of these courses that will be offered during the period of this catalog. For more information about the courses and sections to be offered this year and next, please consult the timetable of classes, the English Department's "Course Descriptions" and the "Guide for English Majors." The department makes every effort to offer all required courses at least once a year and all courses in the catalog at least once every two years.

100 REVIEW OF SYNTAX AND USAGE (5)

Emphasizes a basic command of standard written English such as correct usage and punctuation, sound sentence and paragraph structure, and avoidance of errors in diction. S/U grading.

101 LANGUAGE AND EXPOSITION (4)

May not be taken concurrently with English 100. A course in writing expository prose on topics drawn from personal experience or assigned reading. Practice in strategies for finding information, focusing on a topic, organizing a thesis, developing an idea, evaluating and revising preliminary drafts, summarizing written information, practice in writing the in-class essay. Students needing to satisfy Block A of the communications section of the General University Requirements are required to do so prior to completion of 45 credits.

201 EXPOSITORY WRITING (4)

Prereq: Eng 101. An intermediate course in writing expository prose, with readings from various disciplines.

202 INTRODUCTION TO FICTION WITH COMPOSITION (4)

Prereq: Eng 101 or equivalent. An introduction to the nature of fiction with an emphasis upon close reading. Critical essays are required in this course.

203 INTRODUCTION TO DRAMA WITH COMPOSITION (4)

Prereq: Eng 101 or equivalent. An introduction to the nature of drama with an emphasis upon close reading. Critical essays are required in this course.

204 INTRODUCTION TO POETRY WITH COMPOSITION (4)

Prereq: Eng 101 or equivalent. An introduction to conventions of poetry with an emphasis upon close reading. Critical essays are required in this course.

214 INTRODUCTION TO SHAKESPEARE (5)

Reading and discussion of a selected number of Shakespeare's plays: histories, comedies, tragedies and romances.

- 215 SURVEY OF BRITISH LITERATURE (5)
Reading and discussion of major works from each of the recognized periods of British literature with some attention to the historical context of the work.
- 216 SURVEY OF AMERICAN LITERATURE (5)
An overview of American literature and thought from 1620 to 1940.
- 231 SCIENCE FICTION AND FANTASY (4)
Critical study of types of modern fantasy literature and varieties of science fiction.
- 234 INTRODUCTION TO AFRO-AMERICAN LITERATURE (5)
Survey of Afro-American experience and its expression during the past hundred years. Typical writers studied are Chesnut, Dunbar, Johnson, Toomer, McKay, Hughes, Bontemps, Larsen, Hurston, Wright, Ellison, Baldwin, Baraka, McPherson and A. Walker.
- 238 SOCIETY THROUGH ITS FICTION/ DRAMA/POETRY (5)
A thematic approach to literature. Different themes will be treated from year to year, showing with various literary forms present society and its problems. May be taken only once for GUR credit.
- 264 FUNDAMENTALS OF FILM AS COMMUNICATION (4)
A basic course in film studies designed to help students understand visual language and its relation to verbal expression. Recommended for students taking Eng 364; Hist 364; Pol Sci 364.
- 281, 282, 283 WESTERN WORLD LITERATURE (5 ea)
Reading from classical and medieval, renaissance and neo-classical, romantic and modern literature. Not open to students with credit in Lib St 121, 122, 123.
-
- For English majors and minors, all upper-division literature courses have English 304 as a prerequisite.*
-
- 301 READING AND EXPOSITION (4)
Prereq: Eng 101 or equivalent. An advanced writing course which deals exclusively with exposition as reading and writing problems and allows for a variety of topical material.
- 302 READING AND ARGUMENTATION (4)
Prereq: Eng 101 or equivalent. An advanced writing course which deals exclusively with argumentation as reading and writing problems and allows for a variety of topical material.
- 304 CRITICAL INTRODUCTION TO POETRY (4)
Prereq: Eng 101 or equivalent. The course introduces the prospective English major to the vocabulary and grammar of technical discourse about poetry through the close reading of a variety of poetic texts and the writing of a number of expository essays.
- 305 THEORY OF LITERATURE (4)
The nature and judgment of literature as a form of art: principles and problems; writing of critical studies.
- 306 BRITISH LITERATURE: MEDIEVAL PERIOD (4)
- 307 BRITISH LITERATURE: RENAISSANCE (4)
- 308 BRITISH LITERATURE: 18TH CENTURY (4)
- 309 BRITISH LITERATURE: ROMANTIC PERIOD (4)
- 310 BRITISH LITERATURE: VICTORIAN PERIOD (4)
- 311 BRITISH LITERATURE: MODERN PERIOD (4)
- 314 MAJOR BRITISH WOMEN AUTHORS (4)
Prereq: Eng 101. Various authors or combinations of authors will be studied from quarter to quarter. Emphasis will be placed upon women's contributions to literature. Repeatable with different topics.
- 317 AMERICAN LITERATURE: COLONIAL AND ROMANTIC PERIODS (4)
- 318 AMERICAN LITERATURE: REALIST PERIOD (4)
- 319 AMERICAN LITERATURE: MODERN PERIOD (4)
- 320 AMERICAN PROSE AND POETRY SINCE 1945 (4)
- 321 MAJOR AMERICAN WOMEN AUTHORS (4)
Prereq: Eng 101. Various authors or combinations of authors will be studied from quarter to quarter. Emphasis will be placed upon women's contributions to literature. Repeatable with different topics.

English

- 322 AMERICAN NOVEL TO 1900 (5)
- 323 AMERICAN NOVEL SINCE 1900 (5)
- 324 AMERICAN SHORT FICTION (4)
- 325 MODERN AMERICAN POETRY (4)
- 327 STUDIES IN AFRO-AMERICAN LITERATURE (4)
Different periods, genres and topics such as the Harlem Renaissance or the Black novel will be treated from year to year. Repeatable with different topics.
- 334 CANADIAN LITERATURE (4)
Reading of selected works, principally 20th century fiction from English Canada, with some attention to French writers in translation. Emphasis on the social and historical context of Canadian Literature.
- 335 LITERATURE OF THE THIRD WORLD (4)
Prereq: Eng 101. A comparative study of the new literatures which have emerged in Africa, India and the West Indies since World War II. Such authors with roots in both European tradition and their own cultures as Achebe, Laye, Soyinka, Naipaul and Narayan will be read. Attention will be given to the transformation of Western literary forms in societies with a significantly different world-view.
- 336 THE BIBLE AS LITERATURE (5)
Prereq: Eng 101. Cultural backgrounds of the Old and New Testaments, together with a literary analysis of selected passages.
- 338 WOMEN AND LITERATURE (4)
Prereq: Eng 101. A study of major works by women including their treatment of intellectual and cultural issues.
- 340 FORMS OF THE NOVEL AND SHORT STORY (4)
Various forms of the novel or of short prose fiction will be examined. Repeatable with various topics.
- 341 HISTORY OF THE WOMEN'S NOVEL (4)
Prereq: Eng 101. Women's contribution to the history of the novel in England and America, 1688 to the present.
- 342 STUDIES IN DRAMA (4)
Prereq: Eng 101. Different dramatic periods or topics will be treated from year to year. Repeatable with various topics.
- 351 INTRODUCTION TO FICTION WRITING (4)
Prereq: Eng 101. An introductory course open to students who have not previously taken a college course in fiction writing. Study of appropriate models.
- 353 INTRODUCTION TO POETRY WRITING (4)
Prereq: Eng 101. An introductory course in poetry writing. Open to students who have not previously taken a college course in poetry writing. Study of appropriate models.
- 354 INTRODUCTION TO THE WRITING OF NON-FICTION PROSE (4)
Prereq: Eng 101. Opportunity for writers to develop skills on a mature level. The personal essay, biographical sketch, extended argument and other forms. Individual projects. Study of appropriate models.
- 364 LITERATURE AND FILM (4)
Prereq: Eng 101. An examination of the relationship between literature and film. Students will view films based on literary works and discuss the nature of each medium. Students may elect more than one offering under this number.
- 370 ENGLISH GRAMMAR (4)
Study of traditional English grammar: parts of speech, subclasses, phrases, clauses, sentences.
- 371 INTRODUCTION TO RHETORIC (4)
Prereq: Eng 101. Rationale of informative and persuasive writing; classical and modern treatments of invention, arrangement, prose style. Rhetorical analysis.
- 401 PRE-PROFESSIONAL WRITING (4)
Prereq: Eng 101 and senior standing. Theory and practice of writing with clarity and style for public and professional occasions.
- 402 TECHNICAL AND BUSINESS REPORT WRITING (3)
Prereq: Eng 101 and upper-division standing. Theory and practice of writing with objectivity and clarity for business, industry and government.
- 405 HISTORY OF LITERARY CRITICISM (5)
Prereq: 15 credits in literature. Reading and analysis of major documents of criticism, from Plato and Aristotle to 20th century critics.

- 410 **TOPICS IN BRITISH LITERARY HISTORY (2-5)**
Varying topics, such as modern Irish literature or meta-physical poetry, will be treated from year to year. Repeatable with various topics
- 411 **BRITISH NOVEL: EIGHTEENTH CENTURY (5)**
- 412 **BRITISH NOVEL: NINETEENTH CENTURY (5)**
- 413 **BRITISH NOVEL. TWENTIETH CENTURY (5)**
- 414 **STUDIES IN MAJOR BRITISH AUTHORS (2-5)**
Various single authors or combinations of authors will be studied from quarter to quarter. Repeatable with various topics.
- 415 **STUDIES IN IRISH LITERATURE (4)**
Various topics, authors or genres will be treated from year to year. Repeatable with various topics to a maximum of 20 credits.
- 420 **TOPICS IN AMERICAN LITERARY HISTORY (2-5)**
Varying topics, such as the West in American literature, will be treated from year to year. Repeatable with various topics
- 421 **STUDIES IN MAJOR AMERICAN WRITERS (2-5)**
Various single authors or combinations of authors will be studied from quarter to quarter. Repeatable with various topics.
- 422 **THE AFRO-AMERICAN AND THE LITERARY IMAGINATION (5)**
Prereq: Eng 101 Study of Afro writers or ways various American writers have portrayed the Afro-American's image, social role, psychology, etc. Typical writers studied are Dixon, Chesnutt, Stowe, Melville, Whitman, Twain, Dreiser, Toomer, Wright, Faulkner, Ellison.
- 427 **CLASSICAL BACKGROUNDS TO BRITISH LITERATURE (5)**
Study of the major epics, lyrics, dramas and dialogues of Greek and Roman literature as they have provided models, themes and techniques for poets, playwrights and novelists.
- 429 **MODERN AND CONTEMPORARY LITERATURE IN TRANSLATION (4)**
Prereq: 15 credits in literature.
- 430 **MYTH AND MODERN MAN (4)**
Prereq: Eng 101 A study of myth from several vantages comparative religion, psychology, anthropology and philosophy. The application of myth analysis to the work of selected modern writers
- 431 **LITERATURE AND PSYCHOANALYSIS (5)**
Prereq: Eng 101. Influence of psychoanalytic theory on the development of modern literature, aesthetics and criticism.
- 440 **ENGLISH FOR THE ELEMENTARY SCHOOL (4)**
Survey of resources and methods of teaching the language arts.
- 441 **WORLD LITERATURE FOR THE ELEMENTARY AND MIDDLE SCHOOL TEACHER (4)**
Myth, legend, folk literature, epic, fairy tales and modern novels for children.
- 442 **STUDIES IN LANGUAGE AND LEARNING (4)**
Prereq: Eng 370. The characteristics of oral and written discourse. The development of writing ability in children and other topics as background for the teaching of language arts.
- 443 **COMPOSITION FOR SECONDARY TEACHERS (4)**
Prereq: Eng 370 and 442. Study of the theory and practice of teaching writing in the secondary schools, emphasis on the nature of composition and on developing methods and materials applicable to teaching composition.
- 444 **LITERATURE IN SECONDARY SCHOOLS (5)**
Prereq: Eng 304 or equivalent and 12 credits in literature at the 300 or 400 level. Survey of resources for teaching literature in secondary schools, methods and practice in teaching literary works in classrooms.
- 446 **WORKSHOP IN THE TEACHING OF ENGLISH (2-5)**
Practical work in the teaching of English.
- 451 **CREATIVE WRITING WORKSHOP: FICTION (4)**
Prereq: Eng 351 or equivalent. Opportunity for disciplined expression in writing fiction. Study of appropriate models. May be repeated for a total of three times with a limit of one course per quarter.
- 453 **CREATIVE WRITING WORKSHOP: POETRY (4)**
Prereq: Eng 353 or equivalent. Opportunity for disciplined expression in writing poetry. Study of appropriate models. May be repeated for a total of three times with a limit of one course per quarter.

English

- 454 **CREATIVE WRITING WORKSHOP: NON-FICTION PROSE (4)**
Prereq: Eng 354 or equivalent. Opportunity for disciplined expression in a specialized genre of non-fiction prose: essay, critical review, autobiography, article, etc. Course may be repeated a total of three times with a limit of one course per quarter. Study of appropriate prose models.
- 455 **CREATIVE WRITING SEMINAR (4)**
Prereq: two courses in creative writing and permission of instructor. Normally restricted to students who have had considerable writing experience. Team taught. Open to students working in any genre, including non-fiction prose. Such activities as group discussions, readings, performances and publication of a class magazine will be encouraged. Study of appropriate models.
- 456 **EXAMINING AND COMPOSING POETIC FORMS (4)**
This course combines the approaches of genre study and literary expression.
- 457 **WRITING COMMERCIAL FICTION (4)**
Prereq: Eng 101. Restricted to students who have a serious intention to write fiction for a popular, commercial market. Writing will be combined with a study of the market and appropriate models.
- 471 **HISTORY OF THE ENGLISH LANGUAGE (4)**
The historical development of the English language; phonology, morphology, syntax, semantics.
- 474 **ENGLISH USAGE (4)**
Prereq: Eng 370. Survey of standard American English usage.
- 499a,b,c **HONORS TUTORIAL (2-5 ea)**
- 502 **SEMINAR IN THE WRITING OF FICTION (5)**
Individual projects in fiction along with examination of recently published works of fiction. May be repeated under advisement.
- 504 **SEMINAR IN THE WRITING OF POETRY (5)**
Individual projects in poetry along with examination of recently published volumes of poetry. May be repeated under advisement.
- 505 **SEMINAR IN THE WRITING OF NON-FICTION PROSE (5)**
Individual projects in non-fiction along with examination of classic and modern models of non-fiction. May be repeated under advisement.
- NOTE: Graduate seminars in playwriting are available from the Department of Theatre-Dance.*
- 509 **INTERNSHIP IN WRITING, EDITING AND PRODUCTION (1-5)**
Under advisement, students may receive credit while working as interns in both on-campus and off-campus assignments appropriate to their career plans. Repeatable for a total of 5 credits.
- 510a-7 **SEMINAR, TOPICS IN RHETORIC (5)**
Rhetorical theory and composition. Topics from classical tradition and modern developments. Applications for teaching of language, literature and composition.
- 513 **SEMINAR IN TEACHING COLLEGE COMPOSITION (3)**
Prereq: appointment as a teaching assistant or permission of instructor. Elective. Offered once a year in the fall. S:U grading.

In the following literature seminars, the specific subject matter covered will vary from year to year. Subtitles indicate subject matter most recently covered.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 **THEORIES OF LITERATURE (5)**
Examination of theories of literature as they affect the practice of literary criticism and scholarship. Some attention to methods of research and documentation in English studies.
- 502 **SEMINAR TOPICS IN LITERARY THEORY (5)**
Prereq: Eng 501 and five graduate credits in literature. Offerings will examine major theorists or movements in literary theory from classical tradition to current developments. Repeatable under different topics.
- 520 **STUDIES IN FORMS OF POETRY (5)**
Offerings such as "Verse and Stanza Patterns" or "The Imagist Tradition" will examine the characteristics, history and criticism of poetic forms. Repeatable under different topics.

525 STUDIES IN FORMS OF FICTION (5)

Offerings such as "Romance and Realism in the Novel" or "The Rhetoric of Fiction" will examine the characteristics, history and criticism of fictional forms. Repeatable under different topics.

530 STUDIES IN FORMS OF DRAMA (5)

Offerings such as "The History Play" or "Theories of Comedy" will examine the characteristics, history and criticism of dramatic forms. Repeatable under different topics.

535 STUDIES IN FORMS OF NON-FICTION PROSE (5)

Offerings such as "The Informal Essay" or "The Art of Polemic" will examine the characteristics, history and criticism of non-fictional prose forms. Repeatable under different topics.

540 STUDIES IN LITERARY MODES (5)

Offerings such as "Theories of Satire" or "The Pastoral Vision" will examine modes and themes that may cut across the various forms of poetry, fiction and drama. Repeatable under different topics.

550 TOPICS IN AMERICAN LITERARY HISTORY (5)

Offerings will examine major authors, periods or movements in American literary history. Repeatable under different topics.

560 TOPICS IN BRITISH LITERARY HISTORY (5)

Offerings will examine major authors, periods or movements in British literary history. Repeatable under different topics.

570 CULTURAL PATTERNING IN LITERATURE (5)

Focuses on demonstrations of how cultural assumptions underlie literature and criticism. Topics—such as gender, race or class—will vary. Repeatable under different topics.

575 MASTERPIECES BEYOND STANDARD LITERARY HISTORY (5)

Readings in conventionally neglected areas. Identifies and analyzes masterpieces overlooked by conventional literary history. Topics—such as gender, race or class—will vary. Repeatable under different topics.

594a,b PRACTICUM IN TEACHING WRITING (2)

594a Writing Clinic

594b Classroom

Supervised teaching for M.A. candidates beyond Eng 513. S/U grading.

595 SEMINAR, RESEARCH TOPICS IN RHETORIC (5)

Prereq: Eng 510 or 513. Rhetorical theory, analysis and methods of research in the teaching of writing. Connections with related fields such as cognitive psychology and reading.

596 NORTHWEST WRITING INSTITUTE: THE TEACHING OF WRITING (3-5)

Prereq: experience in the classroom or experience in administration within a language-arts program. Theory and practice of teaching writing and planning writing instruction in secondary school and college for experienced teachers and experienced school administrators (e.g. language-arts coordinators). Topics covered include the composing process, design of writing assignments, evaluation of writing (both by individual teachers and district-wide assessment) and writing across the curriculum. Emphasis on the collaborative preparation of instructional materials and strategies, assessment procedures, and planning of inservice instruction for other educators.

598 RESEARCH IN THE TEACHING OF ENGLISH (1-3)

Prereq: admission to M.A. Program or teaching experience. Various announced topics in the teaching of language, literature and composition.

690 THESIS WRITING (5)



Foreign Languages & Literatures

The department of Foreign Languages and Literatures offers major and minor programs for both the general and the teacher education student.

For the general student, the study of foreign languages and literatures provides insight into one's own language and culture, facilitates foreign travel and study of other cultures, and is increasingly valuable as preparation for work in multi-national fields and endeavors. Students are encouraged to combine foreign language study with other suitable programs, given increasing job opportunities in trans-national fields, including teaching English as a second language and careers with multi-national corporations.

Communicative competence is a major goal of all foreign language skills acquisition courses. However, while it is desired that foreign language majors gain proficiency in the skills of language use, further goals include:

- A broad background in the literature and culture of the foreign language community.
- Knowledge about the linguistic structure of the language.

In teacher education, the department prepares the student to teach at the secondary level and also provides training for those who may have the opportunity to introduce foreign language study and culture at pre-school and primary levels.

ATTENDANCE

Regular attendance and participation is a key factor in the acquisition of foreign language skills.

ADVANCED PLACEMENT CREDIT

If you studied a foreign language in high school, you may be granted additional university credit upon completion of foreign language courses at Western. Advanced placement credit is not awarded for 100-level courses. Application for advanced placement credit is to be made to the chairman.

FOREIGN STUDY

Students can increase language proficiency through travel, work and study abroad. WWU offers quarter and year-round programs at study centers in Morelia, Mexico; Cologne, West Germany; Avignon and Rennes, France; Seville and Alicante, Spain; Peking, Nanjing and Shanghai, China. Designed to give students a complete foreign study experience in the host country, each program includes numerous excursions to historical and cultural sites, and a wide range of activities complement formal classroom work. WWU also sponsors academic year university exchange programs (a) with Asia and Tsuda Universities in Tokyo, Japan; (b) with ISEP at 60 universities in 26 countries. Special application and registration procedures are required for participation in foreign study programs, and students should consult with the Foreign Study Office, Old Main 400, well in advance of their planned quarter abroad.

GRADUATE STUDY

Graduate study may be offered in French, German, or Spanish during the summer quarter. However, no graduate degree program is offered.

FOREIGN LANGUAGES AND LITERATURES FACULTY

- RUDOLF WEISS (1970) Chair.
Professor of German and Phonetics; Linguistics. BA, BA in Ed. Western Washington State College; MA, PhD, University of Colorado.
- DARREL W. AMUNDSEN (1969) Professor of Classics. BA, Western Washington State College; MA, University of Washington; PhD, University of British Columbia.
- ROBERT S. BALAS (1969) Professor of French. BA, Upsala College; MA, University of Nebraska; PhD, University of Wisconsin.
- HENRICH BRÖCKHAUS (1965) Associate Professor of German. BA, MA, University of British Columbia; PhD, University of Washington.
- WILLIAM H. BRYANT (1970) Professor of French. BA, University of Hawaii; PhD, University of Missouri.
- GLORIA D'AMBROSIA-GRIFFITH (1987) Assistant Professor of French. BA, PhD, University of Toronto.
- M. GUADALUPE GARCIA-BARRAGAN (1965) Professor of Spanish. BA, Colegio Agulles Serdan; BEEd, Instituto America; MA, Normal Superior Nueva Galicia; Doctorat d'Universite, Paris, Sorbonne III.
- SHAW N. GYNAN (1986) Assistant Professor of Spanish. BS, Georgetown University; MA, University of Texas, El Paso; PhD, University of Texas, Austin.
- JESSE HIRAOKA (1972) Professor of French and Ethnic Studies. BA, Roosevelt University; MA, University of Chicago; PhD, Northwestern University.
- LOUISE S. KIKUCHI (1979) Associate Professor of French. BA, University of Hawaii; MA, PhD, University of California, Santa Barbara.
- ARTHUR S. KIMMEL (1969) Associate Professor of French. AB, MA, University of Miami; PhD, University of California, Berkeley.
- VLADIMIR MILICIC (1962) Associate Professor of Russian and Linguistics. Certificate of Baccalaureate, Gymnasium for Boys, Belgrade; MA, University of Chicago.
- KURT W. MOERSCHNER (1964) Associate Professor of German. BComm, BA, Sir George Williams University, Canada; MA (Psychology), MA (German), PhD, University of Colorado.
- CHARLES PARAM (1969) Professor of Spanish. BA, Oklahoma State University; MA, PhD, University of Arizona.
- DANIEL RANGEL-GUERRERO (1969) Associate Professor of Spanish. AA, Sierra College; BA, Stanford University; MA, PhD, University of Oregon.
- WALTER L. ROBINSON (1960) Professor of German. BA, MA, PhD, University of Texas.
- EDWARD J. VAJDA (1987) Lecturer of Russian and Linguistics. BA, Indiana University; MA, PhD, University of Washington.

MICHIKO YUSA (1983) Assistant Professor of Japanese and East Asian Studies. BA, International Christian University (Tokyo); MA, C Phil, PhD, University of California, Santa Barbara.

BACHELOR OF ARTS

Major — French, German, Spanish

55 credits: minor concentration recommended; GPA of 2.5 or above required in the major.

The Foreign Language Requirement

- Up to 15 credits in the language on the 200 level
- Remaining credits in the language at the upper-division level, including 401 and two additional 400-level courses. French majors must include two 401 courses. German and Spanish majors must include 402.

Courses numbered 425, and German 280 are normally not applicable to the major.

Students transferring from other institutions must take at least nine credits, including the most advanced skills course on campus in the department.

Minor Concentration Recommended

Students are advised to develop a minor concentration which complements the language major and is appropriate to the student's future plans. Examples include a second foreign language, speech, business, English as a second language, East Asian studies, and linguistics, among others.

Major — Classical Studies

A student-faculty designed major in classical studies may be arranged.

BACHELOR OF ARTS IN EDUCATION

Teaching Endorsement

Completion of courses in the major with a GPA of 3.0 or above. See over-

Foreign Languages/Literatures

all GPA requirements for Teacher Certification in Teacher Education section.

A proficiency examination will also be required prior to admission to student teaching. There is a special procedure for admission to the endorsement program. Regulations are subject to change. For current requirements, contact the foreign language endorsement officer, Dr. Louise Kikuchi.

Note: Students who transfer from an accredited institution with a major completed in a foreign language will (1) normally be required to have a letter of recommendation from a faculty member in reference to the candidate's potential as a teacher, (2) be required to satisfactorily pass the proficiency examination in the language area, and (3) complete the endorsement sequence (French, German or Spanish 314, FL 410, 420, 430). Additional course work in the language may also be required.

Major — French, German, Spanish 63 credits

- Up to 15 credits in the language on the 200 level
- Remaining credits at the upper-division level, including 301, 314, two courses in literature, and three courses at the 400 level, including 401 (French majors add second 401; German majors add 305, 331 or 332, 402; Spanish majors add 402)
- FL 410, 420, 430

German 280 is normally not applicable to the major.

Students preparing in two language areas may apply 10 upper-division credits in a second foreign language towards the 63 credits required. (FL 410, 420, 430 may also be applied to two or more endorsement areas.) In any event a student must successfully complete the most advanced skills course and pass the proficiency examination in each language to receive endorsement.

These minors are appropriate for both Bachelor of Arts and Bachelor of Arts in Education degrees:

Minor — French, German, Japanese, Russian, Spanish

- 25 credits 200 level and above, with a limit of 15 credits at the 200 level. GPA of 2.50 or above in courses used in the minor. A minor must have completed the highest-level third year skills course offered in the language (French, two 301s; German, Russian, Spanish, 302; Japanese, 303).

No teaching endorsement can be granted on the basis of a minor alone.

Minor — Chinese

- Completion of the 200-level sequence and at least one course at the 300 level

Minor — Classical Studies

- Classical Studies 250, 350
- 15 credits from Classical Studies 450 (variable topics; repeatable)
- Philosophy 304

Minor — Greek or Latin

- 12 credits beyond the first year in college Greek or Latin

Minor — Linguistics

- Linguistics 201, 301, 302, 303, 314
- Speech 373
- 6 credits in a foreign language selected under departmental advisement

GRADUATE STUDY

See Graduate section of catalog.

COURSES IN FOREIGN LANGUAGES

Note: not all courses are offered every year. See timetable of classes for current offerings. Consult department for specific questions.

General Courses

Courses numbered X37: X97, 300, 400, 417, 445 are described on page 38 of this catalog.

109a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)

Prereq: Each course prerequisite to the next. Beginning level. A maximum of 15 credits permitted at the 109 level. Only those languages for which qualified instructors are available for supervision and testing will be offered.

209a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)

Prereq: FL 109; each course prerequisite to the next. Intermediate level. A maximum of 15 credits permitted at the 209 level. Only those languages for which qualified instructors are available for supervision and testing will be offered.

309a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)

Prereq: FL 209; each course prerequisite to the next. Advanced level. A maximum of 15 credits permitted at the 309 level. Only those languages for which qualified instructors are available for supervision and testing will be offered.

410 INTRODUCTION TO APPLIED LINGUISTICS FOR FOREIGN LANGUAGE MAJORS (4)

Prereq: six credits in one modern foreign language beyond the second year. Comparison of structures (phonological, morphological and syntactic) of English and other languages.

420 METHODS AND MATERIALS FOR TEACHING MODERN FOREIGN LANGUAGES (4)

Prereq: six credits in one modern foreign language beyond the second year. To be taken prior to student teaching. Topics for the secondary or elementary teacher. Practice in teaching activities: lesson organization, text selection and micro-teaching presentations. School observations.

430 TEACHING PRACTICUM AT THE ELEMENTARY LEVEL (3)

Prereq: FL 420. Teaching the foreign language under supervision to elementary aged students. One-hour weekly seminar to discuss materials and teaching strategies

For courses taught in translation, see Classical Studies and East Asian 367.

Chinese

101, 102, 103 ELEMENTARY CHINESE (5 ea)

Each course prerequisite to the next. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking; formal instruction and self-instruction using cassette recorders and other materials.

201, 202, 203 INTERMEDIATE CHINESE (5 ea)

Prereq: Chinese 103 or equivalent; each course prerequisite to the next. Review of the fundamentals of the language, emphasis on acquisition of oral and written vocabulary, intensive reading and discussion in Chinese of graded materials in modern Chinese.

301, 302, 303 ADVANCED CHINESE (5 ea)

Prereq: Chinese 203; each course prerequisite to the next. Intensive reading, written vocabulary acquisition (reaching the 1,400 character level by the end of the sequence) and oral comprehension of materials in modern Chinese.

Classical Studies

(The following courses require no knowledge of Latin or Greek as prerequisites. Certain courses not offered every year.)

250 SURVEY OF CLASSICAL LITERATURE (5)

A survey of the most significant Greek and Latin authors in modern English translations. Every major classical genre will be included, beginning with Greek epic and ending with late Roman fiction.

350 GREEK AND ROMAN MYTHOLOGY (3)

Important classical myths seen in the context of classical literature; influence on Western literature.

450 TOPICS IN CLASSICAL STUDIES (3)

Prereq: One of the following: CI St 250, 350; Lbrl 121; Eng 281 Varying topics, such as individual genres (e.g., epic tragedy) or eras (fifth-century B.C. Athens, the Mediterranean World in the first century A.D.), will be treated from quarter to quarter. See timetable of classes for offerings. Repeatable with various topics.

Foreign Languages/Literatures

French

101, 102, 103 ELEMENTARY FRENCH (5 ea)

To be taken in sequence. Fundamentals of speaking, reading, writing and understanding French.

104 REVIEW OF ELEMENTARY FRENCH (5)

Designed primarily for students with two years of high school French to prepare them for the intermediate level through review and development of basic structure and vocabulary. Also for students needing a review of the first year. Can be substituted for French 103. Offered fall quarter only.

201, 202 INTERMEDIATE FRENCH (5 ea)

Prereq: French 103 or 104 or equivalent; to be taken in sequence. Continuation of skill development begun in Elementary French, with additional work in vocabulary acquisition and grammar.

230 FRENCH LANGUAGE AND CULTURE (3 or 6)

Prereq: French 103 or equivalent. An intermediate course in conversation, culture study and expression. Films, oral and written presentations. Offered for 3 credits academic year; 3 or 6 credits summer quarter.

280 FRENCH FOR A READING KNOWLEDGE (4)

Prereq: French 103 or equivalent. Individualized instruction designed to improve speed and comprehension in reading for upper-division work. Work on translation skills. S:U grading.

301a,b,c GRAMMAR REVIEW AND WRITTEN EXPOSITION (4 ea)

Prereq: French 202 or equivalent. Practice in written expression, vocabulary building, study of grammar and language structure. Repeatable to a total of 12 credits. 8 credits required for major/minor.

305a,b,c ORAL EXPOSITION (3 ea)

Prereq: French 202 or equivalent. Discussion and expository talks, with emphasis on vocabulary and concept building, topic areas vary each quarter. Repeatable to a total of 9 credits; 6 credits required for majors.

314 PHONETICS (4)

Prereq: French 202 or equivalent. Emphasizes improvement of pronunciation, contrasts English and French pronunciations and teaches phonetic transcription.

340 INTRODUCTION TO FRENCH LITERATURE I (5)

Prereq: French 301 or equivalent. An introduction to literary analysis, *explicitation de texte* involving poetry, prose and drama from the works of major authors before 1800.

341 INTRODUCTION TO FRENCH LITERATURE II (5)

Prereq: French 301 (340 recommended). An introduction to literary analysis, *explicitation de texte* involving poetry, prose and drama from works of major authors after 1800.

401a,b,c ADVANCED GRAMMAR AND COMPOSITION (3 ea)

Prereq: French 301 (8-12 credits as advised). Emphasis on stylistics, context, and grammar. Repeatable to 9 credits; 6 credits required for majors.

405 ADVANCED ORAL EXPOSITION (3)

Prereq: 6 credits of 305; 8 credits of 301. Development of complex presentations and discussions. Exercises in interpretation and synthesis. Topic areas vary each quarter. Repeatable to total of 9 credits; 6 credits required for majors.

425 TEACHING-LEARNING PROCESSES IN ELEMENTARY FRENCH (2)

Prereq: written permission of department and two courses in upper-division French. Practicum in course preparation, classroom and language laboratory procedures, materials, evaluation and counseling. May be repeated. S/U grading.

450 SEMINAR IN FRENCH STUDIES (3-5)

Prereq: two upper-division courses, including 301. Authors, genres, movements and period studies. Repeatable as topics vary.

German

101, 102, 103 ELEMENTARY GERMAN (5 ea)

Each course prerequisite to the next. Fundamentals of the language, pronunciation, grammar, aural comprehension, reading and speaking.

104 REVIEW OF ELEMENTARY GERMAN (5)

Designed primarily for students with two years of high school German to prepare them for the intermediate level through review and development of basic structure and vocabulary. Also for students needing a review of the first year. Can be substituted for German 103. Offered fall quarter only.

- 201, 202 INTERMEDIATE GERMAN (5 ea)
Prereq. German 103 or 104 or equivalent; to be taken in sequence. Review of the fundamentals, reading and conversation.
- 205 INTERMEDIATE GERMAN CONVERSATION (3)
Prereq German 202. Under special circumstances can be taken concurrently with German 202 with permission of instructor. Emphasis on speaking, idiomatic use of language and vocabulary building based on daily-life situations. S/U grading
- 230 GERMAN CULTURE AND CIVILIZATION STUDY TOUR (8)
A culture study tour of Germany which includes a stay in East Germany, Berlin and different parts of West Germany. Sites are carefully chosen to provide a means of contrasting differences in culture and life styles between Americans and Germans as well as between West and East Germans. Intended for beginning students of German. S/U grading Summers only. Offered at irregular intervals
- 280 GERMAN FOR A READING KNOWLEDGE (3)
Prereq: one year of college German. For fulfillment of master's degree reading requirement.
- 301, 302 THIRD YEAR COMPOSITION (3 ea)
Prereq: German 202 or equivalent; German 205 highly recommended; to be taken in sequence. Written and oral composition and grammar, and vocabulary building
- 305 GERMAN CONVERSATION (3)
Prereq: German 301. Conversation practice involving situations of daily life; topics of contemporary Germany Vocabulary building
- 314 PHONETICS (4)
Prereq German 202 A course designed to improve the student's pronunciation and intonation, to become familiar with phonetic transcription, and to become aware of problems involved in teaching German sounds
- 317 GERMAN DICTION FOR VOICE STUDENTS (2)
Prereq prior approval by applied music instructor German pronunciation course designed for singers and voice students. Emphasis is placed on learning the proper articulation of German sounds as well as rules of German orthography S/U grading
- 330 GERMAN CULTURE AND CIVILIZATION STUDY TOUR (8)
Prereq: German 202 or equivalent. A culture study tour of Germany which includes a stay in East Germany, Berlin and different parts of West Germany. Sites are carefully chosen to provide a means of contrasting differences in culture and life styles between Americans and Germans as well as between West and East Germans Intended for intermediate/advanced students. An opportunity for the improvement of language skills. S/U grading Summers only. Offered at irregular intervals.
- 331 CIVILIZATION OF GERMANY THROUGH THE NINETEENTH CENTURY (3)
Prereq: German 202 or equivalent; German 205 highly recommended. Significant elements of German civilization presented through German texts.
- 332 GERMAN CIVILIZATION TODAY (3)
Prereq: German 202 or equivalent; German 205 highly recommended. Significant elements of German civilization.
- 340 INTRODUCTION TO GERMAN LITERATURE (4)
Prereq: 10 credits of second-year German or equivalent. Selected works of major German authors, with emphasis on reading improvement and methods of textual interpretation.
- 341 NINETEENTH CENTURY GERMAN LITERATURE (3)
Prereq: German 340. Emphasis on either Romanticism or Realism. May be repeated when topics vary.
- 343 EIGHTEENTH CENTURY GERMAN LITERATURE (3)
Prereq German 340. Classical period of German literature as reflected in a major work of Lessing, Goethe and Schiller.
- 385a,b,c GERMAN CULTURE AND CONVERSATION (1 ea)
Prereq: German 201, may be repeated for credit. German culture through film, talks and song. General discussion of Germany and its culture, especially in contrast to our own. S/U grading
- 401, 402 ADVANCED COMPOSITION AND GRAMMAR (3 ea)
Prereq. German 302. Advanced written and oral expression.

Foreign Languages/Literatures

- 405 **ADVANCED CONVERSATION (3)**
Prereq: German 302. Advanced conversational practice on topics reflecting current events in German-speaking countries; students give expository talks and discuss articles taken from periodicals; vocabulary building
- 425 **TEACHING-LEARNING PROCESS IN ELEMENTARY GERMAN (2)**
Prereq: written permission of department and six credits upper-division German. Practicum in course preparation, classroom and language laboratory procedures, materials, evaluation and counseling. May be repeated. S/U grading.
- 442 **GERMAN LITERATURE IN THE TWENTIETH CENTURY (3)**
Prereq: 9 credits in upper-division German. Selections reflecting development of recent German literature.
- 450 **STUDIES IN GERMAN LITERATURE (3)**
Prereq: 9 credits in upper-division German or equivalent, and permission of department. Major authors and movements. Since topics vary, the course may be repeated.

Graduate Courses in German

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Special permission required.

- 501 **CULTURE AND CONVERSATION (4)**
Prereq: German 401 or equivalent. Oral and written composition based on topics reflecting history of German civilization up to 1850. Conversational practice and study of daily life.
- 502 **CULTURE AND CONVERSATION (4)**
Prereq: German 401 or equivalent. Oral and written composition based on topics reflecting the history of German civilization from the 2nd Reich through contemporary Germany. Conversational practice on topics from daily life.
- 503 **CULTURE AND CONVERSATION (4)**
Prereq: German 401 or equivalent. Oral and written composition based on topics reflecting contemporary German civilization. Conversational practice on topics of daily life. This course is normally conducted as part of a field trip to Germany.
- 504 **APPLIED GERMAN LINGUISTICS (4 ea)**
Prereq: graduate status or permission of department.
504a German Phonetics and Phonemics
504b German Morphology and Syntax

- 505 **ADVANCED COMPOSITION: EXPOSITORY WRITING (4)**
Prereq: German 401 or equivalent. By writing narratives, descriptions, letters and dialogues, students practice syntax and style. An awareness of the various levels of language is stressed.
- 510 **SEMINAR IN LITERATURE (4 ea)**
Prereq: graduate status or permission of department. Three seminars required. Emphasis on teaching of literature in community colleges and high schools, research methods and evaluation. Topics announced in advance from the following:
510a The modern short narrative
510b The short drama, *Hoerspiel, Einakter, Laienspiel*
510c Poetry, *Volkslied, Ballade, moderne Lyrik*

- 532 **THE TEACHING OF GERMAN (4)**
Prereq: graduate status or permission of department. Methods and materials for teaching German in the community college, secondary and elementary schools.

Greek

- 101, 102, 103 **ELEMENTARY GREEK (5 ea)**
Each course prerequisite to the next. Fundamentals of grammar designed primarily to provide an elementary reading knowledge; selected readings from Plato's simpler dialogues.
- 111, 112, 113 **NEW TESTAMENT GREEK (5 ea)**
Each course prerequisite to the next. Study of the basic grammar and vocabulary of the Koine dialect, to include New Testament and Patristic sources, with emphasis placed on the acquiring of a reading knowledge.
- 201, 202, 203 **INTERMEDIATE GREEK (3 ea)**
Prereq: Greek 103 or equivalent; to be taken in sequence. Review of fundamentals; reading from Plato's dialogues, the orators, the *Iliad* or *Odyssey*. Introduction to Greek civilization.
- 350 **READINGS IN GREEK LITERATURE (3)**
Prereq: Greek 203 or equivalent. Readings in major genres. Since topics vary, the course may be repeated.

Japanese

- 101, 102, 103 **ELEMENTARY JAPANESE (5 ea)**
Each course prerequisite to the next. Fundamentals of the language; writing and reading *hiragana, katakana, and kanji*; grammar, aural comprehension and speaking. Self-study oral practice (tape assisted) is an integral part of the course.

201, 202, 203 INTERMEDIATE JAPANESE (5 ea)

Prereq: Japanese 103 or equivalent. Each course prerequisite to the next. Further fundamental grammar; review of first-year grammar; emphasis on writing and reading, conversational skills and cultural knowledge. Self-study oral practice (tape assisted) is an integral part of the course.

280 KANJI (2)

Acquisition of 50 *kanji* per week by way of associative method. Repeatable to 10 credits. S/U grading; not applicable to the minor.

301, 302, 303 ADVANCED JAPANESE (4,3,3)

Prereq: Japanese 203. Each course prerequisite to the next. Emphasis on well rounded development of reading, writing, listening and speaking abilities, introduction of colloquial Japanese with the use of video tapes for conversational skills. Self-study oral practice (tape assisted) is an integral part of the course.

Latin

101, 102, 103 ELEMENTARY LATIN (5 ea)

Each course prerequisite to the next. Fundamentals of grammar to provide a reading knowledge; selected readings from various Roman writers

201, 202, 203 INTERMEDIATE LATIN (3 ea)

Prereq: Latin 103 or two years high school Latin; each course prerequisite to the next. Review of fundamentals; selected readings from various Roman writers; introduction to Latin civilization.

350 READINGS IN LATIN LITERATURE (3 ea)

Prereq: Latin 203 or equivalent. Readings in major genres. Since topics vary, the course may be repeated

Russian

101, 102, 103 ELEMENTARY RUSSIAN (5 ea)

Each course prerequisite to the next. Fundamentals of the language, pronunciation, grammar, aural comprehension, reading and speaking.

201, 202, 203 INTERMEDIATE RUSSIAN (5 ea)

Prereq: Russian 103 or equivalent; to be taken in sequence. Review of fundamentals; speaking, reading, writing and understanding.

301 THIRD-YEAR COMPOSITION (4)

Prereq: Russian 203 or equivalent. Written and oral expression, advanced grammar, and vocabulary building.

302 THIRD-YEAR COMPOSITION (3)

Prereq: Russian 301 or equivalent. Written and oral expression, advanced grammar and vocabulary building.

330 CIVILIZATION OF RUSSIA (3)

Prereq: Russian 201, 202, 203 or equivalent. Significant elements of Russian civilization presented through Russian texts.



Foreign Languages/Literatures

Spanish

- 101, 102, 103 ELEMENTARY SPANISH (5 ea)
To be taken in sequence. Fundamentals of speaking, reading, writing and understanding
- 104 REVIEW OF ELEMENTARY SPANISH (5)
Designed primarily for students with two years of high school Spanish to prepare them for the intermediate level through review and development of basic structure and vocabulary. Also for students needing a review of the first year. Can be substituted for Spanish 103. Offered fall quarter only.
- 201, 202, 203 INTERMEDIATE SPANISH (5,5,3)
Prereq: Spanish 103 or 104 or equivalent; to be taken in sequence. Review of fundamentals: speaking, reading, writing and understanding.
- 205 INTERMEDIATE CONVERSATION (3)
Prereq: Spanish 201 or equivalent. May be taken concurrently with 202 and 301. Emphasis on speaking and vocabulary building based on daily life situations. Introduction to culture in the Hispanic world. May be repeated for credit once only. S/U grading.
- 301, 302 THIRD-YEAR GRAMMAR AND COMPOSITION (3)
Prereq: Spanish 202 or equivalent; to be taken in sequence. Written composition, grammar review and vocabulary building.
- 305 THIRD-YEAR CONVERSATION (3)
Prereq: Spanish 202 or equivalent. Conversational practice involving situations of daily life; vocabulary building. Repeatable to 9 credits. S/U grading.
- 310 MEXICAN AND CHICANO LITERATURE (4)
Prereq: any introductory course in Ethnic Studies or Spanish. Mexican literary and cultural influences on Chicano literature. Chicano literature as a mirror of ethnic history, social and cultural experience, and changing social status
- 314 INTRODUCTION TO SPANISH PHONOLOGY (4)
Prereq: Spanish 301 or equivalent. Intensive study of the Spanish sound system.
- 331 MEXICAN CULTURE AND CIVILIZATION (3)
Prereq: Spanish 201, 202, or equivalent. Panoramic view of Mexican civilization and culture from pre-Columbian times to the present.
- 340 INTRODUCTION TO HISPANIC LITERATURE (3)
Prereq: Spanish 301 or equivalent. Emphasis on reading and methods of literary analysis based generally on the major works of Hispanic writers.
- 350a,b,c,d MAJOR WORKS IN SPANISH-AMERICAN LITERATURE (3 ea)
Prereq: Spanish 340 or equivalent. Study of genres and trends during various periods in Spanish-American literature. Specific topics to be listed. May be repeated for credit when topics vary.
- 351a,b,c,d MAJOR WORKS IN SPANISH LITERATURE (3 ea)
Prereq: Spanish 340 or equivalent. Study of genres and trends during various periods in Spanish peninsula literature. May be repeated for credit when topics vary.
- 353 CONTEMPORARY MEXICAN LITERATURE (3)
Prereq: Spanish 340 or equivalent. Reading and discussion of selected major documents from twentieth century Mexican literature.
- 401 ADVANCED COMPOSITION AND GRAMMAR (3)
Prereq: Spanish 302 or equivalent. Advanced written and oral expression, identification and correction of phonological and grammatical problems
- 402 ADVANCED COMPOSITION AND GRAMMAR II (3)
Prereq: Spanish 401 or equivalent. Advanced written and oral expression, identification and correction of phonological and grammatical problems.
- 405 ADVANCED CONVERSATION (3)
Prereq: Spanish 301 and 305. Advanced conversational practice on topics reflecting current events in the Hispanic world; students give expository talks and discuss articles taken from periodicals; vocabulary building. May be repeated for credit. S/U grading.
- 425 TEACHING-LEARNING PROCESSES IN ELEMENTARY SPANISH (2)
Prereq: written permission of department and two courses of upper-division Spanish. Practicum in course preparation, classroom and language laboratory procedures, materials, evaluation and counseling. May be repeated. S/U grading.
- 450 STUDIES IN SPANISH LITERATURE (3)
Prereq: two courses in upper-division Spanish and permission of department. Major authors and movements. Since topics vary, the course may be repeated.



Graduate Courses in Spanish

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Special permission required.

- 501 CONVERSATION AND COMPOSITION (4)**
 Prereq: Spanish 401 or equivalent. Syntax, written and oral composition, conversation based on topics reflecting the history of Spanish civilization from the beginnings to the Renaissance.
- 502 CONVERSATION AND COMPOSITION (4)**
 Prereq: Spanish 401 or equivalent. Syntax, written and oral composition, conversation based on topics reflecting the history of Spanish civilization from the Golden Age to the 19th century.
- 503 CONVERSATION AND COMPOSITION (4)**
 Prereq: Spanish 401 or equivalent. Syntax, written and oral composition, conversation based on topics reflecting contemporary Hispanic civilization.
- 504 APPLIED LINGUISTICS (4)**
 Prereq: graduate status or permission of department. Studies of problems of Spanish structure as related to the classroom situation.
- 505 HISTORY OF THE SPANISH LANGUAGE (4)**
 Prereq: graduate status or permission of department. The development of the Spanish language from Latin to the present day; study of phonology, morphology and syntax.
- 510 SEMINAR IN LITERATURE (4 ea)**
 Prereq: graduate status or permission of department. Three seminars required. Emphasis on teaching literature and civilization in the community college, high school and elementary school. Topics to be announced in advance from the following:
 510a Spanish Civilization
 A study of the evolution of Spanish civilization from its earliest history to the present
 510b Spanish-American Civilization
 A study of Spanish-American civilization from pre-Columbian times to the present
 510c Culture of the Spanish-speaking People of the World Through Literature
 (Other elective special topic seminars in literature will be added as indicated by demand.)
- 532 THE TEACHING OF SPANISH (4)**
 Prereq: graduate status or permission of department. Methods and materials for teaching Spanish in the community college, secondary and elementary schools.

Geography & Regional Planning

THE SCIENCE OF GEOGRAPHY

Defined by some as a physical science, by others as a social science, geography is pre-eminently a science of spatial relationships. It focuses attention on many aspects of man and his use of the environment.

THE TWO FIELDS

Geography and regional planning are compatible fields that in many countries have enjoyed a long and fruitful association. The frequently quoted statement that "planning is the art of which geography is the science," although not universally accepted, indicates nonetheless the close proximity of these two branches of learning.

Geography focuses attention on man and his use of the physical environment. Hence, geographers study such topics as population patterns; transportation and settlement; land use and natural resources; and such aspects of the environment as landforms, climate, soils and vegetation.

Planners likewise are concerned with these same topics, but generally within the confines of a specific region, usually a municipality, a county or other small region. As the American experience increasingly reflects urbanization and growing pressure of space, resources and environmental quality, the challenge to understand the forces that determine urban patterns and require societal responses becomes the specific concern of the planner.

THE DEPARTMENT

Faculty

The members of the department are

scholars whose special interests and training span most of the sub-fields of the two disciplines. Most have had first-hand experience in foreign countries of Europe, Africa, South and East Asia, Australasia and Latin America. Individual faculty members participate in such university programs as the Center for Pacific Northwest Studies, the Canadian-American Studies Program, and the East Asian Studies Program.

Programs and Degrees

In keeping with Western's primary mission of excellence in undergraduate education, the general objectives of the department are (1) to provide a broad understanding of the world's environments, resources and peoples as an essential part of a liberal education and (2) to prepare students for professional careers in the public and private sectors including industry, planning, services and teaching, and for graduate studies. The department offers undergraduate major programs in geography and in planning, as well as an extended minor in cartography and a minor in geography. B.A. and B.S. in Education degrees are granted. At the graduate level, an M.S. degree in geography is granted.

Facilities and Equipment

A major facility of the department is its well-stocked map library, which contains more than 180,000 sheet maps, atlases and air photos, as well as many reference works for cartographic and geographic research. The library is an official depository for maps issued by the United States Geological Survey, the United States Defense Mapping Agency, Washington State Department of Natural Resources, the Canadian Depart-

ment of Energy, Mines and Resources, and other governmental agencies. A well-equipped cartographic laboratory and computing facilities provide for manual and computer assisted cartographic production and reproduction, and for programs in remote sensing and geographic information systems. Two technical staff members, a map librarian and a staff cartographer are present to assist in the instructional and research activities of the department.

EMPLOYMENT OPPORTUNITIES

Although many of Western's graduates in geography have become teachers either at the elementary or secondary level, opportunities in other fields have increased in recent years. Urban and regional planning, business and industry, government service, insurance and transportation have provided excellent openings for many recent graduates. For those graduates who demonstrate ability in such techniques of geographic research as statistical and cartographic analysis, the employment options are much increased. Particularly useful for the acquisition of such skills is the extended minor in cartography.

In the field of urban and regional planning, employment opportunities occur mainly in a wide range of federal, state and local government agencies. Private consulting agencies and industrial firms also require the services of trained planners in such projects as real estate development or the location of commercial and industrial enterprises. Rising concern for the natural environment has greatly increased the demand for qualified planners.

GRADUATE STUDY

Although holders of the bachelor's degree in geography and planning

may find challenging positions in the field of planning, graduate study and completion of the master's degree are becoming common requirements for professional advancement. Students in both programs are urged to consider the possibility of graduate training no later than the beginning of their senior year.

GEOGRAPHY FACULTY

- DEBNATH MOOKHERJEE (1961) Chair.
Professor. BSc, MSc, University of Calcutta; PhD, University of Florida.
- HOWARD J. CRITCHFIELD (1951) Professor.
BA, MA, PhD, University of Washington.
- ROBERT L. MONAHAN (1955) Professor. BA, University of Washington; MA, University of Michigan; PhD, McGill University.
- JAMES W. SCOTT (1966) Professor. BA, MA, Cambridge University. PhD, Indiana University.
- RICHARD G. SMITH (1970) Associate Professor. BS, University of Alaska; MS, PhD, University of Wisconsin.
- THOMAS A. TERICH (1973) Associate Professor. BA, MA, California State University; PhD, Oregon State University.

Adjunct Faculty

- RICHARD H. BERG (1970) Associate Professor.
BS, MS, University of Washington; PhD, Oregon State University; PE, State of Washington.

BACHELOR OF ARTS

The department offers a broad base of course work which includes a variety of systematic and regional fields. All majors are required to complete a set of core courses, supporting courses and a field of concentration that meets their specific needs and interests. The major, including electives, totals 70 credits. The undergraduate adviser will recommend courses related to students' career objectives. Students are urged to consult advisers at the earliest opportunity to plan their program. Those contemplating work toward a graduate degree are advised to acquire a reading knowledge in a foreign language and competence in statistics and/or computer science during their undergraduate years.

Geography/Regional Planning

Major — Geography

70 credits

Adviser - T. Terich

Core Required Courses:

- Geog 201, 301, 310 or 311, 351, 354, 486
- Two courses from Geog 352, 356, 358, 452, 453, 475
- Two courses from Geog 313, 314, 315, 318, 319, 321, 322

Concentrations:

Natural Resources/Physical Geography —

This option emphasizes the study of interactions between the natural environment and human activities. Students investigate issues relating to utilization of resources and develop skills in the scientific management of natural resources.

- Geog 203
- Four courses from Geog 330, 331, 362, 363, 431, 432, 433, 440, 461

Regional Development/Urban and Economic Geography —

This option prepares students for business and industry-related occupations, and also for community and regional planning. An understanding of the spatial aspects of the economy and the development of skills toward analyzing urban-economic phenomena are major objectives of this option.

- Geog 205
- Four courses from Geog 340, 341, 342, 345, 432, 440, 460, 462, 464

Supporting Courses and Electives for both concentrations:

- Math 240 or Soc 315 or equivalent; CS 101 or 110 or 210
- Electives under advisement

Minor — Geography 25 credits

- Geog 201, 203, 205
- Electives under advisement

Extended Minor —

Cartography 35 credits

Adviser - R. Monahan

- Geog 201 or 251, 351, 352, 356, 358 or 456
- One course from Comp Sci 101 or 110 or 210
- Tech 240
- Electives under advisement: Geog 354; Art 130, 370, 371, 373; Comp Sci 480; Tech 260, 340, 341, 440

Major — Urban and Regional Planning 105 credits

Adviser - D. Mookherjee

An interdisciplinary approach, based on the strengths of six departments in the College of Arts and Sciences and Huxley College of Environmental Studies, characterizes the program.

The Department of Geography and Regional Planning administers the program with support from other departments. This multi-disciplinary character of the program, which draws upon specialized resources of the various departments, particularly economics, political science, and sociology, offers unique opportunities for students to view the interrelationships of various components of the environmental problems and to analyze, identify and evaluate them. The academic program has been primarily designed to prepare students for employment in planning agencies as well as to provide a foundation for graduate study.

NOTE: Students who are currently enrolled in other institutions but who intend to transfer to Western to complete the urban and regional planning program should review carefully both the general education requirements of the College of Arts and Sciences and the requirements of the planning program. Those who transfer to Western at the end of their sophomore year or later may encounter dif-

faculties in completing all requirements within a normal four-year total period.

Core Required Courses

- Econ 203 or 204, 482
- Geog 201, 205, 270, 341, 351, 354, 370, 470
- Huxley 436
- Math 240 or Soc 315
- Pol Sci 250, 353
- Soc 202, 340
- Comp Sci 101 or 110 or 210

Electives

Either 26 or 28 credits to be selected from the following, with two courses from each group:

- Geog 352, 356, 358, 452, 453, 456, 471, 475
- Geog 340, 342, 362, 363, 431, 440, 461, 462, 464

or 16 or 18 hours of electives from the two groups above, with at least one course from each, and 10 hours from an approved physical science or social science discipline.

BACHELOR OF ARTS IN EDUCATION

This program is designed to provide necessary depth as well as breadth to the teaching majors who wish to specialize in geography in the public school system.

Adviser - R. Monahan

Major — Geography — Secondary 55 credits

- Geog 201, 203, 205, 209, 251, 301, 310, 311, 406
- Approved electives to total 55 credits

Major — Geography — Elementary 45 credits

- Geog 201, 203, 205, 209, 251, 301, 310, 311, 406
- Approved electives to total 45 credits

Minor — Geography 24 credits

- Geog 201, 203, 311
- Approved electives to total 24 credits

GRADUATE STUDY

For concentration in geography leading to Master of Science degree, see Graduate section of catalog.

COURSES IN GEOGRAPHY

Courses numbered X37, X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 201 HUMAN GEOGRAPHY (5)
Patterns of population and settlement; spatial analysis of economic, social and political organization.
- 203 PHYSICAL GEOGRAPHY (5)
Principles and techniques in analysis of areal distributions in the natural environment; land forms, water, climate, soils, vegetation.
- 205 ECONOMIC GEOGRAPHY (5)
Location analysis of economic activities; interrelationships of resources, industry, trade and transportation.
- 209 GEOGRAPHY AND WORLD AFFAIRS (2)
Geographical analysis of selected demographic, economic, political and social problems of the contemporary world.
- 251 MAP READING AND ANALYSIS (2)
Interpretation of map symbols and content at different scales; analysis of different types of maps and charts.
- 270 INTRODUCTION TO PLANNING (5)
Basic elements of urban, regional and resource planning; planning tools and techniques; careers in professional planning.
- 301 RESEARCH AND WRITING (5)
Prereq. Geog 201, 203, 205. Source materials, research and writing techniques; emphasis on the nature and development of geography and planning.
- 310 THE PACIFIC NORTHWEST (3)
Prereq. Geog 201 or 203 or 205. Examination of distribution and character of economic activity, population plus settlement and role of climate, landforms and resources in distributions.

Geography/Regional Planning

311 THE UNITED STATES (5)

Prereq: Geog 201. Topical and regional approaches to selected elements of the physical, cultural and economic characteristics of the nation.

313 CANADA (3)

Prereq: Geog 201. Characteristics and distribution of population, economic activities, various aspects of the physical environment; and the resource base are examined and analyzed to provide an understanding and appreciation of Canada.

314 LATIN AMERICA (5)

Prereq: Geog 201. Caribbean, Central America, South America, their biotic, cultural and earth resources; prospects and problems in international affairs.

315 EAST AND SOUTH ASIA (5)

Prereq: Geog 201. Survey of peoples, regions and resources of East and South Asia in their physical and cultural environments; problems and prospects.

318 THE PACIFIC (3)

Prereq: Geog 201. Environment, economies and societies of Australia, New Zealand, Micronesia, Melanesia and Polynesia. Normally offered alternate years.

319 AFRICA (5)

Prereq: Geog 201. Resources, peoples, regions; economic, social and political development of Africa. Emphasis on area south of Sahara.

321 INDIA, PAKISTAN AND BANGLADESH (3)

Prereq: Geog 201. Systematic analysis of the physical and human environments of India, Pakistan and Bangladesh; emphasis on developmental problems.

322 THE MIDDLE EAST (3)

Prereq: Geog 201. Environments, economies and societies of Southwest Asia and North Africa, emphasis on current problems.

330 GEOGRAPHY OF LANDFORMS (5)

Prereq: Geog 203 or Geol 101. Topical and regional analysis of landforms; interrelationships of landforms and other physical and cultural phenomena.

331 CLIMATOLOGY (5)

Prereq: Geog 203 or Physics 101 or 131. Physical basis of climate; world patterns of climate, applied climatology.

340 POPULATION AND RESOURCES (3)

Prereq: Geog 201 or Soc 321. World distribution of population, patterns of population composition, fertility and mortality. Inter- and intra-regional migrations, resources and population growth.

341 URBAN GEOGRAPHY (5)

Prereq: Geog 201. Geographic relations of the modern city with emphasis upon the development, functions and problems of American cities.

342 RURAL SETTLEMENT AND LAND USE (3)

Prereq: Geog 201. Geographical analysis of rural settlement and land use; origins, diffusion and patterns in selected regions.

345 REGIONAL HISTORICAL GEOGRAPHY (3)

Prereq: Geog 201. Analysis of geographical change through time of selected regions of the United States or Canada.

351 CARTOGRAPHY (5)

Prereq: Geog 201 or 251. Map and chart design, construction and reproduction, computer mapping.

352 COMPUTER MAPPING (3)

Prereq: Geog 351 or CS 110 or 210. Conceptual exploration of existing mapping programs; interactive work with electronic digitizers and cathode ray tube displays; exploration of the capabilities and limitations of various computer-driven graphic display systems.



- 354 ANALYSIS OF AREAL DATA (4)
Prereq: Math 240 or Soc 315; Geog 201 or 270 and 203 or 205. Statistical and cartographic techniques in solving geographic problems.
- 356 REMOTE SENSING OF EARTH SURFACE FEATURES (5)
Prereq: Geog 251 and 4 additional credits in geography. An introduction to the spectral characteristics of the earth's surface; the principles of remote sensing by radar, multiband photographic systems; the collection, processing and analysis of data obtained in the visible, infrared and microwave portions of the electromagnetic spectrum.
- 358 GEOGRAPHIC INFORMATION SYSTEMS (3)
Prereq: Geog 251 or 351; CS 101 or 110 or 210 or permission of instructor. The collection, storage, analysis and display of spatially referenced data to produce information essential for planning and making decisions in public agencies and private businesses. Principles and concepts of GIS design and operation; practical experience in GIS applications through lab assignments.
- 362 LAND RESOURCE ANALYSIS (3)
Prereq: Geog 201 or 205 or 270. The physical, biological, economic and institutional factors affecting, conditioning and controlling man's use of land.
- 363 NATURAL HAZARDS (3)
Prereq: Geog 203 and 270. Identification and analysis of natural hazards; their distribution and geographic patterns; cause and effects; risk assessment methods and disaster planning. Offered in alternate years.
- 370 THE PLANNING PROCESS (3)
Prereq: Geog 270. Nature of the planning process; survey and analysis; goal formulation; plan development and implementation.
- 406 THE TEACHING OF GEOGRAPHY (3)
Prereq: Geog 201 and six additional credits in geography. Source materials and methods of geographic instruction.
- 431 GEOGRAPHY OF WATER RESOURCES (5)
Prereq: Geog 203 or Geol 101. Water sources, sinks, shunts and loops of continents and basins; quality, quantity, allocation and legal aspects of water use.
- 432 GEOGRAPHY OF SOILS (3)
Prereq: Geog 203 or Geol 101. Soil formation, characteristics, classification, mapping and management for agriculture and engineering; field trips and laboratory study.
- 433 BIOGEOGRAPHY (3)
Prereq: Geog 203 or Biol 101. Distribution and environmental relationships of world biomes and their subdivisions; origin and dispersal of agricultural plants, animals, insects and diseases.
- 440 AGRICULTURAL GEOGRAPHY (3)
Prereq: Geog 201 or 205. Agricultural types, production and commodities, land use and land tenure.
- 452 CARTOGRAPHIC COMPILATION AND DESIGN (3)
Prereq: Geog 351. Analysis and application of cartographic design and compilation techniques to practical mapping projects. Computer geographic information systems and/or manual mapping methods may be used.
- 453 FIELD METHODS IN GEOGRAPHY (3)
Prereq: Geog 351. Recording, mapping, and analysis of physical and cultural features.
- 456 DIGITAL IMAGE PROCESSING (4)
Prereq: Geog 356. The use of microcomputers in converting satellite-obtained digital data into enhanced color images of the earth's surface; algorithms include signature training, unsupervised classification, filtering, convolution and eigen pictures.
- 460 THE URBAN ENVIRONMENT (3)
Prereq: Geog 203. Urban influences on the natural environment; applied physical geography of cities; environmental factors in urban planning.
- 461 NATURAL RESOURCES MANAGEMENT (3)
Prereq: Geog 201 or 203 or 205. Conservation as an operational philosophy and as an instrument of policy; legal and institutional options for conservation of mass and energy in the ecosystem.
- 462 TRANSPORTATION SYSTEMS AND PLANNING (3)
Prereq: Geog 201 or 205. Locational and network analysis of local, regional and national systems; transportation and planning.

Geography/Regional Planning

464 THE DEVELOPING WORLD: SPATIAL PROBLEMS, STRATEGIES AND SOLUTIONS (3)

Prereq: Geog 201 or 205 and one of the following: Geog 314, 315, or 319. Analysis of selected geographical problems of major countries and regions of Africa, Asia and Latin America: population pressure, agricultural productivity; resource appraisal and utilization; urban-industrial growth; urban and regional planning.

470 PLANNING STUDIO (6)

Prereq: Geog 370. Analysis and synthesis of significant socio-economic biophysical and cultural resources used in planning; preparation of a land-use or other plan for a selected region.

471 PLANNING PRACTICUM (6-12)

Prereq: completion of two-thirds of major requirements and permission of instructor. Participation in aspects of community development and planning under professional and academic supervision.

475 FIELD CAMP (3)

Prereq: Geog 201, 203 and permission of instructor. Methods of geographical field investigation.

486 SEMINAR IN SYSTEMATIC GEOGRAPHY (3)

Prereq: Geog 301. Selected topics in cultural, economic or physical geography. May be repeated for credit.



521 SEMINAR IN SYSTEMATIC GEOGRAPHY: HUMAN (5)

Prereq: Geog 501 and 510. Investigation and research in sub-field of human geography including an evaluation of the methods and techniques employed in that sub-field.

522 SEMINAR IN SYSTEMIC GEOGRAPHY PHYSICAL (5)

Prereq: Geog 501 and 510. Investigation and research in the sub-field of physical geography including an evaluation of the methods and techniques employed in that sub-field.

535 ENVIRONMENTAL PROBLEMS AND REGIONAL DEVELOPMENT (5)

Prereq: Geog 521 or 522. Cities and regions as complex systems of interdependent natural and human elements; key problems and approaches to their solution through planning.

551 RESEARCH PROBLEM (5)

Prereq: Prereq: Geog 521 or 522. Formulation and development of hypotheses for a thesis. Development of the necessary methodology; preparation of bibliography and review of literature.

590 GRADUATE COLLOQUIUM (1)

Current trends and issues in geographic research. To be repeated each year of enrollment in program.

690 THESIS (6)

Prereq: advancement to candidacy for the master's degree and appointment of thesis adviser and thesis committee.

GRADUATE COURSES

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

501 HISTORY AND PHILOSOPHY OF GEOGRAPHY (4)

Prereq: graduate status. Evolution of geographic concepts, philosophy and methodology.

510 QUANTITATIVE TECHNIQUES IN GEOGRAPHY (5)

Prereq: Geog 354 or equivalent. Methods of gathering and analyzing data for the solution of geographical and regional planning problems.

Geology

The natural setting of Western Washington University adjacent to the Cascade Mountains and Puget Sound provides an ideal situation for study of a wide variety of geologic problems.

FACULTY

At the present time the department consists of 13 faculty members who have a broad range of backgrounds covering the entire field of geology. There are about 70 geology undergraduate majors and approximately 40 graduate students in the department.

FACILITIES AND EQUIPMENT

Geology is a science which studies the earth, including its surfaces, interior and history and the processes which have altered it through time. It embraces investigation of the natural environment both in the field and in the laboratory. The Department of Geology occupies modern laboratories, classrooms and offices constructed in 1976 in the Environmental Studies Center. Geology laboratory facilities and equipment are available for X-ray diffraction, atomic absorption, sedimentation, air photo interpretation, flume and wave tank studies, paleomagnetic analysis, geochemistry, petrography and scanning electron microscopy. The Sundquist Marine Laboratory at Shannon Point near Anacortes provides facilities for studies in marine geology.

PROGRAMS

Objectives of the department are varied, including preparation of undergraduate and graduate students for careers as professional geoscientists

and also preparation of earth science teachers at the primary and secondary levels.

A wide variety of geologic phenomena in the adjacent Cascade Range and the marine environment of Puget Sound provide a broad spectrum of geologic features for study.

A number of concentrations are offered within the geology program.

These include:

- Coastal Geology
- Economic Geology
- Environmental Geology
- Geochemistry
- Geomorphology
- Geophysics
- Glacial Geology
- Hydrology
- Paleomagnetism
- Paleontology
- Petrology
- Sedimentation
- Stratigraphy
- Structure and Tectonics

STUDENT INVOLVEMENT IN RESEARCH

The faculty in the Department of Geology are active in a wide variety of on-going research projects that frequently involve undergraduate and graduate students in special projects and thesis projects or provide employment. Some of this research is funded or partially supported from grants to individual faculty members from the National Science Foundation, U.S. Geological Survey, National Parks Commission, Office of Ecology and geological related companies. Many of these projects are in the western Washington region, others include investigations in other parts of the United States, Canada, and even overseas.

GEOLOGY FACULTY

- EDWIN H. BROWN (1966) Chair.
Professor. AB, Dartmouth College; MSC, University of Otago; PhD, University of California, Berkeley.
- RANDALL S. BABCOCK (1967) Associate Professor. AB, Dartmouth College; MS, PhD, University of Washington
- MYRL E. BECK, JR. (1969) Professor. BA, MS, Stanford University; PhD, University of California at Riverside.
- ROBERT A. CHRISTMAN (1960) Professor. BS, MS, University of Michigan; PhD, Princeton University.
- DON J. EASTERBROOK (1959) Professor. BS, MS, PhD, University of Washington.
- ROSS C. ELLIS (1962) Professor. BA, Occidental College; PhD, University of Washington.
- DAVID C. ENGBRETSON (1983) Assistant Professor. BA, Western Washington University; MS, PhD, Stanford University.
- THOR A. HANSEN (1985) Associate Professor. BS, George Washington University; PhD, Yale University
- HARVEY M. KELSEY (1984) Associate Professor. BA, Princeton University; PhD, University of California, Santa Cruz.
- MAURICE L. SCHWARTZ (1968) Professor of Geology and Education. BA, MS, PhD, Columbia University.
- CHRISTOPHER A. SUCZEK (1977) Associate Professor AB, University of California, Berkeley; PhD, Stanford University.
- JAMES L. TALBOT (1976) Professor of Geology. BA, University of Cambridge; MA, University of California, Berkeley; PhD, University of Adelaide.
- ANTONI WODZICKI (1977) Professor. BE, University of Otago; MS, University of Minnesota; PhD, Stanford University.

Research Associates

- Glenn W. Berger (1986)
BS, MS, PhD, University of Toronto.
- Russell F. Burmester (1978)
BS, Stanford University. MA, University of Texas, Austin; PhD, Princeton University.
- Frank Danes (1973)
BS, PhD, Charles' University, Prague, Czechoslovakia.
- Jimmy Diehl (1977)
BA, MS, Western Washington State College; PhD, University of Wyoming.
- Suzanne Beske Diehl (1977)
BA, University of Minnesota; MS, Western Washington State College; PhD, University of Wyoming.

BACHELOR OF ARTS

Major — Geology 50 credits
plus Supporting Courses

An accompanying minor in one of the sciences or in mathematics is recommended.

- Geol 211, 212, 304 or 305, 306, 310, 316, 318, 407
- Electives under advisement from Geol 300, 314, 340, 352, 400, 410a, 410b, 412, 414, 415, 423, 424, 425, 430, 432, 433, 440, 444, 453, 454, 455, 460, 461
- Supporting courses: Chem 121, 122; Physics 131 or 241; Math 124; 16 additional credits under advisement in physics, biology, chemistry or mathematics

Minor — Geology 25 credits

- Geol 211, 212
- Electives under departmental advisement

BACHELOR OF ARTS IN EDUCATION

The Geology Department recommends for teaching endorsement those students who have satisfactorily completed requirements for the bachelor's degree in education with an earth science major or a geology minor combined with a major in one of the other physical or biological sciences.

Major — Earth Science

Elementary 50-51 credits

- Geol 211, 212, 304, 306, 310 and 407
- Chem 115 or 121; Geog 203; Geog 331 or Geol 252; Physics 131; Astron 103
- Electives under departmental advisement from Geol 214, 215, 314, 316, 318, 340, 352, 399, 400, 410a, 410b, 412, 414, 416, 430, 440; Geog 431, 432; Astronomy 315, 316; Biol 406; Sci Ed 410

Major — Earth Science —

Secondary 55-57 credits

- Geol 211, 212, 304 or 305, 306, 310, 407

- Geog 331 or Geol 252; Physics 131; Astron 315; Chem 121; Sci Ed 491, 492
- Electives from Geol 214, 215, 314, 316, 318, 340, 352, 399, 400, 410a, 410b, 412, 414, 415, 418, 420, 430, 440, 460; Geog 203, 431, 432; Astron 316; Sci Ed 410

It is recommended that this major be accompanied by a minor in chemistry, physics or biology.

Combined Major — Earth Science/General Science — Secondary 88 credits

This major leads to recommendation for teaching endorsements in earth science (4-12) and science (4-12).

- Geol 211, 212, 304 or 305, 306, 310, 407
- Geog 331 or Geol 252
- Chem 121, 122, 123
- Physics 131, 132, 133 (or 241, 242, 341) and Astron 315
- Biol 121, 122, 123
- Sci Ed 491, 492
- 3-5 additional credits under advisement

Minor — Geology 25 credits

- Geology 211, 212
- Electives under departmental advisement

BACHELOR OF SCIENCE

Major — Geology 110 credits

This program is recommended for students who are preparing to become professional geologists and intend to enroll in a graduate program or enter industry upon completion of degree.

- Geol 211, 212, 305, 306, 310, 316, 318, 352, 399, 410a, 410b, 415, 416, 418, 420
- 1 credit under advisement from Geol 300, 314, 340, 400, 414, 423, 424, 425, 430, 432, 433, 440, 444, 453, 454, 455, 460, 461
- Supporting courses to total 50 credits, including: Chem 121,

122, 123; Physics 241, 242, 341, 351; Math 124, 125, Comp Sci 110 or higher, and Math 126 or 240.

- Remaining credits under advisement from chemistry, physics, math, computer science or biology to total 110 credits.

Students concentrating in biostratigraphy or paleontology may be allowed substitutions in biology under advisement.

Students preparing for graduate work are advised to complete one year of a foreign language.

Major — Environmental/Engineering Geology

118 credits

This major is designed to provide students with a general background of courses for a career in environmental geoscience. Areas of expertise which are developed through this curriculum include hydrology, coastal management, geologic hazards, structural mapping, remote sensing and geologic site evaluation

Core Program (required courses)

- Geol 211, 212, 304, 306, 310, 314, 318, 352, 354, 407, 410a, 410b, 454, 472, 473
- Geog 432
- Chem 121, 122, 123
- Physics 241, 242, 341, 351
- Math 124, 125, 126, 205, 331, CS 110 or higher

Students should note that because of the large number of credits required in this major, either their electives outside of the program will be relatively limited or more than four years will be required for the B.S. degree.

Major — Geophysics

110 credits

- Geology 211, 212, 304, 306, 318, 352, 354, 407, 410a, 410b, 415, 454
- Math 124, 125, 126, 205, 224, 331, Comp Sci 110
- Physics 241, 242, 341, 342, 343

Geology

- Chemistry 121
- A minimum of 4 credits from: Geol 453, 455; Math 332, 430; Physics 351, 352, 353, 371, 475, 485; Chem 122, 123

Geophysics Extended Minor

40 credits

Suitable only for majors in a physical science or others with a strong background in mathematics and physics.

NOTE: A number of these courses have prerequisites:

- Geol 211, 212, 304, 306, 318, 352, 354, 407, 453, 454
- A minimum of three credits from the following: Geol 314, 316, 410a, 410b, 415, 432, 455, 460

Combined Major — Geology/ Mathematics 110 credits

- Geol 211, 212, 304 or 305, 306, 318, 352, 407, 410a, 410b
- Math 124, 125, 126, 205, 224, 331, 341, 342; Math/Comp Sci 375, 475; Comp Sci 210
- Chem 121
- Physics 241, 242, 341, 351
- Additional credits under advisement from geology and mathematics to total 110

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a geology major who wishes to graduate "with honors" must include Geology 399.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see Graduate section of the catalog.

COURSES IN GEOLOGY

Courses numbered X37; X37; 300, 400, 417; 445 are described on page 38 of this catalog.

101 GENERAL GEOLOGY (4)

Introduction to geology for non-science majors; practical applications of geology; processes that have produced the earth and its landforms. Laboratory included. Geology majors and those having had geology in high school should take Geology 211.

102 PLATE TECTONICS AND CONTINENTAL DRIFT (4)

Prereq: Geol 101 or equivalent. Emergence of the theory of plate tectonics and its revolutionary impact on geologists' thinking about the history of the earth; an instance of scientific discovery. For non-science majors.

211 PHYSICAL GEOLOGY (5)

Prereq: high school or college chemistry; open to students with credit in Geol 101 only with permission of department. Origin, composition, and structure of earth. Identification of common rocks and minerals; the evolution of the surface features of continents, and interpretation of landforms from maps. Laboratory included.

212 HISTORICAL GEOLOGY (4)

Prereq: Geol 211 (or Geol 101 and Geol 300 [lab]) Evolution of the major features of the earth surface and of life, history of the ocean basins, continents and mountain belts related to the theory of plate tectonics; geologic history of North America and the Pacific Northwest.

214 APPLIED EARTH SCIENCE (3)

Prereq: Geol 101 or 211 The interaction between geological processes and human activities. Evaluation of individual homesites and municipal facilities with emphasis on geologic hazards such as earthquakes, landslides, floods and volcanic eruptions. Relevant aspects of landscape architecture, soil and water analysis, gardening, pollution control, environmental law and mineral commodities.

215 MINERALS ENERGY AND SOCIETY (4)

Prereq: Geol 101 or 211. Mineral and energy resources—*are they running out? Where do we find them and how do we look?* Resources and land use planning. Mining and the environment.

- 252 THE EARTH AND ITS WEATHER (4)
Prereq: Math 102 or 103. An introduction to meteorology from a global viewpoint. A study of the earth's atmosphere, including weather observation and forecasting. Measurement and description of atmospheric properties.
- 304 CRYSTALLOGRAPHY (1)
Prereq: Geol 211 and high school or college chemistry. Introduction to crystallography with emphasis on crystal study fundamental to mineral identification. Not open to those with credit in Geol 305. Can be taken concurrently with Geol 306.
- 305 CRYSTALLOGRAPHY AND CRYSTAL CHEMISTRY (3)
Prereq: Geol 211 and Chem 121 or equivalent. Introduction to crystallography, crystal chemistry and chemical principles fundamental to study of minerals.
- 306 MINERALOGY (5)
Prereq: Geol 304 or 305. Origin, occurrence, and classification of common minerals; physical and chemical properties of minerals used in identification.
- 310 GEOMORPHOLOGY (5)
Prereq: Geol 211. Origin and evolution of topographic features by surface processes; analysis of glaciers, streams, wind, waves, ground water, and other agents in development of landforms.
- 314 ENVIRONMENTAL AND ENGINEERING GEOLOGY (3)
Prereq: Geol 211. Application of geologic principles to problems of environmental science and engineering, including properties of earth materials, evaluation of geologic hazards, surface and groundwater hydrology, geochemistry and geomorphology. Intended for students with science background.
- 316 PRINCIPLES OF PALEONTOLOGY (5)
Prereq: Geol 212. Life on the earth as revealed by its inhabitants, past and present.
- 318 STRUCTURAL GEOLOGY (4)
Prereq: Geol 211, 212; Math 105 and Physics 241 recommended. Description, classification, and interpretation of earth structures; laboratory solution of structural problems by use of geologic maps.
- 340 GEOLOGICAL OCEANOGRAPHY (3)
Prereq: Geol 211 Chem 101 or 121 or equivalent. Nature and origin of major structural features within the ocean basins and distribution of recent marine sediments.
- 352 INTRODUCTION TO GEOPHYSICS (4)
Prereq: Geol 211, 318, Physics 241 or 131 and Math 124. Basic elements of geomagnetism, seismology, gravity, and heat flow with reference to the internal structure of the earth.
- 354 POTENTIAL FIELD METHODS IN GEOPHYSICS (3)
Prereq: Geol 352. Principles of gravity, magnetics, electrical and electromagnetic methods.
- 396a,b,c HONORS TUTORIALS (2-5)
- 399 SEMINAR IN GEOLOGICAL LITERATURE (1)
Prereq: 14 credits in geology. Geological reports, papers and discussion.
- 407 PETROLOGY (4)
Prereq: Geol 306. Origin, occurrence and classification of igneous, sedimentary and metamorphic rocks; hand specimen identification of rocks. Not open to those with credit in Geol 420.
- 410a FIELD THEORY (5)
Prereq: 13 credits in geology and permission of department. Geol 318 Methods of geological field investigations; use of field instruments. Offered August-September and spring quarter off campus. Concurrent enrollment in 410b recommended.
- 410b FIELD METHODS (5)
Prereq: concurrent or successive enrollment in 410a. Application of geological field trip methods to making geological maps and reports of specific areas; supervised investigation of one or more map areas. Offered August-September and spring quarter off campus.
- 412 FIELD GEOLOGY FOR TEACHERS (2-5)
Prereq: Geol 211. The geology of Northwest Washington as observed in the field. Summer only.
- 413 FLUVIAL GEOMORPHOLOGY (3)
Prereq: Geol 310 or permission of instructor. Stream processes, equilibrium in fluvial environments, channel adjustments, mechanics of sediment erosion and transport.
- 414 GEOLOGY OF WASHINGTON (3-5)
Prereq: Geol 101 or 211. The significant geologic features of Washington State: field studies.

Geology

- 415 STRATIGRAPHY AND SEDIMENTATION (4)
Prereq: Geol 212, 399 recommended. Analysis of the transportation, deposition and consolidation of sediments; classification of sedimentary rocks; determination of depositional facies; principles of stratigraphic nomenclature.
- 416 SEDIMENTARY PETROLOGY LAB (1)
Study of the origin of sedimentary particles and their lithification and diagenesis; techniques for field study of sedimentary rocks.
- 418 OPTICAL MINERALOGY (3)
Prereq: Geol 306. Optical phenomena as related to mineralogy and identification of minerals from optical properties with the use of the polarizing microscope.
- 420 IGNEOUS/METAMORPHIC PETROGRAPHY AND PETROLOGY (5)
Prereq: Geol 352 and 418. Origin, occurrence and classification of igneous, and metamorphic rocks; hand specimen and thin section identification of minerals.
- 423 IGNEOUS PETROGRAPHY AND PETROLOGY (5)
Prereq: Geol 420. Origin, occurrence and classification of igneous rocks and minerals and use of thin sections in identifying igneous minerals.
- 424 SEDIMENTARY PETROGRAPHY AND PETROLOGY (5)
Prereq: Geol 416 and 420 or equivalent. Origin, occurrence and classification of sedimentary rocks and minerals, and use of thin sections in identifying sedimentary minerals. Offered in alternate years.
- 425 METAMORPHIC PETROGRAPHY AND PETROLOGY (5)
Prereq: Geol 420. Origins, occurrence and classification of metamorphic rocks and minerals and use of thin sections in identifying metamorphic minerals.
- 430 MAP AND AERIAL PHOTOGRAPH INTERPRETATION (3)
Prereq: Geol 310. Identification, interpretation of geologic features using topographic maps and aerial photos. Offered in alternate years.
- 432 ECONOMIC GEOLOGY (4)
Prereq: Geol 306. The occurrence and origin of metallic and non-metallic ore deposits; geological and geochemical exploration techniques; prospect evaluation, sampling and mine mapping.
- 433 ECONOMIC GEOLOGY — ORE PETROLOGY LAB (3)
Prereq: Geol 418. Microscopic study of hydrothermally altered rocks, reflected light microscopic study of opaque ore minerals and fluid inclusion research. Concurrent enrollment in Geol 432 suggested.
- 440 GLACIAL GEOLOGY (4)
Prereq: Geol 310. Processes and phenomena of modern and ancient glaciers, effects of Pleistocene glaciations.
- 444 X-RAY DIFFRACTION (2)
Prereq: Geol 306, Chem 122, and permission of department. Basic analytical techniques with x-ray equipment.
- 450 ADVANCED STRUCTURAL GEOLOGY (3)
Prereq: Geol 318, 418. Analysis of small- and large-scale structures in rocks, including those resulting from multiple deformation.
- 453 GEOTECTONICS (4)
Prereq: Geol 352. Crust-mantle interactions, isostasy, continental drift, sea floor spreading, theories of mountain building.
- 454 SEISMIC METHODS IN GEOPHYSICS (3)
Prereq: Geol 352, Math 126, Comp Sci 110. Principles of applied seismology, including refraction and reflection; elements of data-processing.
- 455 PALEOMAGNETISM AND ROCK MAGNETISM (5)
Prereq: Geol 352. Origin and interpretation of natural magnetism of rocks; origin of geomagnetic field; application to problems in petrology, structural geology and geodynamics.
- 460 GEOLOGIC PHASE EQUILIBRIA (3)
Prereq: Math 124, Chem 122, 123, Geol 306. Application of classical thermodynamics to interpretation of geologic phase equilibria.
- 461 ANALYTICAL GEOCHEMISTRY (2)
Prereq: Geol 306, Chem 122, 123. Techniques of chemical analysis of geologic materials; atomic absorption spectrophotometry, x-ray fluorescence spectrophotometry, and gravimetric, volumetric, and colorimetric methods.
- 472 HYDROLOGY (4)
Prereq: Geol 211, Math 105. calculus desirable. Study of the hydrologic cycle, with emphasis on geologic and engineering aspects.

473 GROUNDWATER HYDROLOGY (4)
 Prereq: Geol 472, calculus. Principles of hydrogeology, with emphasis on ground-water resources.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 507 COASTAL GEOLOGY (4)
 Prereq: Geol 310 or 340. Nearshore oceanography, coastal processes, coastal engineering, and research methods in the field
- 510 FIELD PROBLEM (2-5)
 Field mapping problem and report in geology.
- 511 ADVANCED STUDIES IN PHYSICAL GEOLOGY (3)
 Prereq: Geol 420 or permission of department. Independent or class study of recent advances in physical geology.
- 512 ADVANCED STUDIES IN HISTORICAL GEOLOGY (3)
 Prereq: Geol 316 or permission of instructor. Independent or class study of recent advances in historical geology.
- 514 FLUVIAL GEOMORPHOLOGY (3)
 Prereq: Geol 310, calculus recommended. Fluvial hydraulics. Mechanics of sediment erosion and transport. Channel adjustments to water and sediment discharge. Offered on alternate years.
- 516 ADVANCED STUDIES IN BIOSTRATIGRAPHY AND PALEONTOLOGY (3)
 Prereq: Geol 316 or permission of instructor. Independent or class study of recent advances in biostratigraphy, paleontology and micropaleontology
- 518 SEDIMENTATION AND TECTONICS (3)
 Prereq: Geol 415. Analysis of the depositional framework, plate tectonic setting and tectonic evolution of sedimentary basins, both marine and non-marine, including tectonic and environmental controls on facies relationships.
- 519 GEOCHEMISTRY OF HYDROTHERMAL ORE DEPOSITS (4)
 Prereq: Geol 420, 432. Chem 123. Investigation of composition, sources and transportation and deposition mechanisms of hydrothermal ore deposits.

523 IGNEOUS PETROLOGY AND PETROGRAPHY (5)
 Prereq: Geol 420 or equivalent. Advanced classification of igneous rocks and minerals. Petrogenesis of volcanic and plutonic suites and their relation to the plate tectonic model.

524 SEDIMENTARY PETROLOGY AND PETROGRAPHY (5)
 Prereq: Geol 416, 420 or equivalent. Description, classification and interpretation of sedimentary rocks, including provenance, depositional history and diagenesis. Advanced lab stresses work with the petrographic microscope.

525 METAMORPHIC PETROLOGY AND PETROGRAPHY (5)
 Prereq: Geol 420 or equivalent. Advanced course in metamorphic petrology. Subject matter includes graphical and mathematical analysis of phase relations, field and laboratory study of metamorphic structures, and microscope study of metamorphic minerals and textures

526 IGNEOUS AND METAMORPHIC PETROLOGY AND GEOCHEMISTRY (5)
 Prereq: Geol 423 or 425 or equivalent. Petrogenesis of igneous and metamorphic rocks and minerals.

528 DEPOSITIONAL ENVIRONMENTS (3)
 Prereq: Geol 415 or equivalent. Depositional framework of marine and continental sedimentary basins. Study of the means by which depositional environments of sedimentary rocks are determined.

530 MAP AND AERIAL PHOTOGRAPH INTERPRETATION (3)
 Prereq: Geol 310 or equivalent. Use of air photos and topographic maps in interpretation of geologic features.

533 ECONOMIC GEOLOGY — ORE PETROLOGY LAB (3)
 Prereq: Geol 418. Advanced microscopic study of hydrothermally altered rocks, reflected light microscopic study of opaque ore minerals and fluid inclusion research.

536 PALEOECOLOGY (4)
 Prereq: Geol 316 or permission of instructor. Independent or class study in interpretation of fossil organisms from skeletal morphology and associated features; reconstruction of marine ecosystem relations from the study of assemblages of fossils.

540 GLACIAL GEOLOGY (4)
 Prereq: permission of instructor. Physics of glacial movement; processes of glacial erosion and deposition; effects of Pleistocene climatic changes.

Geology

544 X-RAY DIFFRACTION AND CRYSTALLOGRAPHY (3)

Prereq: permission of instructor. Powder diffraction methods using the diffractometer and powder camera; identification of minerals and indexing of diffraction data.

550 STRUCTURAL ANALYSIS OF DEFORMED ROCKS (4)

Prereq: permission of instructor. Analysis of geologic structures at all scales. Structural regimes and plate tectonics.

552a,b ADVANCED STUDIES IN GEOPHYSICS (4 ea)

Prereq: Geol 453 or 454 or permission of instructor. Advanced topics in geophysics.

553 GEOTECTONICS (4)

Prereq: permission of instructor. Mechanical behavior of earth materials; structure of the interior of the earth; theories of mountain building; plate tectonics.

554 SEISMIC METHODS IN GEOPHYSICS (3)

Prereq: permission of instructor. Principles of applied seismology, including refraction and reflection; elements of data-processing.

555 PALEOMAGNETISM AND ROCK MAGNETISM (5)

Prereq: permission of instructor. Origin and interpretation of natural magnetism of rocks; origin of geomagnetic field; advanced application to problems of petrology, structural geology and geodynamics.

560 GEOLOGIC PHASE EQUILIBRIA (3)

Prereq: permission of instructor. Analysis of geologic phase equilibria in terms of classical thermodynamics. Review of current research literature and seminar presentations.

561 ANALYTICAL GEOCHEMISTRY (2)

Prereq: permission of instructor. Advanced techniques of chemical analysis of geologic materials.

572 HYDROLOGY (4)

Prereq: Geol 211, Math 105, one year of calculus. Study of components of the hydrologic cycle, including properties of water, evaporation, evapotranspiration, water budgets, infiltration, runoff processes, flood prediction, channel hydraulics and sediment transport.

573 GROUNDWATER HYDROLOGY (4)

Prereq: Geol 572, one year of calculus. Occurrence, movement and characteristics of groundwater; basic principles of flow in porous media; hydraulics of wells and earth dams; groundwater exploration, development, quality and management. Emphasis will be on practical applications of geology and basic principles of groundwater hydraulics to water resource problems.

580 SEMINAR IN FIELD GEOLOGY (2)

Prereq: Geol 410a,b or equivalent field experience. Weekend field excursions to introduce incoming graduate students to local areas of research interest.

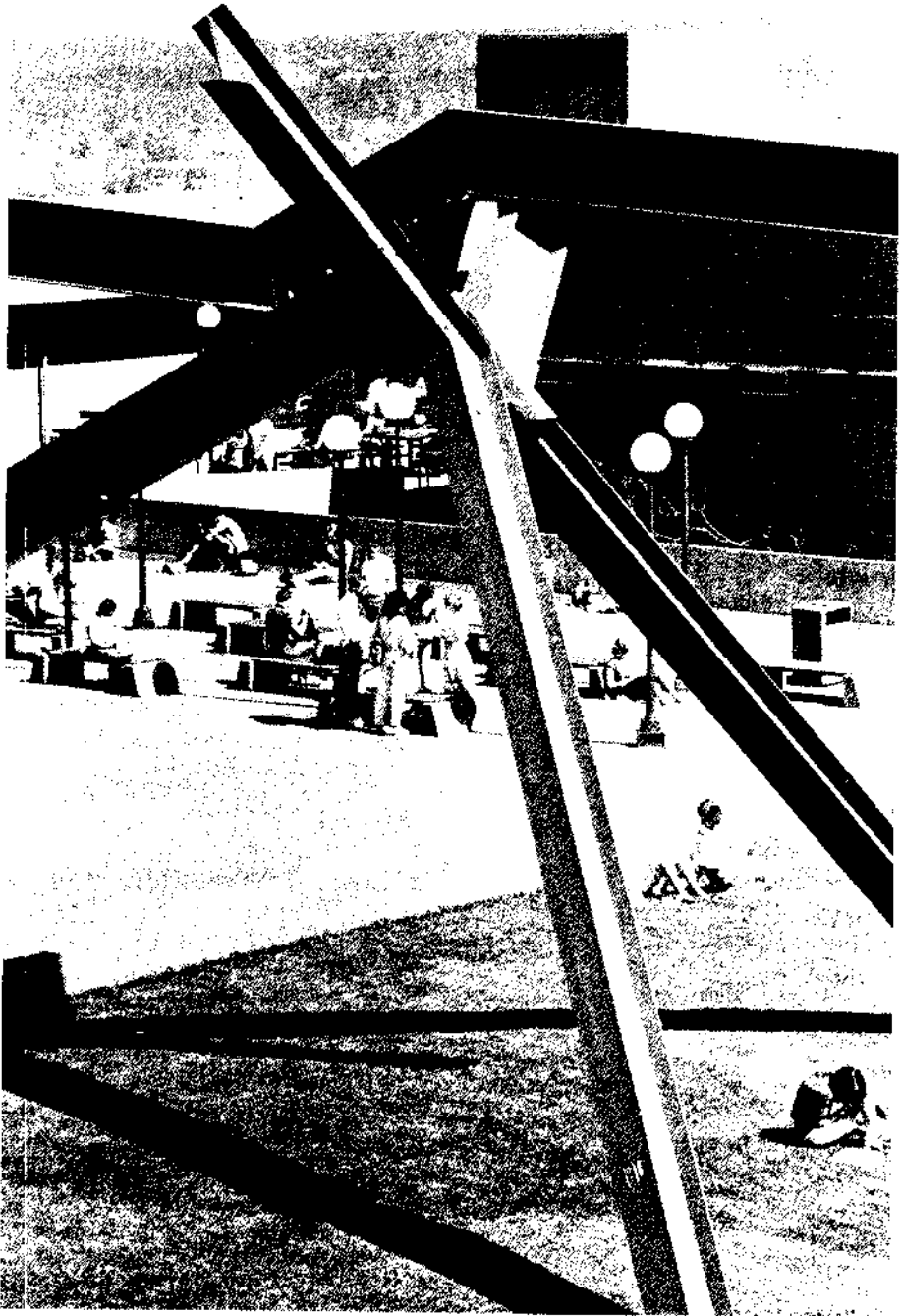
585 SEMINAR IN CONTEMPORARY GEOLOGY PROBLEMS (1)

Prereq: graduate standing in department. May register for a maximum of three (3) credits. Presentation of contemporary subjects in geology. S/U grading.

690 THESIS (2-12)

Thesis research.





History

Without a knowledge of the past, we are, as one writer has phrased it, "like victims of collective amnesia groping in the dark for our identity." History as a discipline is rooted in that fundamental human urge, curiosity. It confronts and weighs the relative significance of chance, inevitability and choice in the passage of time. History is humanistic in its emphasis on the influence of ideas and values, its capacity to both instruct and entertain, and as interpretive literature.

In its investigation of social processes, groups and institutions, and the examination of human motivation, it is a social science. It acts as a bridge among disciplines, borrowing from all and contributing a sense of context and sequence to the perception of actions and individuals. The American historian, Carl Becker, wrote: "The value of history is, indeed, not scientific but moral: by liberalizing the mind, by deepening the sympathies, by fortifying the will, it enables us to control, not society, but ourselves — a much more important thing; it prepares us to live more humanely in the present and to meet rather than to foretell the future."

HISTORY FACULTY

- ROLAND L. DE LORME (1966) Chair.
Professor. AB, University of Puget Sound; MA, University of Pennsylvania; PhD, University of Colorado.
- DON D. EKLUND (1968) Associate Professor.
BA, University of New Mexico; MA, Colorado State College; PhD, University of Colorado.
- SUSAN AMANDA EURICH (1986) Assistant Professor.
BA, Portland State University; MA, Emory University.
- LEONARD M. HELFGOTT (1970) Associate Professor.
BA, MA, PhD, University of Maryland.
- HARLEY E. HILLER (1957) Professor.
BA, Westmar College; MA, PhD, University of Minnesota.

- JAMES H. HITCHMAN (1966) Professor.
BA, Willamette University; MA, PhD, University of California, Berkeley.
- THOMAS C. R. HORN (1964) Assistant Professor.
BA, University of Pittsburgh; MA, PhD, University of California, Berkeley.
- HARRY D. JACKSON (1967) Associate Professor.
BEEd, Wisconsin State University, Whitewater; MA, PhD, The University of Iowa.
- EDWARD H. KAPLAN (1968) Associate Professor.
BS, Georgetown University; MA, PhD, The University of Iowa.
- GEORGE E. MARIZ (1970) Professor.
BA, MA, PhD, University of Missouri.
- STEPHANIE L. MOOERS (1985) Assistant Professor.
BA, San Diego State University; MA, PhD, University of California, Santa Barbara.
- AUGUST RADKE (1953) Professor.
BA, MA, PhD, University of Washington.
- JAMES B. RHOADS (1983) Professor.
BA, MA, University of California, Berkeley; PhD, The American University.
- HARRY R. RITTER (1969) Professor.
BA, University of Arizona; MA, PhD, University of Virginia.
- PAUL L. ROLEY (1967) Associate Professor.
BA, Illinois College; MA, Northwestern University; PhD, University of Illinois.
- HENRY G. SCHWARZ (1969) Professor of Political Science and History.
BA, MA, PhD, University of Wisconsin.
- LESLIE J. THOMAS (1962) Associate Professor.
BA, St. Olaf College; MS, PhD, University of Wisconsin.
- LOUIS W. TRUSCHEL (1970) Associate Professor.
BA, Pacific Lutheran University; MA, PhD, Northwestern University.

BACHELOR OF ARTS

At least one-half the total credits taken in fulfillment of the following programs must be taken in upper-division courses.

Major — History 60 credits

For this program history courses are grouped into the following fields:

- United States
- Europe
- East and South Asia
- Africa and Middle East
- Western Hemisphere (outside U.S.)

Credits to be distributed as follows:

- Four courses in one of the above fields
- Three courses in a second field
- Two courses in a third field
- History 499 (3 credits)
- Electives under advisement

The department recommends that majors take the maximum permissible number of history courses in the General University Requirements program. Up to 12 credits of General University Requirement history courses may be applied toward a major or minor in history. (See General University Requirements in the College of Arts and Sciences section.)

It is strongly recommended that majors who elect a four-course history concentration in a field where languages other than English predominate take enough language study to become proficient in an appropriate foreign language. Students planning on graduate study in history are cautioned that many graduate schools require foreign language proficiency for admission.

A minimum grade point average in history of 2.5 is required for graduation.

Minor — History 25 credits

For purposes of this program history courses are grouped into the following fields:

- United States
- Europe
- East and South Asia
- Africa and Middle East
- Western Hemisphere (outside U.S.)

Credits should be distributed as follows:

- Three courses in one of the above fields
- Two courses in a second field
- Electives under advisement

A minimum grade point average in history of 2.5 is required for graduation.

Minor in Foreign Cultures

25 credits

The History Department offers a minor in foreign cultures for foreign language majors and other interested students. Credits to be distributed as follows:

- Two background courses in modern European history (425, 426, 427, 428, 429)
- Two courses in one of the following areas: France and the French-speaking world (277, 386, 441, 442); Germany (430, 431); Latin America (271, 273, 473); Russia (433, 434)
- Electives under advisement

Area Studies Minor

Minor programs are available in the following fields:

- Canadian-American Studies
- East Asian Studies
- Latin American Studies

Courses taken for credit in these programs may not be counted toward the major. See the College of Arts and Sciences Interdisciplinary Program section for details.

BACHELOR OF ARTS IN EDUCATION

The department recommends that students take its offerings in the General University Requirements program, up to 12 credits of which may be applied toward a major or minor in history. (See General University Requirements.)

At least one-half the total credits taken in fulfillment of the following programs must be in upper-division courses.

A minimum grade point average in history of 2.50 is required for graduation and recommendation for teaching endorsement.

History

Major — History — Junior and Senior High School 60 credits

History credits should be distributed under advisement as follows:

- Three courses in United States history
- Two courses in European history
- Two courses from one of the following three areas:
 - East and South Asia; or
 - Africa and Middle East; or
 - Western Hemisphere (outside U.S.)
- Hist 391, 499
- Soc St Ed 426
- Electives under advisement

NOTE: Students must also complete the specific program requirements for social studies education, including the social studies minor, as outlined in the College of Arts and Sciences Interdisciplinary Program section.

Completion of this major/minor program leads to a teaching endorsement in history and social studies at the secondary level.

Major — History — Elementary 45 credits

- Two courses in United States history
- Two courses in European history
- Two courses from one of the following areas:
 - East and South Asia; or Africa and Middle East; or Western Hemisphere (outside U.S.)
- Hist 391
- Electives under advisement

A minimum grade point average in history of 2.50 is required for graduation and recommendation for teaching endorsement. At least 15 of the credits must be in upper-division.

Minor — History — Elementary 25 credits

- Hist 103, 104
- Electives under advisement

GRADUATE STUDY

For concentrations in history leading to the Master of Arts degree and for information concerning the archival training program, see Graduate section of catalog.

COURSES IN HISTORY

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 103, 104 INTRODUCTION TO AMERICAN CIVILIZATION (5 ea)
- 103 American History to 1865
From the European background to the end of the Civil War
- 104 American History Since 1865
From the end of the Civil War to the present.
- 111, 112, 113 INTRODUCTION TO WESTERN CIVILIZATION (5 ea)
- Course should not duplicate Libri 121, 122, 123. Need not be taken in sequence. Human development in the Western world; emphasis upon ideas, institutions, forces and movements shaping contemporary life.
- 111 Prehistory to 476. Survey of the political, social and cultural history of occidental civilization from prehistory to the collapse of the Roman empire.
- 112 476-1713. Survey of the cultural, political, social and economic history of Europe from the early Middle Ages to the signing of the Treaty of Utrecht.
- 113 1713-Present. Survey of the political, social, economic and diplomatic history of Europe from the opening of the Enlightenment to the present.
- 233 SURVEY OF MODERN RUSSIAN HISTORY AND CULTURE (5)
- Elements of Russian history and culture from the time of Peter the Great (1689) to the present, with particular emphasis on the autocratic and revolutionary traditions in Russian history.
- 261 BLACK HISTORY IN THE AMERICAS (5)
- The cultures and achievements of blacks in the Americas.
- 267 CHRISTIANITY IN HISTORY (5)
- A survey of Christian institutions and doctrines from their inception to the present, including a study of the intellectual, social and economic forces which have influenced their development.

- 271 **INTRODUCTION TO LATIN AMERICAN CIVILIZATION (5)**
A survey of various themes such as Hispanidad, Indianismo, the Church, the peasant, urbanism, the army, which together make up the Latin American experience.
- 273 **LATIN AMERICA (5)**
From the period of early Spanish and Portuguese colonization to the present.
- 275 **THE INDIAN IN AMERICAN HISTORY (5)**
Prereq: sophomore status. Events and persons critical to history of North American Indians; review of interpretations of Indian cultures and history.
- 277 **CANADA (5)**
Canadian history from the period of French colonization to the present.
- 280 **INTRODUCTION TO EAST ASIAN CIVILIZATION (5)**
The origins and evolution of the political, economic and social aspects of East Asian civilization to the present.
- 281 **INTRODUCTION TO EAST ASIAN CULTURES (5)**
The origins and evolution of the religious-philosophical, intellectual and literary aspects of the cultures of East Asia to the present.
- 285 **INTRODUCTION TO AFRICAN CIVILIZATIONS (5)**
An introduction to the history of Africa, with emphasis on the development of African societies and civilizations from antiquity to modern times.
- 286 **MODERN AFRICA (5)**
History of Africa during and after colonial rule. Emphasis is on African reactions to European rule, nationalist movements and the problems of independence.
- 287 **INTRODUCTION TO ISLAMIC CIVILIZATION (5)**
A thematic approach to religious and cultural aspects of Middle Eastern society; the development of Islam as a body of religious thought and practice; and major cultural movements in the Middle East.
- 315 **MEDIEVAL CIVILIZATION (5)**
Prereq: Hist 111, Lbrl 121 or consent of instructor. A history of medieval society, culture and politics from the invasion of Europe by the barbarians to the close of the Hundred Years War.
- 321 **THE SAMURAI: WARRIOR GOVERNMENT, SOCIETY AND CULTURE (4)**
Prereq: junior status. The decline of the aristocratic court and the rise of a warrior class in medieval Japan; Samurai values and religious beliefs; the evolution of legal and economic practices.
- 336 **COMPARATIVE IMPERIALISMS: SELECT CASE STUDIES (5)**
Prereq: sophomore status. An examination of several imperial powers, their controls and methods, their attitudes to race questions, their influence on the colonial peoples and economies.
- 347 **EUROPEAN INTELLECTUAL HISTORY I (5)**
Prereq: Hist 111, 112 or 113, or Lbrl 121, 122 or 123 or equivalent. A study of the evolution of Western thought from its Greek and Hebrew origins to the eighteenth century, with special emphasis on the period since the Renaissance.
- 348 **EUROPEAN INTELLECTUAL HISTORY II (5)**
Prereq: Hist 111, 112 or 113 or Lbrl 121, 122 or 123. A study of the evolution of Western thought since the eighteenth century.
- 360 **AMERICAN ECONOMIC HISTORY (5)**
Prereq: sophomore status. American economic development from colonial times to the present, with particular emphasis upon later periods.
- 361 **BLACK HISTORY IN THE AMERICAS: THE SLAVERY ERA (5)**
Prereq: an introductory level course to African, American or Latin American history. Africans in bondage in the Americas; African heritage of blacks in the Americas, slavery in Africa and the Americas, with emphasis on the United States, the Caribbean and Brazil.
- 363 **AMERICAN CONSTITUTIONAL HISTORY (5)**
Prereq: sophomore status. The constitutional development of the United States from the Articles of Confederation to the present, emphasizing the Supreme Court's constitutional interpretation via judicial review in the context of partisan political debate.
- 364 **FILM AS HISTORY (4)**
Prereq: any introductory American or European history course or Lbrl 121, 122, 123. Readings and related films on selected historical topics; subject and course content varies with instructor. Repeatable for credit once.

History

- 365 GREAT PERSONALITIES IN AMERICAN HISTORY (5)
Prereq: sophomore status. Biographical approach based on evaluation of careers of typical leaders in public affairs, the arts and ideas
- 366 AMERICAN SOCIETY AND THOUGHT: ORIGINS 1620-1800 (5)
Prereq: Hist 103 or equivalent. Social and intellectual development during the colonial and early national periods
- 367 AMERICAN SOCIETY AND THOUGHT: 1800-1900 (5)
Prereq: Hist 103, 104 or equivalent. Transcendentalism, Romanticism, Slavery, the Utopias; intellectual impact of the Civil War. Social Darwinism as trends in American history.
- 370 GODS AND DEMIGODS FROM YAO TO MAO: HISTORY OF CHINESE STATECRAFT (5)
Prereq: Hist 280 or equivalent introductory course. Chinese politics and foreign relations from earliest times to the present.
- 371 THE CHINESE ECONOMY: FROM STONE AGE TO MAO'S AGE (5)
Prereq: Hist 280 or equivalent. Chinese economic and social history from earliest times to the present.
- 372 SAGES, SCRIBES AND SCRIBBLERS: CHINESE INTELLECTUAL HISTORY TO THE PRESENT (5)
Prereq: Hist 280 or 281 or Lbrl 272 or 273 or 274 or equivalent. The religious, intellectual and literary life of China from earliest times to the present.
- 376 CHINGGIS KHAN AND THE MONGOL WORLD EMPIRE (3)
Prereq: sophomore status. The evolution of Steppe confederations from prehistoric times to and including the Mongol world empire.
- 377 MONGOLIA SINCE THE WORLD EMPIRE (3)
Prereq: sophomore status. Hist 376 recommended. The dissolution of the Mongol world empire, the division and occupation of Mongolia and twentieth-century events.
- 385 PRE-COLONIAL AFRICA (5)
Prereq: sophomore status. Development of African societies and states up to the European partition.
- 386 SOUTHERN AFRICA (5)
Prereq: sophomore status. Development of African and European societies in South Africa and neighboring states, their relations and conflicts.
- 387 HISTORY OF THE JEVS (5)
Prereq: one of the following -- Hist 111, 112, 113, 287, or Lbrl 121, 122, 123, or any upper-division European or Middle Eastern history course. An analysis of Jewish history and culture in medieval and modern Europe and in the classical and modern Middle East culminating in the development of the Jewish state in the Middle East.
- 388 EAST AFRICA (3)
Prereq: sophomore status. Imperialism, African nationalism and recent conflicts in Kenya, Tanzania, Uganda, Ethiopia and the Horn.
- 390 TOPICS IN HISTORY (3-5)
Prereq: junior status. Specialized topics dealing with history as a social science discipline. The subject of each individual course and its prerequisite will be announced in the class schedule. Repeatable to 10 credits.
- 391 HISTORY OF THE PACIFIC NORTHWEST (3)
Prereq: sophomore status. General history of the Pacific Northwest, state development, samples of local history, and state and local government. Required for certification of elementary teachers and secondary school social studies teachers.
- 394 GENEALOGY AND FAMILY HISTORY (3)
Prereq: junior status. A discussion of the methods and research aids in composing a genealogy and family history. Also discussed will be the importance of this research to prosopographical and historical studies in general.
- 407 WAR OF THE 20th CENTURY (5)
Prereq: junior status. A survey of warfare including strategy, tactics, men, weaponry and social impact, with emphasis upon the 20th century.
- 410 ANCIENT NEAR EAST (5)
Prereq: Hist 111 or Lbrl 121. Examines the development of civilization from 5,000 to 500 BC in the Near East and Central Mediterranean regions with close attention to the Egyptians, Babylonians, Hittites, Mycenaean, Hebrews and Assyrians.
- 411 ANCIENT GREECE AND THE HELLENISTIC WORLD (5)
Prereq: Hist 111 or Lbrl 121 or consent of instructor. The Greek world from King Minos of Crete to Alexander the Great.

- 413 **A HISTORY OF ROME AND THE ROMAN EMPIRE (5)**
Prereq: Hist 111, Lbrl 121 or consent of instructor. The political and cultural transformation of Rome from village to empire, and its fragmentation in the 5th and 6th centuries.
- 414 **A SOCIAL AND ECONOMIC HISTORY OF GREECE AND ROME (4)**
Prereq: Hist 111, Lbrl 121 or consent of instructor. A study of ancient urban and rural economies and the roles played in each by diverse social groups, including women and slaves.
- 415 **THE BYZANTINE EMPIRE (5)**
Prereq: Hist 111 or 112, or Lbrl 121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).
- 419 **CONSTITUTIONAL, LEGAL AND ADMINISTRATIVE HISTORY OF ENGLAND (3)**
Prereq: junior status. A study of the institutions, social and political forces, and ideas which contributed to the development of the British Constitution, especially during the formative period before the Glorious Revolution.
- 420 **THE RENAISSANCE AND THE REFORMATION (5)**
Prereq: Hist 112 or Lbrl 121; open to sophomores with permission of instructor. Transition from the Medieval to the Modern: Western Europe from the eve of the Hundred Years War to the Treaty of Westphalia (1337-1648).
- 425 **MODERN EUROPE: 1648-1789 (5)**
Prereq: junior status. Development of the modern state system and the conflict between monarchs and the growing middle class.
- 426 **MODERN EUROPE 1789-1850 (5)**
Prereq: junior status. Political, economic, social, and diplomatic developments between the French Revolution and mid-nineteenth century.
- 427 **MODERN EUROPE: 1850-1914 (5)**
Prereq: junior status. From the age of "Realpolitik" to First World War.
- 428 **MODERN EUROPE: 1914-1945 (5)**
Prereq: junior status. The First World War and the results of that conflict, attempts at world organization, the states of Europe between the wars, the Second World War.
- 429 **EUROPE SINCE 1945 (5)**
Prereq: junior status. Major political, economic and social developments: origin and operation of the cold war and attempts of Europe to adjust to the changing status of the continent.
- 430 **GERMANY BEFORE 1815 (5)**
Prereq: junior status. German development from the late Middle Ages to the Napoleonic era.
- 431 **GERMANY SINCE 1815 (5)**
Prereq: junior status. Since the Congress of Vienna: national unification, the German state system; role in international affairs.
- 433 **ROOTS OF REVOLUTION: RUSSIA, 1801-1917 (3)**
Prereq: junior status. A history of Russia in the 19th century with particular emphasis upon social and intellectual trends and upon the rise of the revolutionary movement.
- 434 **THE RUSSIAN REVOLUTIONS AND THE SOVIET REGIME (5)**
Prereq: junior status. An examination of the Bolshevik experience, with particular emphasis upon ideology and party history. Course addresses itself particularly to the question of why the revolution went wrong.
- 435 **THE HABSBURG MONARCHY: 1815-1918 (5)**
Prereq: Hist 113 or equivalent. A political and sociological analysis of the decline and collapse of a great empire. Offered in alternate years.
- 438 **ENGLAND: 1485-1688 (5)**
Prereq: Hist 112 or Lbrl 122 or equivalent. Political, social, economic and constitutional history of England from the end of the Wars of the Roses to the Glorious Revolution.
- 439 **ENGLAND: 1688-1832 (5)**
Prereq: Hist 113 or Lbrl 122 or equivalent. Political, social, economic and diplomatic history of England from the Glorious Revolution to the Reform Bill of 1832; constitutional developments of the period.
- 440 **ENGLAND: 1832 TO THE PRESENT (5)**
Prereq: Hist 113, Lbrl 123 or equivalent. Political, social, economic and diplomatic history of England from the Reform Bill of 1832 to today; development of parliamentary institutions; impact of the World Wars of the twentieth century on British politics, economics and society.

History

- 441 **FRANCE: 1643-1815 (5)**
Prereq: Hist 112 or 113 or Lbrl 122 or equivalent. Political, social and economic development from Louis XIV through Napoleon.
- 442 **FRANCE SINCE 1815 (5)**
Prereq: Hist 113, Lbrl 123 or equivalent. Political, social and economic development of France since Napoleon.
- 448 **EAST CENTRAL EUROPE TO 1919 (5)**
Prereq: junior status. The political, social and intellectual history of Poland, the Danube Basin and the Balkan Peninsula to the end of World War I.
- 449 **TWENTIETH CENTURY EASTERN EUROPE (5)**
Prereq: junior status. The place of the East European nations — Poland, Czechoslovakia, Hungary, Yugoslavia, Romania, Bulgaria, Albania — in European and world politics. Offered in alternate years.
- 450 **AMERICAN COLONIAL HISTORY TO 1776 (5)**
Prereq: junior status. The settlement of the English colonies in America and their political, economic, religious and social development to the mid-eighteenth century; colonial reaction to imperial policies in the context of internal partisan politics from 1763 to the Declaration of Independence.
- 451 **THE ERA OF THE AMERICAN REVOLUTION, 1763-1783 (5)**
Prereq: junior status. Colonial reaction to British imperial policies and the political, economic, military and diplomatic problems of the Revolutionary Era in the context of internal partisan politics.
- 452 **THE EARLY NATIONAL PERIOD: HAMILTONIANS VS. JEFFERSONIANS (5)**
Prereq: junior status. The problems of the Confederation government, the debates and compromises in the Philadelphia Convention of 1787, and the origin of the two-party system as a result of the partisan political debates over constitutional interpretations, economic policies, and foreign policy to 1812.
- 453 **THE MIDDLE PERIOD: 1812-1840 (5)**
Prereq: junior status. The struggle between republican and democratic forces in a milieu of social, technological, economic, international and religious flux.
- 454 **THE CIVIL WAR AND RECONSTRUCTION (5)**
Prereq: junior status. Development of rival nationalisms; problems of war in North and South; efforts toward reunion; new problems in 1877.
- 458 **THE UNITED STATES: 1900-1941 (5)**
Prereq: junior status. Political, social and economic trends from the beginning of World War I to World War II.
- 459 **THE UNITED STATES SINCE 1941 (5)**
Prereq: junior status. Internal and international consequences of the rise of the United States as a world power since World War II.
- 461 **DIPLOMATIC HISTORY OF THE UNITED STATES TO 1945 (5)**
Prereq: junior status. Relationship of the United States to world politics from colonial times to 1945.
- 462 **DIPLOMATIC HISTORY OF THE U.S. SINCE 1945 (4)**
Prereq: junior status. A historical analysis of the United States in its relations to other powers in the post World War II world.
- 468 **U.S. AND REGIONAL MARITIME HISTORY (3)**
Prereq: junior status. Naval and maritime development of the nation and Pacific Northwest.
- 473 **SELECTED MAJOR LATIN AMERICAN STATES IN THE 20th CENTURY (5)**
Prereq: junior status. A contemporary history of major states of current interest.
- 474 **HISTORY OF MEXICO (5)**
Prereq: junior status. Mexican history from pre-conquest Indian cultures to the present.
- 477 **CANADA SINCE 1945 (4)**
Prereq: junior status. Canadian internal and external developments since 1945.
- 478 **THE REGIONS OF CANADA (5)**
Prereq: junior status. A study of the unique characteristics and historical development of the regions of Canada. Atlantic Canada, Central Canada, the West, the North.
- 480 **ANCIENT AND EARLY IMPERIAL CHINA (5)**
The evolution of early civilization and the first stage of high civilization in China through the Han dynasty.
- 481 **IMPERIAL CHINA FROM THE FALL OF HAN TO MID CH'ING (5)**
Political, socio-economic and intellectual trends during the eras of highest development of the imperial system.

482 CHINA FROM LATE CH'ING TO THE PRESENT (5)

Dissolution of the imperial system and experimentation with new political ideas and institutions; social and intellectual developments to the present

483 ANCIENT JAPAN (5)

Prereq: one of the following or equivalent: Hist 280, 281, East Asian 301, 302, 303, Lbrl 275. Origins of the Japanese people, language and culture; the rise of the aristocratic age: court life, aesthetics, literary values, religious beliefs; the masterpieces of Heian literature, the decline of the aristocracy and the rise of the warrior class.

484 EARLY MODERN JAPAN (5)

Prereq: one of the following or equivalent: Hist 280, 281, East Asian 301, 302, 303, Lbrl 275. Breakdown of central authority, growth of feudalism; wars of the fifteenth century, the path of reunification; the Tokugawa settlement and the politics of the *baku-han* system. Tokugawa social and economic change: commercialization, urbanization, bureaucratization, Tokugawa cultural and artistic expression, philosophy and intellectual life.

485 MODERN JAPAN (5)

Prereq: one of the following or equivalent: Hist 280, 281, East Asian 301, 302, 303, Lbrl 275. Japan and the West; the decline of the Tokugawa order; the Meiji Restoration and modernization; Japan's industrial revolution and the modern state, the rise of democracy and imperialism; Japan in the new world order: the rise of militarism and the coming of the Pacific War. War, occupation and post-war Japan.

487a.b THE MIDDLE EAST (5 ea)

Prereq: junior status.

487a The Traditional Middle East
From the 6th Century to 1800

487b Middle East, 1800 to the present

491 SURVEY OF COMMUNITY HISTORY (2)

Prereq: Hist 391. A survey of local history, with emphasis upon the interrelated local, regional, and national factors involved in the development of selected communities of the Pacific Northwest.

494 HISTORY OF AMERICAN HISTORIOGRAPHY (4)

Prereq: open only to upperclassmen or fifth-year students who are majors or minors in history, with permission of the instructor. A survey of the major historians of the American past and their varying styles of writing and differing patterns of interpretation, reflecting changing climates of opinion.

495 PHILOSOPHICAL PROBLEMS OF HISTORY (5)

Prereq: open only to juniors and seniors. Selected readings in European philosophies of history and their contributions to the development of the modern historical consciousness as reflected in modern historical writings and analyses

499 HISTORICAL RESEARCH (3)

Prereq: one upper-division course in field of 499 topic. Research and writing of a formal paper on a topic developed by the student. The student will normally work under an instructor within the field of his choice.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

NOTE: Timetable of classes will designate a reading seminar with "r" and a writing seminar with "w."

501 HISTORIOGRAPHY I (4)

Selected historiographical studies — Europe

502 HISTORIOGRAPHY II (4)

Selected historiographical studies — United States.

512 THE ANCIENT WORLD (4)

Prereq: One upper-level course in ancient history or permission of instructor.

515 MEDIEVAL HISTORY (4)

Prereq: Hist 416a or b, or special permission of department. Selected studies from the Fall of Rome to the Renaissance.

520 RENAISSANCE AND REFORMATION (4)

Readings in the history of Europe from 1337-1648.

533 RUSSIAN HISTORY (4)

Prereq: Hist 434 or equivalent, or permission of the department

536 BRITISH HISTORY (4)

Prereq: one undergraduate course in English history or permission of the department

540 MODERN EUROPEAN HISTORY (4)

Prereq: Hist 428 or equivalent or permission of the department.

History

- 550 COLONIAL AMERICAN HISTORY (4)
Prereq: Hist 451 or equivalent or permission of the department.
- 554 CIVIL WAR AND RECONSTRUCTION (4)
- 558 20th CENTURY AMERICAN HISTORY (4)
- 561 AMERICAN DIPLOMATIC HISTORY (4)
- 563 AMERICAN CONSTITUTIONAL HISTORY (4)
Prereq: Hist 363 or equivalent, or permission of the department.
- 566 AMERICAN SOCIETY AND THOUGHT (4)
- 571 CANADA (4)
Prereq: permission of the department.
- 573 LATIN AMERICA (4)
Prereq: permission of the department.
- 581 IMPERIAL CHINA (4)
Selected readings from the period.
- 582 REPUBLICAN AND COMMUNIST CHINA (4)
Prereq: Hist 482 or equivalent or permission from the department. Readings in the history of China from 1912 to the present.
- 583 ANCIENT JAPAN (4)
Prereq: graduate standing in history and Hist 483. Readings in Japanese historical writings up to the Meiji Restoration.
- 585 MODERN JAPAN (4)
Prereq: graduate standing in history and Hist 484. Readings in Japanese historical writings from the Meiji Restoration to the present.



- 587 SEMINAR IN MIDDLE EASTERN HISTORY (4)
- 588 AFRICA (4)
Prereq: undergraduate preparation in African history, or permission of instructor.
- 591 SEMINAR IN AMERICAN WESTERN AND REGIONAL HISTORY (4)
- 592a,b,c SEMINAR IN HISTORIC PRESERVATION (4,4,10)
Prereq: 592a,b, graduate standing in history, 592c, approval of the Historic Preservation Intern Selection Committee. Readings, research and writing, and internship experience in the theory and application of the field of historic preservation.
- 595 HISTORY AND PRINCIPLES OF ARCHIVES ADMINISTRATION AND RECORDS MANAGEMENT (6)
Prereq: minimum of 25 undergraduate credit hours of history or allied discipline.
- 596 PROBLEMS IN ARCHIVES ADMINISTRATION (4)
Prereq: Hist 595. Detailed examination of problems in the administration of archives, manuscripts, and primary source materials in other media.
- 598 PROBLEMS IN RECORDS MANAGEMENT (4)
Prereq: Hist 595. Detailed examination of problems in the management of current and semi-current records and other information resources.
- 599a,b INTERNSHIP IN ARCHIVES AND RECORDS MANAGEMENT (10, 10)
Prereq: Hist 596 or 598. Professional internship in a cooperating agency or organization.
- 690a RESEARCH AND WRITING SEMINAR: THESIS (4)
Introduction to research, the use of primary source materials, auxiliary sciences, problems of interpretation, textual criticism and the use of bibliographical aides. A knowledge of foreign language or the use of statistics or computer programming may be required depending upon the topic of research.
- 690b RESEARCH AND WRITING SEMINAR: THESIS (4)
Prereq: Hist 690a. Continuation of research begun in Hist 690a.
- 690c RESEARCH AND WRITING SEMINAR: THESIS (4)
Prereq: Hist 690b. Emphasis upon writing the thesis.

Home Economics

HOME ECONOMICS — A DEFINITION

Home economics has as its focus the well-being of individuals and families; home economics in the 1980s looks at the relationships between people and environments. In the Home Economics Department, the faculty, staff and students work together to create a teaching-learning environment that emphasizes common concepts, competencies which help individuals function more effectively as members of families and the professional community.

The programs in home economics help students develop knowledge and skills that will be of value in solving everyday problems, not only in their present lives but also in their future. Home economics has an interdisciplinary, cohesive and global outlook. The role and mission of the Department of Home Economics is to interpret its content to enhance personal development and family welfare.

"Home economics is a profession because it affords a life career, involves intellectual activities and responsibilities, demands a body of specialized theoretical knowledge, skills and attitudes, has a well-defined function, exalts service above personal gain and demands continual growth."^a

^a*Home Economics: An Introduction to a Dynamic Profession*, 2nd edition, Macmillan Pub., p. 10

HOME ECONOMICS FACULTY

ROSALIE ROSSO KING (1983) Chair.
Professor. BS, University of Washington; MEd, Massachusetts State College at Framingham; PhD, University of Washington.

JANICE R. PEACH (1964) Assistant Professor.
BS, South Dakota State University; MS, Oklahoma State University.

JANE E. ROBERTS (1966) Associate Professor.
BS, MS, PhD, University of Wisconsin.

ADMISSIONS REQUIREMENTS

Due to increased demand for courses in home economics programs, the department has established admissions requirements for all concentrations. A 2.50 GPA must be achieved in required home economics courses, including supporting courses, for entrance as a declared major and must be maintained to continue in the program. Certain concentrations may find it necessary to require additional admissions or GPA criteria. Any adjustment in admission or GPA criteria or registration procedures will be published in the timetable of classes. Early advisement is essential, and priority in registration for courses will be given to declared majors.

BACHELOR OF ARTS

Major — General Home Economics 110 credits

The student seeking a Bachelor of Arts degree in general home economics is required to take courses in each of the five areas of home economics. Students may concentrate additional home economics elective courses in one or two areas to meet a specific goal or career objective. In addition to the wide scope of courses in home economics, a student selects supporting courses from other departments, under departmental advisement.

Graduates with a degree in general home economics find opportunities

Home Economics

in government, business and industry. The general background is desirable for preparation in consumer relations, mass media, and social, health and family services.

- **Core requirements:** Home Econ 122, 175, 250, 332, 410 (14 credits)
- **Concentration requirements:** Selected credits from each home economics area listed below with faculty advisement (9 credits minimum from each area):
 - Child Development/Family Relationships
 - Foods and Nutrition
 - Textiles and Clothing
 - Housing, Furnishings and Design
 - Family Economics/Home Management
- **Electives:** 11 credits in home economics
- **Supporting Courses:** Econ 203 or 204 plus 36 credits from disciplines other than home economics. A total of 12 GUR credits may be applied toward supporting course requirement

Major — Interior Design and Merchandising 110 credits

This concentration is designed for the student desiring an interior design education in home economics. The focus of the program is the improvement of the quality of the human environment for the family and home, the work place and the community. Aesthetic, spatial, visual and functional problem-solving is encouraged through simulated and actual problems in residential and contract design. Important aspects of the program include: opportunity to apply design concepts to situations within the community or University; field trips relevant to current marketing and merchandising concepts of the interior furnishings field; developing awareness of historic and new furnishings design; and meeting professionals in the field.

Early advising is important for this program; classes must be taken in sequence and prerequisites followed; some class sections are for declared interior design majors. Students are considered a pre-major until the successful completion of home economics and supporting course requirements at the 100 level.

A competitive selection process gives students entry to a professional sequence of interior design classes at the senior level which provide an in-depth experience. Work experience in the interior design or architectural design fields is an elective part of the program.

Supporting courses outside home economics may be individually planned to meet the student's career objectives.

Career opportunities in the interiors furnishing field are varied: merchandising, management, marketing, retailing, residential and contract design, furnishings product design, historic preservation, communications and education are broad categories for many possible specific careers.

- **Core requirements:** Home Econ 122, 175, 250, 332, 410 (14 credits)
- **Concentration requirements:** Home Econ 101, 164, 201, 370, 371, 372, 375, 376, 464, 475, 478, 480 (44 credits)
- **Electives:** 12 credits in home economics courses (courses relating to interior design preferred)
- **Supporting courses:** Econ 203 or 204; Tech 210, 311 and 313; plus 24 credits selected with faculty advisement from disciplines other than home economics, e.g., art history, art, business administration, computer science, philosophy, technology, speech or other appropriate disciplines. A total of 12 GUR credits may be applied toward supporting course requirement

Major — Apparel Design

110 credits

Note: This major concentration and its courses are offered only at the Seattle facility.

A discipline embracing both artistic and technical endeavors, the apparel design option prepares students to project abstract ideas and concepts to a usable and salable product. The curriculum is planned to familiarize the student with business and communication skills as well as historic, psychological, social and ethnic studies in conjunction with practical and technical preparation.

- Core requirements: Home Econ 122, 175, 250, 332, 410 (14 credits)
- Concentration requirements: Home Econ 164, 300, 301, 318, 319, 380, 382, 383, 384, 385, 386, 387, 388, 390, 391, 392, 394, 395, 461, 465 (68 credits)
- Supporting courses: Econ 203 and 204 (8 credits)
- Electives: 20 credits

Major — Fashion**Marketing** 110 credits

Note: This major concentration and its courses are offered only at the Seattle facility.

The fashion marketing discipline encompasses creative and productive efforts to include those fields in international manufacturing and wholesaling as well as retail work. The curriculum is planned to prepare students in the special skills of human resource management, merchandising, marketing, promotion, buying and data processing and also consists of all essential activities involved in planning, acquiring and selling soft goods.

- Core requirements: Home Econ 122, 175, 250, 332, 410 (14 credits)

- Concentration requirements: Home Econ 164, 300, 301, 303, 305, 306, 307, 308, 309, 310, 311, 312, 318, 380, 394, 395, 461; Mgmt 311, 322 (71 credits)
- Supporting courses: Econ 203 and 204 (8 credits)
- Electives to total 110 credits

Minor — Home**Economics** 25 credits

Prior consultation and departmental program approval are required of students wishing to secure a minor in home economics.

BACHELOR OF ARTS IN EDUCATION**Major — Secondary****Vocational Home****Economics** 70 credits

The home economics teacher is prepared to work with learners at the secondary school level. The home economics teacher assumes a professional role in planning and managing classroom learning, guiding growth, and working with school personnel, families and groups in the community. Early in the program, the prospective teacher becomes involved in field experiences to observe learners in actual classrooms. The teacher preparation culminates with student teaching in a secondary vocational home economics program.

Graduates of this comprehensive program discover a wide variety of employment options in addition to teaching. Such options include adult education, extension, consumer programs, as well as being home economists for business, industry and government.

- Core requirements: Home Econ 122, 175, 250, 332, 410 (14 credits)
- Concentration requirements: Home Econ 101, 164, 260, 322,

Home Economics

334, 338, 350, 353, 370, 375, 422, 432, 441, 448 (Child Development and Family Relationships credits to total 12)

- *Electives:* 7 credits in home economics
- *Supporting courses:* Econ 203 or 204; Chem 115 is strongly recommended. A total of 12 GUR credits may be applied toward supporting course requirements

The vocational certificate is granted upon completing the requirements for the Bachelor of Arts in Education including the above major concentration and supervised teaching in home economics and compliance with WAC Code 390-28-010(6) for instruction in safety and industrial hygiene.

Teaching Endorsement

A minimum grade point average of 2.50 in home economics is required for graduation. Certification for teaching competency requires a 2.75 cumulative GPA.

Major — Child Development and Family Relationships

45 credits

Combined with Elementary Education Minor

The major emphasis of this program is the study of the child as he or she interacts with the total environment (family, school, community agencies). The program involves the concepts of how children grow and learn, how to design and manage environments that will promote a child's maximal growth and development, and how to work with children as individuals and in groups — important facets of the learning process. In addition to regular classroom learning, the students have an opportunity to participate in the department pre-school laboratory.

Graduates of this curriculum may work in such occupations as teachers in nursery school, day care, Head Start, kindergarten and elementary

grades; curriculum specialist; case worker for welfare and other social service agencies; and parenting.

This major must be combined with elementary teaching minor. See Department of Educational Curriculum and Instruction for details of basic core and student teaching requirements and options in general classroom, early childhood, or special education.

- *Core requirements:* Home Econ 122, 175, 250, 332, 410 (14 credits)
- *Concentration requirements:* 15-18 credits from the following courses with approval of departmental adviser: Home Econ 322, 327 or 427, 420, 421, 422, 426
- *Electives:* 13-16 credits in home economics courses selected under faculty advisement

Minor — Child Development and Family Relationships

25 credits

This minor to be combined with professional concentration in elementary education or special education major.

- *Concentration requirements:* 25 credits in home economics courses selected under faculty advisement. Preliminary consultation is essential before undertaking a minor

BACHELOR OF SCIENCE

Interdisciplinary Nutrition Program

The focus of the Interdisciplinary Nutrition Program is human nutrition. It is collaborative in nature and draws from faculty and courses throughout the university. The Interdisciplinary Nutrition Program is designed to prepare students for employment or advanced study in one of several professions, including

public health nutrition, nutritional sciences and consumer advocacy in nutrition. The Interdisciplinary Nutrition Program is based on minimum academic requirements for membership in the American Dietetic Association. Students interested in community nutrition, research or other special aspects of nutrition are encouraged to seek advice from any of the participating faculty members.

Interdisciplinary Nutrition Program Faculty

LORRAINE BRILLA, Department of Physical Education, Health and Recreation/Parks.
 JANICE R. PEACH, Department of Home Economics.
 GERALDINE A. PRODY, Department of Chemistry.
 DONALD J. SCHWEMMIN, Department of Biology.
 DON C. WILLIAMS, Department of Biology.
 MING-HO YU, Huxley College.

For further information about the program contact Janice R. Peach (676-3339) or Ming-Ho Yu (676-3504).

Major 101-112 credits

- Biol 101, 345, 348, 349
- Econ 203
- Chem 115 or Chem 121, 122, 123, 251, 371
- Home Econ 250, 350, 353, 450, 454, 456
- Hux 352a, 452, 453, 454
- Mgmt 311
- Math 240
- Psych 201, and 321 or 351
- Soc 202

Minor 25 credits

- Home Econ 250, 350, 450
- Hux 352a, 452, 454

PROFESSIONAL PROGRAMS

For information on professional programs, see "Professional Programs" in the All-University Programs section of this catalog.

COURSES IN HOME ECONOMICS

Courses numbered X37: X97: 300, 400, 417: 445 are described on page 38 of this catalog.

- 101 DESIGN ORIENTATION (3)
 Prereq: written permission of department. Fundamental design principles, design concepts and techniques as studio experiences.
- 122 CHILD AND FAMILY STUDIES (3)
 Developmental characteristics of children and families; emphasizing application and a preventive approach, responsibilities of caregivers, interaction of families with other social systems and integration of knowledge from areas related to home economics.
- 164 TEXTILES: FIBERS AND FABRICS (3)
 Emphasis on the general classification, physical and chemical properties of natural and man-made fibers, fabrication structures, finishes, dyes classes and coloration technique.
- 175 PERSONAL AND ENVIRONMENTAL DESIGN (3)
 Design aspects of the individual's environment: architecture, interiors, urban planning and renewal, clothing and personal adornment. Aesthetic, cultural and ecological study.
- 201 DESIGN CRITERIA FOR INTERIORS (5)
 Prereq: Home Econ 101 or equivalent; Home Econ 175: written permission of department. Limited to Interior Design and Merchandising majors, studio experience in design relating to interiors and architectural problems.
- 250 HUMAN NUTRITION (3)
 Prereq: general university requirement in chemistry and Biol 101 or equivalent. Basic nutrition principles and applications; food habits and nutritive needs of people.
- 260 CLOTHING CONSTRUCTION AND ANALYSIS (5)
 Prereq: Home Econ 101, 164, 175; written permission of department. New techniques particularly applicable to the methods of teaching clothing, selection of clothing, principles of fitting and pattern manipulation, fabric preparation, construction techniques of basic garments. Offered alternate years only.

Home Economics

- 301 **FASHION MARKETING I (4)**
Prereq: junior standing. Introduction to the comparative study of fashion through time and across continents. Survey of concepts, the language of fashion and overview of the industry. (Offered in Seattle only.)
- 302 **FASHION MARKETING II (4)**
Prereq: Home Econ 301. Nature and development of fashion in the United States and abroad. Interpretation of fashion in economic, social/psychological terms as well as commodity. (Offered in Seattle only.)
- 303 **APPAREL MARKETING MANAGEMENT (4)**
Prereq: Home Econ 301, 302. Analysis of factors and concepts used by management in planning, establishing policies and solving marketing problems. Consumer behavior, marketing function, channels, pricing, promotion. (Offered in Seattle only.)
- 305 **SALES PROMOTION AND THE MEDIA (4)**
Prereq: junior standing. Management of advertising, publicity, fashion show production, special events. Theories and practices pertinent to fashion coordination. (Offered in Seattle only.)
- 306 **PRINCIPLES OF FASHION SELLING (4)**
Prereq: junior standing. Principles of good selling techniques, their role and distribution in business methods involved in making sales in the apparel field. (Offered in Seattle only.)
- 307 **FASHION RETAILING (4)**
Prereq: junior standing. Tools, factors and concepts in retail business control, including stock control, store layout, location, organization, policies, activities, systems. (Offered in Seattle only.)
- 308 **MEN'S WEAR MARKETING (3)**
Prereq: Home Econ 301, 302. The marketing research process and research of men's apparel and accessories market. Problems in forecasting, advertising, budgeting. (Offered in Seattle only.)
- 309 **MERCHANDISING PLANNING AND CONTROL (3)**
Prereq: Home Econ 301. Knowledge of activities involved in buying and selling functions of retail stores. For those in buying specialties and retail management. (Offered in Seattle only.)
- 310 **INTERNATIONAL BUYING: IMPORT/EXPORT (3)**
Prereq: Home Econ 301, 302, 309. Survey of the international environment of apparel and textiles. Structure and function of import-export buying at all levels of distribution. (Offered in Seattle only.)
- 311 **VISUAL PRESENTATION STUDIO (5)**
Prereq: junior standing. Survey and participation in the art of visual presentation, illustrations to bring to life merchandising concepts. Theory, demonstration and laboratory. (Offered in Seattle only.)
- 312 **PRACTICUM IN FASHION MARKETING (5)**
Prereq: senior status. Internship program placing the student in a work environment within the industry. (Offered in Seattle only.)
- 314 **INTRODUCTION TO INFORMATION SYSTEMS (3)**
Prereq: junior standing. Structure of management systems and their application to computers in the apparel industry. (Offered in Seattle only.)
- 315 **SPECIAL EVENTS/PROMOTION PRODUCTION (2)**
Prereq: junior standing. Specialized, individual instruction involving fashion show production. Practical application of coordination, production and promotion. (Offered in Seattle only.)
- 316 **TAILORING (3)**
Prereq: Home Econ 380, 381. Examination of techniques to tailor suits and coats using traditional methods. (Offered in Seattle only.)
- 318, 319 **FASHION ILLUSTRATION I, II (3 ea)**
Prereq: Home Econ 318 for Home Econ 319. Drawing the fashion figure and apparel. Studies and compositions in a variety of media. (Offered in Seattle only.)
- 320 **ADVANCED COLOR AND DESIGN (3)**
Prereq: Home Econ 101 or 175. Study of advanced color theories including the history and cultural use of color as applied to interior and fashion design. Studio experience developing knowledge in color preparation and designing.
- 322 **ADVANCED CHILD AND FAMILY STUDIES (5)**
Prereq: Home Econ 122. Development of children from birth through adolescence within the family. Emphasis on physical, cognitive, social and emotional development of children; parenting and parent education; and interaction of the family within its environment.

- 327 **FIELD EXPERIENCES IN HOME ECONOMICS (2-5)**
 Prereq: permission of department required one quarter prior to registration. Opportunity to work with community, business and government organizations and agencies utilizing home economics skills. S/U grading.
- 332 **FAMILY RESOURCE MANAGEMENT (3)**
 Prereq: Home Econ 122. Interaction of the family and its environment. Concepts of decision-making and resource management: time, energy, money, food, clothing, housing, furnishings and equipment.
- 334 **CONSUMER ISSUES (3)**
 Current consumer issues in the economic world; responsibilities and protections. Offered alternate years.
- 338 **FAMILY FINANCE (3)**
 Prereq: Econ 203 or 204. Management of family income and expenditures in the changing family cycle.
- 350 **MATERNAL AND CHILD NUTRITION (3)**
 Prereq: Home Econ 250. Nutritional needs for pregnancy and lactation; application of nutrition principles to growth and development of children; indices of nutritional status.
- 353 **FOODS AND MEAL MANAGEMENT (5)**
 Prereq: Home Econ 250 and written permission of department. Specific principles of food preparation; concepts of management applied to meal service; includes laboratory experience, demonstration and evaluation procedure.
- 366 **CLOTHING CONSUMPTION (2)**
 Prereq: upper-division status; Home Econ 164, 313; Home Econ 461 recommended. Clothing use patterns as they relate to the consumer on many price levels. Social/psychological needs of the consumer as they relate to product. (Offered off campus only.)
- 367 **WEAVING DESIGN (3)**
 Prereq: Home Econ 101, 164. Basic fabric construction; emphasis on color, texture and design. Offered alternate years or summers.
- 368 **STUDY TOURS, NATIONAL AND INTERNATIONAL (4-6)**
 Prereq: upper-division status; Home Econ 164, 301, 307. Tours of the fashion centers of the world. Yearly option of tour to New York, and alternating yearly tours to Europe or the Orient. Visits to prime fashion houses and manufacturers, costume museums, textile producers. (Offered off campus only.)
- 370 **HOUSING (3)**
 Prereq: Home Econ 101 or equivalent, Home Econ 175. Housing alternatives for the family: historical, aesthetic and cultural implications.
- 371 **SPACE PLANNING FOR LIVING ENVIRONMENTS (3)**
 Prereq: Home Econ 201, 370; Tech 313; written permission of department; limited to Interior Design majors. Analyzing human needs; planning interior spaces for contract installations.
- 372 **HOUSEHOLD SYSTEMS (3)**
 Prereq: Home Econ 370 recommended. Factors affecting home environment systems and energy utilization.
- 375 **ENVIRONMENTAL INTERIORS (3)**
 Prereq: Home Econ 101 or equivalent; Home Econ 164 and 175; written permission of department. Laboratory experiences with selection, arrangement, design of home furnishings.
- 376 **HISTORY OF FURNITURE AND DECORATIVE ARTS (3)**
 Prereq: Home Econ 375 or Lbrl 122 or 123; written permission of department. Development of furniture and decorative arts from ancient to contemporary times.
- 380 **CLOTHING CONSTRUCTION I (3)**
 Prereq: junior standing. Techniques for producing high-quality garments. Emphasis on analysis of construction methods to select correct technique for the fabric and application. (Offered in Seattle only.)
- 381 **CLOTHING CONSTRUCTION II (3)**
 Prereq: Home Econ 380. Broader examination of special fabrics and fabrications. Market survey of garments in various price ranges. Development of basic sloper. (Offered in Seattle only.)
- 382 **DRAPING I (5)**
 Prereq: Home Econ 380, 381. Introduction to basic draping techniques. Developing basic slopers from standard dress-form. Create a personal dress-form. (Offered in Seattle only.)
- 383 **DRAPING II (5)**
 Prereq: Home Econ 382. Development of original designs through the draping method including advanced draping techniques. (Offered in Seattle only.)
- 384 **FLAT PATTERN I (5)**
 Prereq: Home Econ 381. Development of the basic pattern blocks. Using this tool, fashion patterns will be created. Basic manipulations to include bodice, skirt and sleeve treatments. (Offered in Seattle only.)

Home Economics

- 385 FLAT PATTERN II (5)
Prereq: Home Econ 384. Continuation of skills development. Basic block for pants, coats, suits and advanced dress styles (Offered in Seattle only.)
- 386 FLAT PATTERN III (5)
Prereq: Home Econ 384, 385. Transferring fashion sketches of advanced styling to patterns and sample garments. Special emphasis on original designs. (Offered in Seattle only.)
- 387 PATTERN DRAFTING AND GRADING (3)
Prereq: Home Econ 384, 385, 386. Development of basic blocks from standardized sizes. Transferring the blocks through the complete size range. Production pattern and marker construction. (Offered in Seattle only.)
- 388 DESIGN ROOM TECHNIQUES AND MANUFACTURING PROCESSES (3)
Prereq: senior standing. A study of the work flow through the design room, from designer to sample maker; discussion of typical apparel manufacturing operations. (Offered in Seattle only.)
- 389 DESIGN STUDIO I-V (2 ea)
Prereq: junior standing. The study of design principles as they relate to apparel. Advanced classes will design sample lines in a variety of classifications. (Offered in Seattle only.)
- 390 MEN'S AND CHILDREN'S WEAR DESIGN (3)
Prereq: Home Econ 384, 385, 386. Using skills developed in previous course work, the student will apply techniques for the design of garments for men and children. (Offered in Seattle only.)
- 391 PRACTICUM IN APPAREL DESIGN (5)
Prereq: Home Econ 388; senior standing. Placement of the student in a work environment within the industry for first-hand experience in the apparel manufacturing process. Supervision by professionals in the field and evaluation by sponsor and faculty. (Offered in Seattle only.)
- 392 PORTFOLIO COLLECTION (1)
Prereq: senior standing. The development of a portfolio as a tool for design presentation. Artistic renderings, collection and/or ensemble design, photography and layout as they apply. (Offered in Seattle only.)
- 394, 395 HISTORY OF COSTUME I, II (4 ea)
Tracing the development of costume and accessories of ancient civilizations through the 19th century. Emphasis on the effect of religion, economic and social influences on clothing styles. (Offered in Seattle only.)
- 396 TWENTIETH-CENTURY COSTUME (4)
Prereq: Home Econ 394, 395. Understanding of current designers and the development of couture industry from early 1900s to present. Effect of designers on ready-to-wear market. (Offered in Seattle only.)
- 398 CROSS-CULTURAL PERSPECTIVES ON TEXTILES AND CLOTHING (3)
Prereq: junior standing. Surveys of ethnic fashion from archaic to modern periods. American, Asian, African, European folk cultures will be examined. (Offered in Seattle only.)
- 410 PROFESSIONAL ISSUES IN HOME ECONOMICS (2)
Prereq: home economics major; must have completed 45 credits in required home economics courses. Current issues, public policy, research, concepts and professional development. S/U grading.
- 420 PRE-SCHOOL EDUCATION (3)
Prereq: Home Econ 122. Curriculum materials for pre-school age children; behavior management techniques, classroom organization, teaching strategies.
- 421 DEVELOPMENTAL ASPECTS OF ADULTHOOD AND AGING (3)
Prereq: Lbrl 105 or equivalent. Physical, economic, psychological and social changes in the middle and later years. Emphasis on changes in family relationships, finances, living environment and employment. Personal, social and community resources explored. Offered alternate years.
- 422 LABORATORY EXPERIENCE WITH THE PRE-SCHOOL CHILD (3-5)
Prereq: Home Econ 122 and 420 and written permission of department; a tuberculosis test required in compliance with state law. Observation, planning, implementation and evaluation of pre-school laboratory program. S/U grading.
- 425 INFANT DEVELOPMENT (3)
Prereq: 5 credits in upper-division child development courses. In-depth study of infant development including prenatal development, temperament and culture, physical growth and motor development, cognition and perception, and social and emotional development of the infant. Offered alternative years.
- 426 PARENT-CHILD INTERACTION (3)
Prereq: Home Econ 322 or equivalent. Emphasizes child-rearing practices, parent effectiveness and training. Offered alternative years.



427 FIELD EXPERIENCES IN HOME ECONOMICS (2-5)

Prereq: permission of department required one quarter prior to registration. Opportunity to work with community, business and government organizations and agencies utilizing home economics skills. S/U grading.

432 HOME MANAGEMENT (3)

Prereq Home Econ 332 Application of concepts and principles of home management to group and home living, utilizing lab experiences. Offered alternate years.

440 CONTEMPORARY ISSUES AND TEACHING TECHNIQUES (2)

Prereq: home economics teaching experience or student teaching experience. Current issues, concepts, teaching techniques for implementation for home economics subject areas in middle school, junior and senior high schools Offered summers only.

441 HOME ECONOMICS VOCATIONAL EDUCATION (5)

Prereq: Psych 371, Ed 420; and 36 credits in required home economics, to be taken immediately preceding student teaching. Competency-based program designed for entry level of all aspects of secondary vocational home economics teaching, lesson, unit, course planning and department management

443 ADULT EDUCATION IN HOME ECONOMICS (3)

Prereq: written permission of department. Principles of education for adult learners, development of home economics programs for adult education, philosophies, issues and objectives Normally offered alternate years.

444 DYNAMICS OF TEACHING HOME ECONOMICS (2)

Prereq: student teaching and/or teaching experience. Application and analysis of diversified classroom approaches for teaching home economics in middle school, high school or adult classrooms. Offered alternative years.

448 EVALUATION IN HOME ECONOMICS (2)

Prereq: Psych 371, home economics education major or minor. Application of current concepts in evaluation; techniques and non-test devices appropriate to each subject area of home economics.

449 SUPERVISORY TRAINING FOR HOME ECONOMICS COOPERATING TEACHERS (3)

Prereq: vocationally certified home economics secondary master teachers meeting supervisory criteria, and permission of department. In-service training to prepare cooperating teachers for assuming specified supervisory tasks (in lieu of University supervision) when working with home economics student teachers.

Home Economics

- 450 **ADVANCED NUTRITION (5)**
Prereq: Home Econ 250. Nutritional needs throughout the life cycle; survey and application of research studies; current issues and trends in nutrition.
- 452 **SEMINAR IN NUTRITION AND FOODS (3)**
Prereq: Home Econ 350 or 450. Current issues and problems in foods and nutrition. Survey and application of research studies. (Normally offered in alternate years or summer.)
- 453 **SOCIAL AND CULTURAL ASPECTS OF FOOD (3)**
Prereq: Home Econ 353; Anth 201. Social and cultural development of people as related to the acceptance and use of food. (Normally offered summers.)
- 454 **COMMUNITY NUTRITION AND DIET THERAPY (5)**
Prereq: Home Econ 450. Nutrition and preventive health care in the community; nutrition assessment, implementation and evaluation of individual nutritional care plans; nutritional management of various disease states. Normally offered alternate years or summer.
- 455 **FOOD SERVICE MANAGEMENT (5)**
Prereq: Home Econ 353, Hux 453; junior/senior status. Principles and procedures involved in the management of community food operations; lectures, laboratory, demonstrations. Offered alternative years or summers.
- 461 **CLOTHING AND HUMAN BEHAVIOR (3)**
Implications and significance of clothing in Western society, with special emphasis on clothing symbolism, social stratification, development of self-concept and fashion. (Normally offered alternate years or summers.)
- 464 **TEXTILE FIBER AND FABRIC ANALYSIS (5)**
Prereq: Home Econ 164. Emphasis on physical characteristics, properties of textile fibers and finishes, particularly as related to fabric performance. Fabric for interiors and apparel will be analyzed using specialized textile test equipment, recognized test methods and data analysis.
- 465 **DESIGN OF PRINTED TEXTILES I (3)**
Prereq: Home Econ 164, 380. An introduction to designing textiles for industry. Development of textile printing processes and how they influence design. Examination of design motifs and pattern repeat structures. Designs are developed on paper and fabric, then painted in gouache for portfolio preparation. (Offered in Seattle only.)
- 475 **CONTEMPORARY DESIGN FOR INTERIORS (3)**
Prereq: Home Econ 175 or 375, written permission of department; senior interior design block take concurrently with Home Econ 478, 480. American and international influences on contemporary design.
- 476 **HISTORIC HOMES AND THEIR INTERIORS (3)**
Prereq: Home Econ 370, 376 or equivalent. A research/case study of historic homes and their interiors using community resources.
- 477 **FIELD EXPERIENCE IN INTERIOR DESIGN AND MERCHANDISING (3-5)**
Prereq: Home Econ 316, 475, 478, 480; permission of department. Due to limited availability, student placements will be reviewed by IDM faculty committee. Supervised experience in a professional interior design studio, architectural office or retail interiors business. S/U grading.
- 478 **INTERIOR DESIGN PLANNING (5)**
Prereq: Tech 311 and 313; 50 credits from interior design and merchandising curriculum, written permission of department; concurrent registration in the IDM block: Home Econ 475, 480. Planning course for interior designers. Variety of projects — residential and contract, presentations and critiques. Field trips to professional designers. S/U grading.
- 479 **BUSINESS OF INTERIOR DESIGN (2)**
Prereq: junior standing in interior design and merchandising, and written permission of department. Cost-study workshop with emphasis on ethics; contracts and building construction; sources for the environment; compensation and fees; complaints and adjustments; installation; public relations. (Summer only.)
- 480 **RESOURCES OF INTERIOR DESIGN (5)**
Prereq: 50 credits from the interior design curriculum; written permission of department. Concurrent registration in the IDM block: Home Econ 475, 478. Evaluating and utilizing workrooms, interior design studios, the Design Center, and the Furniture Mart. Participation in professional organizations. Supervised professional workroom experience. S/U grading.
- 498 **SCANDINAVIAN DESIGN (3-5)**
Prereq: Home Econ 175 or equivalent courses in art or design; written permission of department. Study of design, art, architecture, home furnishings, industrial design, arts and crafts of Norway, Sweden, Finland and Denmark, with emphasis on contemporary design. Offered for 3 credits academic year; 5 credits as a summer tour.

Journalism

The Journalism Department offers a degree program, the Bachelor of Arts, and also maintains a commitment to the liberal arts tradition by offering courses in support of the General University Requirements and other departments.

Journalism majors and minors pursue theoretical and practical communication studies in a liberal arts setting. Students of journalism gain practical experience on Western's prize-winning student media, and majors additionally take field internships with newspapers, magazines, broadcast stations, public relations agencies and other professional organizations.

Courses emphasize the gathering, writing and ethical presentation of news. Understanding news processes and learning to report with accuracy, clarity and precision prepares graduates to communicate swiftly and lucidly in a changing world.

Students are challenged to explore a range of other disciplines and to seek depth in one or more specialized areas through concentrations, major-minor combinations or even double-majors.

Graduates find careers in newspapers, magazines, radio, television, publishing, advertising, public relations, teaching and throughout government and industry wherever communications skills, with general knowledge, are vital.

JOURNALISM FACULTY

GERSON F. MILLER (1967) Chair.
Professor. BA, University of California, Berkeley; MA, Pennsylvania State University.

CAROLYN DALE (1977) Visiting Assistant Professor. BA, MC, University of Washington.

LYLE E. HARRIS (1976) Associate Professor. BA, MA, University of Montana; PhD, University of Missouri.

R. E. STANNARD, JR. (1969) Associate Professor. BA, University of Washington; MA, Cornell University.

PETER S. STEFFENS (1972) Professor. BA, Harvard; BA, MA, Balliol College, Oxford.

BACHELOR OF ARTS

Major — Journalism 61 credits

- Journ 104 or 406
- Journ 160, 204, 304, 340, 350, 404, 470, 480
- Three journalism staff courses from list (a) and three additional courses from list (a) or (b):
 - (a) Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414
 - (b) Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423, 431, 432, 433
(May be waived by substitution of equivalent professional experience.)
- Journ 430
- 15 upper-division credits in other academic areas under departmental advisement.
- Cumulative GPA of 2.25 or higher in major

*Combined Major —
Environmental Studies/
Journalism* 83 credits

See Huxley College section for details.

Minor — Journalism 25 credits

- Journ 104 or 406
- Journ 160, 204, 304, 340, 350
- Three staff courses, or equivalent professional experience, from:
 - (a) Journ 111, 112, 113, 114, 211,

Journalism

- 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414
(b) Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423, 431, 432, 433
At least two courses of the above are to be selected from list (a)

COURSES IN JOURNALISM

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 104 NEWSWRITING (3)
Prereq: ability to type 25 or more words per minute. Writing for news media; news elements and values; gathering news; structure and style of news stories; covering speeches and meetings; interviewing.
- 111, 112, 113, 114 NEWSPAPER STAFF (2 ea)
Prereq: freshman standing; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up.
- 121, 122, 123 PERIODICAL STAFF (2 ea)
Prereq: freshman standing; Journ 104. Workshop in periodical design, layout and production, training in the creative combination of type, heading, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 160 CURRENT EVENTS AND THE MEDIA (3)
Discussion and interpretation of news in context of interaction with media; for potential journalists and others interested in current events.
- 204 COPY EDITING (3)
Prereq: Journ 104. News copy desk operations; editing, headline writing; dummyming; page make-up; editorial writing.
- 211, 212, 213, 214 NEWSPAPER STAFF (2 ea)
Prereq: sophomore standing; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up.
- 221, 222, 223 PERIODICAL STAFF (2 ea)
Prereq: sophomore standing; Journ 104. Workshop in periodical design, layout and production; training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 304 REPORTING (3)
Prereq: Journ 104. Interviewing, news coverage, including campus sources, and standard community news sources, with emphasis on social agencies; writing for news media.
- 305 PHOTOJOURNALISM (3)
Prereq: Journ 104. Basics of news photography; use of equipment; news picture planning and coverage; composing effective news pictures; essentials of processing for publication; photographic notes and files, picture editing and layout; professional ethics and the law.
- 310 ADVERTISING IN THE MASS MEDIA (3)
Role of mass media advertising in the economy and advertising methods; research, planning and preparation of the message, selection of media, budgets and schedules; social performance of advertisers.
- 311, 312, 313, 314 NEWSPAPER STAFF (2 ea)
Prereq: junior standing; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up.
- 321, 322, 323 PERIODICAL STAFF (2 ea)
Prereq: junior standing; Journ 104. Workshop in periodical design, layout and production, training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 340 THE PRESS AND SOCIETY (3)
Historical backgrounds of journalism, tracing the rise of mass communications in the Western World with social, economic and political trends.
- 350 LAW OF THE PRESS (4)
Rights and legal restrictions on freedom of the press; constitutional guarantees, libel, contempt, privacy; other restrictions.
- 360 LITERATURE OF JOURNALISM (3)
Prereq: junior standing. Reading and critical evaluation of literature by and about journalists.
- 390 THE NEWS PROCESS (4)
Critical examination of the news process by visiting news media professionals. Repeatable to 12 credits.
- 404 FEATURE WRITING (3)
Prereq: Journ 304. In-depth article writing; development of ideas; gathering of materials and writing; special attention to individual interests; exploration of freelance writing markets.



- 405 **PRINCIPLES OF PUBLIC RELATIONS (3)**
Prereq: Journ 104 or Eng 101. Methods, tools and media used in planning and developing company, community and institutional public relations programs. Publicity and promotional techniques: copy preparation, news releases, publications, relations with the press.
- 406 **JOURNALISM FOR PUBLICATION ADVISERS (3)**
Teaching public school journalism: news elements, values and writing for newspapers. Not open to students who have taken Journ 104.
- 411, 412, 413, 414 **NEWSPAPER STAFF (2 ea)**
Prereq: senior standing, Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up.
- 421, 422, 423 **PERIODICAL STAFF (2 ea)**
Prereq: senior standing; Journ 104. Workshop course in periodical design, layout and production, training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 450 **FIELD INTERNSHIPS (6)**
Prereq: Journ 204, 304, 350, and newspaper staff courses. Supervised field work on newspapers, magazines, radio and TV stations, public relations and advertising agencies, or other appropriate professional situations, for journalism majors between junior and senior years, usually during summer session. S/U grading. Repeatable once for credit with permission.
- 431, 432, 433 **TELEVISION NEWS STAFF (2 ea)**
Prereq: Journ 304, and written permission. Workshop course in planning, gathering and preparing news for television; integrating words, sound and pictures, critiques; participation on the staff of the university television news program. Concurrent enrollment in Speech 442 or Tech 442 recommended.
- 440 **PRESS AND WORLD AFFAIRS (3)**
The international role and operations of the press, factors affecting the free flow of news, major world news systems
- 470 **MASS COMMUNICATIONS THEORY AND RESEARCH (3)**
Introduction to theory and research in mass communications; review of pertinent literature; limited field studies.
- 480 **CURRENT PROBLEMS (3)**
Prereq: Journ 350. The modern function of the press in a democratic society, virtues and shortcomings of the press in current trends; management structure of media and its interaction with journalistic ethics.

Liberal Studies

The Department of Liberal Studies is an interdisciplinary department offering courses in humanities, comparative cultural study, social science and the academic study of religion. Traditionally, study in the "humanities" addresses major ideas about human beings and their place in the universe which have shaped Western society and culture, as these ideas are expressed in language, literature, philosophy, religion and fine arts. "Comparative cultural study," as conducted by the department, addresses these same concerns in the principal civilizations of the Orient and Africa. The "academic study of religion" brings the tools of modern scholarship to bear on the literature and institutions of the religions of mankind, understood as cultural forces. The department is "interdisciplinary" in that its faculty are trained in a variety of academic fields and bring multiple scholarly perspectives to their courses. The department's objectives, implied in its title, are those traditionally associated with "liberal education" and education in the "liberal arts."

The Department of Liberal Studies serves the Western Washington University community in the following ways:

1. The department offers interdisciplinary courses which partially fulfill the WWU General University Requirements in Humanities, Social Science, and Non-Western and Minority Cultural Studies. (See the University Graduation Requirements section of this catalog for the complete General University Requirements and options for satisfying them.)
2. The department offers a B.A. in humanities and a B.A. in humanities (elementary education). These majors offer integrated
3. study in the materials and perspectives of the humanities. See below.
3. The department offers interdisciplinary minor programs in humanities and in the study of religion, and participates with other departments in the East Asian Studies and American Cultural Studies programs.
4. The department administers the Student/Faculty-Designed Major in the College of Arts and Sciences. This program allows students, in consultation with appropriate faculty, to design a course of study in areas not available through existing departmental majors.

Additional information about all of the foregoing is available from the Liberal Studies office (Arntzen Hall 314).

LIBERAL STUDIES FACULTY

- WILLIAM K. B. STOEVER (1970) Chair.
Professor. BA, Pomona College. MDiv, Yale Divinity School. MPhil, PhD, Yale University
- MICHAEL H. FISHER (1978) Associate Professor. BA, Trinity College. MA, PhD, University of Chicago.
- MILTON H. KRIEGER (1970) Associate Professor. BA, Reed College; PhD, University of Toronto.
- ULRICH MAMMITZSCH (1971) Associate Professor. BA, University of Hamburg, Germany; MA, Southern Illinois University; PhD, University of Hawaii.
- RODNEY J. PAYTON (1970) Associate Professor. BA, MA, Washington State University; PhD, University of Chicago.
- ROBERT F. STOOPE, Jr. (1983) Assistant Professor. AB, University of North Carolina at Chapel Hill; MDiv, Harvard Divinity School; MA, PhD, Harvard University.
- WILLIAM L. WALLACE (1970) Associate Professor. BS, Appalachian State University (North Carolina); MA, PhD, Ohio University.

BACHELOR OF ARTS

Major — Humanities*

65-70 credits

The B.A. in humanities provides interdisciplinary study of the humanities (literature, history, philosophy, religion, the arts) in Western and other civilizations. The course of study focuses on the manner in which societies create and modify their culture. It addresses methods of study in the humanities, as well as their traditional content. The major emphasizes reading, critical analysis and writing. Students who complete the major will have substantial acquaintance with significant literary texts, historical development, and principal philosophical and aesthetic currents in Western civilization, and a sense of comparable phenomena in non-Western civilization. Students will have opportunity to develop a sense of historical and cultural context and to develop analytical and expressive skills of broad application. The major is offered in cooperation with the Department of Philosophy.

- Lbrl 121, 122, 123
- One course from each of the following:
 - Phil 112, 201
 - Phil 113, Lbrl 231, 232, 235
 - Phil 205, Lbrl 242, 243
 - Lbrl 271, 272, 273, 274, 275, 276, 277
- Lbrl 302, Eng 304
- Three courses from Lbrl 417a-d
- Electives under advisement from Lbrl 332, 333, 370, 371, 372, 373, 378, Phil 304, 305, 306, 307, 315, 320, 330, 340, 420, and other appropriate upper-division courses
- Lbrl 499

Lbrl 302 and Eng 304 should be completed before enrolling in Lbrl 417a-d. Arrangements regarding topic and faculty adviser for Lbrl 499 should be made at the beginning of the quarter preceding enrollment in the course. Students who are deficient in expository

writing may be required to complete an appropriate additional writing course. It is recommended that students undertake study of a foreign language concurrently with the major.

For information or advisement, contact the Liberal Studies office.

Major — Humanities (Elementary Education)*

43 credits

This major offers the same approach and much of the subject matter of the B.A. in humanities (above). It is designed to accompany the professional elementary education minor. Students who complete the course of study will have substantial acquaintance with content and perspectives of the humanities in Western culture, and with methods of study that are broadly applicable to the teaching of the humanities.

- Lbrl 121, 122, 123
- Two courses to be chosen from two of the three following groups: Lbrl 231, 232, 235; Lbrl 242, 243; Lbrl 271, 272, 273, 274, 275, 276, 277
- Lbrl 302, Eng 304 (preferred) or 301
- Two courses from Lbrl 417a-d
- Electives under advisement from Lbrl 332, 333, 370, 371, 372, 373, 378, 499 and other appropriate upper-division courses

Lbrl 302 and Eng 304 or 301 should be completed before enrolling in Lbrl 417a-d. Arrangements regarding topic and faculty adviser for Lbrl 499 should be made at the beginning of the quarter preceding enrollment in the course. Students who are deficient in expository writing may be required to complete an appropriate additional writing course.

For information or advisement, con-

*Contact department before enrolling.

tact the Liberal Studies office. (For information about teacher certification requirements and about the professional curriculum in elementary education, contact the Department of Educational Curriculum and Instruction.)

Minor — Humanities 31 credits

Interdisciplinary study of the traditional material of the humanities — i.e., major beliefs about and images of human beings and their place in society and the universe — in western and other cultural traditions.

- Lbrl 121, 122, 123
- One course from Lbrl 232, 235, 242, or 243
- Two courses from Lbrl 271, 272, 273, 274, 275, 276, 277
- One course from Lbrl 302, 332, or 378

Minor — The Study of Religion

24-27 credits

A scholarly, critical, non-sectarian study of religious traditions and religious behavior; directed toward understanding of the role of religion in human experience and the complex relationship between religion and other cultural forms.

- Lbrl 231
- Three courses from Lbrl 235, 271, 272; Hist 267, 287; Phil 113
- Remaining credits from the following: Anth 330, 355; Eng 336; Lbrl 332, 333, 378; Hist 387; Soc 363; other appropriate courses under advisement

For advisement regarding either minor, contact the Liberal Studies office.

LIBERAL STUDIES COURSES

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 105 BEHAVIORAL SCIENCE (5)
Interdisciplinary introduction to the study of human beings as biological, psychological and social organisms; emphasis on processes of perception, learning and motivation, and their social and cultural context.
- 121, 122, 123 HUMANITIES (5 ea)
Interdisciplinary introduction to significant cultural themes from art, music, history, philosophy, literature in the western tradition. (These courses need *not* be taken in sequence.)
- 121 The Western Tradition I: The Ancient World. Concepts of man in Near Eastern and Mediterranean cultures: Mesopotamia, Egypt, Greece, Palestine, Rome.
- 122 The Western Tradition II: Concepts of Man in Medieval and Modern Europe. Emphasis on emergent "modernity" and associated problems of "world-view," authority vs. reason, the individual in the universe.
- 123 The Western Tradition III: Man in Modern Times. Nineteenth and twentieth century ideologies, their philosophies of man, alienation and integration of the individual in society.
- 231 INTRODUCTION TO THE STUDY OF RELIGION (4)
Examination of religious phenomena from several scholarly perspectives: mysticism, corporate religion, symbolism and ritual, theories of religion.
- 232 MYTH AND FOLKLORE (4)
An introduction to the study of myth and folklore and its cultural impact.
- 235 THE BIBLICAL TRADITION (4)
Examination of selected topics in the development and textual analysis of the Hebrew and Christian scriptures. Interdisciplinary perspective; attention to original languages.
- 242 MUSIC AND THE IDEAS OF WESTERN MAN (4)
The relation of the art of music to mathematics, cosmology, psychology and aesthetics. Not open to music majors.
- 243 ART AND IDEAS (4)
A study of Western humanities through the visual arts: sculpture, painting and architecture. Exploration of the values expressed through choices of style and subject matter in selected cultural periods.

- 271 **HUMANITIES OF INDIA (4)**
 The Indian experience and the development of its cultural unity; the challenge of Islam and the British colonial experience. the conditions of modernization and the emerging synthesis of values.
- 272 **MYTHOLOGY/RELIGION AND SOCIETY IN CHINA AND JAPAN (4)**
 Study of formal religious thought and of popular religion in traditional Chinese and Japanese cultures, the impact of Christian denominations, and the character of contemporary religious life.
- 273 **ARTISTIC EXPRESSION AND SOCIETY IN CHINA AND JAPAN (4)**
 Studies of the aesthetic traditions of East Asia, courtly and popular, secular and religious; the impact of foreign ideas and the role of art in recent propaganda, architecture and industrial design as well as in traditional modes of expression.
- 274 **SOCIETY AND LITERATURE IN CHINA AND JAPAN (4)**
 Study of Chinese and Japanese authors from traditional and modern times; emphasis on forms of literary expression as a guide to social attitudes and value systems.
- 275 **HUMANITIES OF JAPAN (4)**
 Interdisciplinary introduction to Japanese civilization, both traditional and modern, with particular emphasis on religions, historical, artistic, and literary patterns, and societal and cultural ideals.
- 276 **HUMANITIES OF AFRICA (4)**
 Introduction to the cultural heritage of sub-Saharan Africa, and to the contemporary civilization that draws upon it. Emphasis on the process by which Africans currently build and use coherent accounts of their heritage.
- 277 **HUMANITIES OF CHINA (4)**
 Interdisciplinary introduction to Chinese civilization, traditional and modern; emphasis on religions, intellectual, artistic and literary patterns, and societal and cultural ideals.
- 302 **METHODS OF INTERDISCIPLINARY STUDY (4)**
 Prereq: Lbrl 121, 122, 123, or equivalent. Exploration of techniques of interdisciplinary investigation through analysis of a major literary text in its cultural and historical context; exercises in the use of the library as a research tool; preparation of a seminar paper.
- 332 **UNIVERSAL RELIGIONS: FOUNDERS AND DISCIPLES (4)**
 Prereq: junior status. Beliefs and practices of major world religions; traditional images of religious founders; development of religious traditions; historical and phenomenological perspective.
- 333 **RELIGION IN AMERICA (4)**
 Prereq: junior standing. Religious traditions, values and institutions in American culture; focus on character and development of American Protestantism, Roman Catholicism, and Judaism; attention to contemporary issues and events; interdisciplinary perspective.
- 370 **MAJOR NON-WESTERN TRADITIONS: THE TRADITIONAL ORDER (4)**
 The basic cultural assumptions, value systems and social orders of China, Japan, India and Africa, to the nineteenth century.
- 371 **MAJOR NON-WESTERN TRADITIONS: THEIR MODERN FATE (4)**
 Modern challenges to the traditional orders of China, Japan, India and Africa and their responses; issues and models in reconciling traditional and modern values, indigenous and foreign forces.
- 372 **INDIVIDUAL AND SOCIETY IN CONTEMPORARY NON-WESTERN LITERATURE (4)**
 Prereq: junior status. Effects of rapid change on individuals and resulting concern about the place of individuals in society, as expressed in novels, autobiography, poetry, and critical reflections on literature and culture from recent and contemporary Asia and Africa.
- 373 **IDEOLOGY AND EXPERIENCE IN THE CONTEMPORARY NON-WESTERN WORLD: CONSERVATIVES, REFORMERS, REVOLUTIONARIES (4)**
 Prereq: junior status. Case studies of 20th-century Third World political leaders (e.g., Gandhi, Mao Tse-tung, Nyerere), their writings, actions, and influence upon contemporary non-Western development.
- 378 **RELIGIONS OF INDIA (4)**
 Prereq: junior status. Examination of India's major religious traditions — Vedic Hindu, Buddhist, Sikh and Islamic — from earliest Vedic times to the present; analysis of systems of belief, philosophy, ritual and social organization; attention to village religion and popular devotionalism.
- 499 **RESEARCH IN HUMANITIES (4)**
 Prereq: two courses from Lbrl 417a-d, senior standing. Research and writing of a formal paper on a topic developed by the student in consultation with a faculty adviser; adviser will be assigned and topic identified at the beginning of the quarter prior to enrollment in 499.

Mathematics

The Department of Mathematics offers majors and minors in mathematics, applied mathematics and mathematics education. Combined majors are offered in mathematics and computer science, biology and mathematics, chemistry and mathematics, economics and mathematics, geology and mathematics, and physics and mathematics. The department also offers a Master of Science degree in which there is an emphasis on applied mathematics.

The majors mentioned above will serve as components of a liberal education, but each one also prepares the recipient for a career in business, industry, government or education. Persons planning a career in almost any field will find their opportunities for interesting and challenging positions enhanced by the study of mathematics and computer science. Persons who develop quantitative skills increase their ability to attack many of the complex problems of society.

MATHEMATICS

Mathematics has developed from attempts to find simple general laws governing the behavior of the phenomena we observe around us, phenomena as diverse as the motion of the planets, the evolution of biological systems and the movement of traffic.

These attempts have been remarkably successful, although many problems remain to be solved. The concepts involved are profound and exciting; their development and use require imagination and careful deductive reasoning.

The purpose of the mathematics and applied mathematics majors is to acquaint the student with mathematical concepts and to provide the student with the tools needed to apply

the concepts in other fields and to continue to learn and develop new ideas.

A student primarily interested in the application of mathematical ideas in another field should elect the major in applied mathematics or mathematics and computer science; the latter is the better choice for those interested in the computer science aspects of such applications. A student who is interested in some branch of mathematics itself, or who is somewhat unsure about future plans, should consider the mathematics major, especially because it offers greater flexibility.

MATHEMATICS EDUCATION

The Bachelor of Arts in Education major may be completed with either of two concentrations; one prepares the graduate for teaching mathematics on the secondary level, the other concentrates on the elementary level. Those who intend to pursue one of these concentrations must complete certain courses in calculus, linear algebra, probability, statistics, number theory, geometry and computer science. Successful completion of these courses provides a good part of the training necessary for technical expertise in the classroom.

The elementary concentration emphasizes breadth in mathematics. Breadth of experience is important so that the teacher may expose elementary students to a wide variety of mathematical topics. The specialist in mathematics on the elementary level must be particularly skilled at transforming the material mastered in college to a form suitable for the level in question.

Secondary majors learn the methods of teaching mathematics in Math 483;

elementary majors learn such methods in Math 481.

Students who wish to teach mathematics on the secondary level also can gain certification in mathematics by completing any one of the Bachelor of Science majors in mathematics, applied mathematics, or mathematics-computer science, as long as they take Math 483 in addition to the requirements for the major.

Recommendation for teaching endorsement requires the completion of the major with a minimum grade point average of 2.50 in the courses required for the major. To gain the Initial Teaching Certificate, students must also complete a program of studies in professional education, including student teaching. Students should seek formal admission to the appropriate program in education early in their careers at Western. It is essential that the interested reader consult the Department of Educational Curriculum and Instruction portion of this catalog for further information.

ACADEMIC PLACEMENT

Except for students who have successfully completed a full year of calculus in high school or at least one quarter of calculus in college, placement in the first mathematics course at Western will be on the basis of the results of an appropriate placement test. Mathematics placement tests are administered throughout the state of Washington each year, and both freshmen and transfer students who are resident in Washington are advised to take the appropriate examination prior to arrival on campus. Full information on which test to take and how to take it is available from the Admissions Office or the Mathematics Department.

Students who have completed at least one year of high school calculus or at least one quarter of college calculus should consult a departmental adviser before registering. Freshmen

with a full year of high school calculus may wish to be considered for the accelerated calculus course, Math 128.

Advice to Entering Students

The B.S. degrees in mathematics, applied mathematics and mathematics/computer science, and the B.A. in Education mathematics—secondary are based on the following core:

- Math 124, 125, 126, 224 (calculus)
- Math 205 (linear algebra)
- Math 312 (Mappings and Continuity)
- Math/CS 207 (discrete mathematics)
- CS210 (computer programming)

These courses, except for Math 312, represent the minimum that a student planning one of these majors should complete during the first two years. A well prepared student will be able to build a stronger program, possibly including some graduate-level courses, by completing some 300-level work chosen under advisement in addition to the list above. In particular, Math 331 (differential equations) will be suitable for many students.

Transfer students, especially those intending to enter Western with an A.A. degree, should normally complete as much as possible of the core program above, certainly including calculus and linear algebra. Students should be aware that 200-level differential equations courses may not transfer as equivalent to Math 331.

Transfer students must complete at this institution a minimum of nine upper-division credits for a major in the department or five upper-division credits for a minor in the department.

Admission to a Major

Students who intend to complete a major in the department are urged to declare the major formally at an early point in their Western career so that a

Mathematics

program of study can be planned in collaboration with a departmental adviser. This does not in any way decrease the opportunity to change plans, but does ensure an efficient program which is not subject to future catalog revisions.

There are at present admissions requirements for the mathematics/computer science major. The department may, at any time, establish requirements for admission to any or all of its other major programs. Details can be obtained in Bond Hall 202 or by writing to the Mathematics Department chair.

Enrollment Preference for Majors

The department will give enrollment preference for certain high demand courses to its majors.

ACADEMIC EXCELLENCE

The Mathematics Department offers two programs for outstanding students. One—graduation with Distinction in Mathematics—rewards exceptional achievement in mathematics. The other—graduation with Honors in Mathematics—is part of the University Honors Program, and includes a substantial general education component as well as most of the requirements for graduation with distinction. A student may apply to participate in either of the programs, or in both.

Graduation with Distinction

A student may graduate with Distinction in Mathematics by doing each of the following:

1. Complete an approved form of one of the following majors, including at least 32 quarter hours of mathematics courses taken at Western:

- B.S. Mathematics
- B.S. Applied Mathematics
- B.S. Mathematics—Computer Science

- B.A. in Ed. Mathematics—Secondary

The cumulative GPA for mathematics classes taken at Western should be at least 3.5. Details of suitable programs are available from the department office, Bond Hall 202.

2. Complete two approved 400-level mathematics seminars, including the fall quarter problem-solving seminar.
3. Pass a comprehensive examination to be given at the beginning of spring quarter covering Math 124, 125, 126, 224, 205, 312, 331 and Math/CS 207.

A student interested in graduating with distinction should contact the department chair not later than the beginning of the junior year.

Graduation with Honors

For All Students

Complete one of the majors listed above in a form acceptable for Graduation with Distinction.

For Entering Freshmen

Students who enter the program as freshman may graduate with Honors in Mathematics by completing the usual requirements for the Honors Program (see under Honors Program) with the following modifications:

1. Instead of the freshman science sequence, Honors 157-159, complete any of the following one-year sequences under advisement. The sequence in physics is recommended for most students.

- Physics 241, 242, 341, 351
- Chem 121, 122, 123
- Geol 211, 212, 318.

2. The student may choose to substitute the comprehensive examination described under Graduation with Distinction above for the senior program.

For Transfer Students

Complete the usual requirements for graduation through the Honors Program (see under Honors Program) except for the possible substitution of the comprehensive examination for the senior project.

A student interested in the Honors Program should contact either the Mathematics Department Chair or the director of the Honors Program.

INFORMATION

Those interested in the study of mathematics are welcome to write, telephone, or visit the Chair of the Department of Mathematics, Western Washington University, Bellingham WA 98225. Telephone: (206) 676-3785.

MATHEMATICS FACULTY

- THOMAS T. READ (1967) Chair. Professor. BA, Oberlin College; MA, PhD, Yale University.
- MICHAEL BALLOTTI (1983) Assistant Professor. BA, Tulane University; MS, University of Chicago; PhD, Tulane University.
- DONALD R. CHALICE (1967) Associate Professor. BA, University of Wisconsin; MA, PhD, Northwestern University.
- ROBIN W. CHANEY (1969) Professor. BA, PhD, Ohio State University.
- KEITH CRASWELL (1966) Associate Professor. BS, MS, PhD, University of Washington.
- JAMES E. DUEMMEL (1966) Associate Professor. BA, MA, PhD, Ohio State University.
- MICHAEL PAUL FILLIMAN (1987) Assistant Professor. BA, San Francisco State University; MS, PhD, University of California, Davis.
- ALBERT J. FRODERBERG (1968) Associate Professor and Special Assistant to the President. BS, MS, PhD, University of Washington.
- SARA JEANNE GAMLEN (1967) Associate Professor. BA, Linfield College; MA, Bowling Green State University; PhD, Washington State University.
- NEIL R. GRAY (1984) Associate Professor. BA, San Francisco State College; MA, PhD, University of Washington.
- NORA HARTSFIELD (1984) Assistant Professor. BA, Humboldt State University; MA, PhD, University of California at Santa Cruz.
- FRANCIS H. HILDEBRAND (1968) Associate Professor. BS, Kent State University; MS, University of Illinois; PhD, Michigan State.

- ROBERT I. JEWETT (1970) Professor. BS, California Institute of Technology; MS, PhD, University of Oregon.
- JERRY L. JOHNSON (1984) Associate Professor. BA, Augsburg College; MS, California Institute of Technology; MA, University of California at Los Angeles; PhD, University of Washington.
- RICHARD G. LEVIN (1967) Associate Professor. BS, University of Pennsylvania; PhD, University of California, Davis.
- NORMAN F. LINDQUIST (1967) Associate Professor. BA, Linfield College; PhD, Oregon State University.
- JOHN R. REAY (1963) Professor. BA, Pacific Lutheran University; MS, University of Idaho; PhD, University of Washington.
- PAUL T. RYGG (1962) Professor. BA, Montana State University; MS, PhD, Iowa State University.
- GAVIN G. WATKINS (1987) Assistant Professor. BS, University of Natal; MS, PhD, University of South Africa.
- JOHN W. WOLL (1968) Professor. BS, Haverford College; PhD, Princeton University.
- TJALLING J. YPMA (1987) Assistant Professor. BS, Cape Town University; MS, DPhil, Oxford University.

BACHELOR OF ARTS IN EDUCATION

*Major — Mathematics —
Elementary 49 credits*

- Math 124, 125, 205, 281, 305, 320, 341, 360, 481
- Math-CS 207
- CS 210
- 4 credits in mathematics as advised
- It is recommended that the student also take EdAF 452.

*Major — Mathematics —
Secondary 67 credits*

- Math 124, 125, 126, 205, 224, 305, 312, 320, 341 or 441, 360, 483
- Math-CS 207
- CS 210
- Math 401 or 404
- At least one of the following two-course sequences: Math-CS 335-435, Math-CS 375-475, Math 401-402, Math 331-332, Math 331-430, Math 331-431, Math 423-424, or Math 442-443.
- It is recommended that the student also take EdAF 452.

Mathematics

Minor — Mathematics

34 credits

- Math 124, 125, 205, 360, 483
- Math 305 or 401 or 404
- Math-CS 207, CS 210

Combined Major Concentration

See the Chemistry Department section for Mathematics-Chemistry major. See the Physics/Astronomy Department section for the Physics-Mathematics major.

Teaching Endorsement

Recommendation for teaching endorsement requires completion of the appropriate major with a minimum grade point average of 2.50 in courses used in the major.

BACHELOR OF SCIENCE

Major — Mathematics

84-87 credits

- Math 124, 125, 126, 205, 224, 312, Math-CS 207
- CS 210
- Not fewer than 20 credits from among the following courses: Math 401-402, 404, 423-424-425, 428, 430, 431, 441-442-443, Math-CS 435, 375, 436, 475-476
- One of the following supporting sequences:
 - Physics 241, 242, 341, 351
 - Chem 121, 122, 123
 - CS 331, 332, 405
 - Geol 211, 212, 318Permission to substitute some other sequence relevant to the student's educational objectives may be sought from the department chair
- Electives under departmental advisement
- Language competency in French, German or Russian is strongly recommended for those students who may go to graduate school

Note: Those students who are interested in the actuarial sciences should complete Math 441, 442, 443, Math-CS 335, 435, 436, and Math-CS 375, 475, 476 as part of their major programs.

Major — Applied Mathematics

104-107 credits

- Math 124, 125, 126, 205, 224, 312, 331, Math-CS 207-208
- CS 210
- Three courses (also referred to below*) from Math 332, Math-CS 335, 375, CS 331
- Math 341-342 or Math 441-442
- One of the following concentrations:
 - a) Engineering Mathematics Concentration: Math 423, 424, 425, 431, Math-CS 475, 476 and either the *fourth course from the list above or one of the following: Math 404, 443, Math-CS 435, CS 439
 - b) Operations Research Concentration: Math 404, Math-CS 435-436, CS 439 and three courses from Math 423, 424, 425, 430, 443, Math-CS 475, 476, or the *fourth course from the list above
- Supporting courses: Phys 241, 242, 341, 351. Students electing the Operations Research Concentration may be able to obtain permission from their departmental adviser to substitute an appropriate 12-credit sequence in economics

Students interested in this major should normally complete Math 124, 125, 126, 205 and CS 210 in the freshman year. Courses completed in the sophomore year should include Math 224, 331, 332 and 312.

Minor — Mathematics

33 credits

(Not available to computer science majors.)

- Math 124, 125, 126, 224

- Math 205
- CS 110 or 210
- Electives under departmental advisement

**Combined Major —
Mathematics-Computer
Science** 92 credits

- Math 124, 125, 126, 205, 224, 312, 331, 332 or 430; 341 or 441; 401 or 404
- Math-CS 207, 208 and three courses from Math-CS 335, 375, 435, 475
- CS 210, 310, 331, 332, 405
- 8 additional credits in mathematics and computer science as advised.

Other Combined Majors

The Department of Mathematics cooperates with other departments in offering combined (or double) majors for students wishing to achieve considerable depth in both areas.

Biology-Mathematics, BS: See Biology Department section for details.

Chemistry-Mathematics, BA in Ed: See Chemistry Department section for details.

Economics-Mathematics, BA: See Economics Department section for details.

Physics—Physics-Mathematics concentration, BA in Ed: See Department of Physics and Astronomy section for details.

Geology-Mathematics, BS: See Geology Department section for details.

GRADUATE STUDY

For concentration in mathematics leading to the Master of Science degree, see the Graduate section of the catalog.

**COURSES IN
MATHEMATICS**

Courses numbered X37: X97, 300, 400, 417, 445 are described on page 38 of this catalog.

(Courses in Mathematics-Computer Science are listed after the listings in Mathematics.)

102 INTERMEDIATE ALGEBRA (5)

Prereq: suitable score on the *Basic Algebra* mathematics placement test. Intended for students who have had one year of high school algebra. Polynomials, first- and second-degree equations and inequalities, graphs, quotients of polynomials, roots and radicals, an introduction to the quadratic formula. Word problems are heavily emphasized. Students who have done fairly well in one and one-half years of high school mathematics should probably take 103 or 104 or 105. Cannot be counted toward majors or minors in mathematics or computer science.

103 COLLEGE ALGEBRA (3)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or Math 102. Functions and their graphs, graphs of polynomials and rational functions. Exponential and logarithm functions and their use in growth and decay problems, business and other applications. Students who have done well in four semesters of high school algebra (including logarithmic and exponential functions) may be ready for Math 104 or Math 105. Cannot be counted toward majors or minors in mathematics or computer science.

104 TRIGONOMETRY (3)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or Math 103. Angles and angle measurement, trigonometric functions, identities, trigonometric equations, inverse trigonometric functions. Students who have done well in four semesters of high school algebra, one semester of geometry, and one semester of trigonometry may be ready for Math 105. Cannot be counted toward majors or minors in mathematics or computer science.

105 PRECALCULUS (4)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or suitable score on the *Precalculus* mathematics placement test or Math 104. Inequalities, functions, especially rational, exponential, logarithm and trigonometric functions. Inverse functions. Course emphasizes advanced graphing techniques and solution of word problems.

Mathematics

124 CALCULUS AND ANALYTIC GEOMETRY (5)

Prereq: suitable score on the *Precalculus* mathematics placement test or Math 105. Derivatives, rules for computing derivatives, applications, anti-derivatives and an introduction to definite integrals. Students with a full year of high school calculus may be eligible for Math 128.

125 CALCULUS AND ANALYTIC GEOMETRY (5)

Prereq: Math 124. Application of the definite integral to area, volume, planar motion, etc. Calculus of logarithmic and exponential functions. Techniques of integration. Improper integrals.

126 CALCULUS AND ANALYTIC GEOMETRY (5)

Prereq: Math 125 or 128. Conic sections, polar coordinates, curves and vectors in the plane and space. Introduction to partial derivatives. Taylor's Theorem. Infinite sequences and series.

128 ACCELERATED CALCULUS (5)

Prereq: one year of high school calculus and permission of instructor. Designed for students with a full year of high school calculus who need only a fast review of single variable calculus with emphasis on the more difficult aspects, such as problem-solving skills. Topics are those listed above under Math 124 and 125 with selected omissions. The student who completes this course may proceed to Math 126 and will also receive five credits of advanced placement. Not open to students who have taken Math 124 or Math 125. Offered fall quarter only.

151 INTRODUCTION TO MATHEMATICS (3)

Prereq: suitable score on the *Basic Algebra* mathematics placement test. Not open to students with credit in Math 103. Introduction to the methods of thought and logic in mathematics. A cultural approach to mathematics which emphasizes practical problems of the type which can be solved with a hand-held calculator. Students interested in studying a single area of mathematics in detail should consider substituting a course from Math 103, 105, 124, 155, 205, 240, 241.

155 ALGEBRA WITH APPLICATIONS TO ECONOMICS AND BUSINESS (4)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or Math 102. Systems of linear equations and systems of linear inequalities; matrix notation for linear systems; logarithms, geometric series, and mathematics of finance.

156 CALCULUS WITH APPLICATIONS TO BUSINESS AND ECONOMICS (4)

Prereq: Math 155 or Math 105 or suitable score on the *Precalculus* mathematics placement test. Functions and limits; differential and integral calculus, including partial differentiation.

205 VECTORS AND MATRIX ALGEBRA (4)

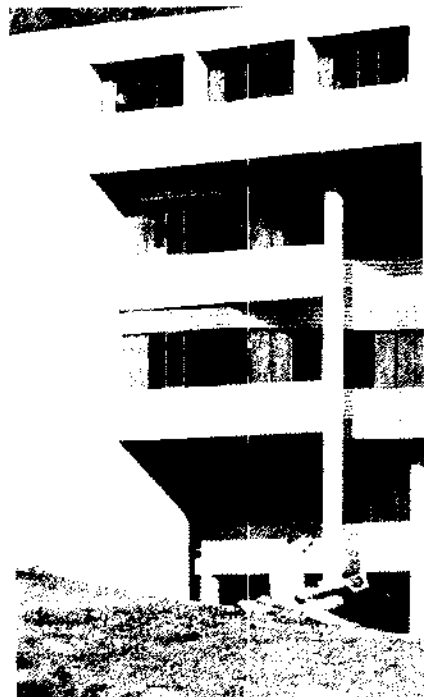
Prereq: Math 124 or Math 156. Matrices, determinants, matrix algebra, linear equations, linear transformations, characteristic roots and characteristic vectors, orthogonality.

224 MULTIVARIATE CALCULUS (5)

Prereq: Math 126. Partial derivatives, maxima and minima with two or three variables, multiple integrals, line integrals, Green's Theorem, the divergence theorem, and Stoke's Theorem in the plane.

240 INTRODUCTION TO STATISTICS (3)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or Math 102. This course deals with the nature of statistical reasoning, descriptive statistics, ideas of probability and measurement, sampling distributions, the binomial and normal distributions, confidence intervals, and the testing of statistical hypotheses. Cannot be counted toward any major in the Department of Mathematics.



- 241 INTRODUCTION TO PROBABILITY (3)
Prereq: Math-CS 207. Introduction to probability with applications.
- 281 THEORY OF ARITHMETIC (4)
Prereq: either of the following: (1) suitable score on the *Intermediate Algebra* mathematics placement test; or (2) grade of C- or better in Math 102. Mathematical development of arithmetic, informal geometry, problem solving and metric measurement. This course covers mathematics for the elementary school from an advanced standpoint.
- 305 NUMBER THEORY (4)
Prereq: Math 125 or 205. The properties of integers. Euclid's algorithm. Diophantine equations, congruences, continued fractions and residues.
- 312 MAPPING AND CONTINUITY (4)
Prereq: Math 126 and Math-CS 207; enrollment restricted to accepted majors in a Math Department major (including combined majors). Other students may obtain permission to enroll from department chair if space is available. Open and closed sets in the line and plane; sequences; definitions and elementary properties of continuous functions. Bolzano-Weierstrass theorem and applications. The student is expected to develop some competence in proving basic theorems.
- 320 HISTORICAL PERSPECTIVES OF MATHEMATICS (3)
Prereq: Math 241, 312, Math 341 or 441, passing grade on junior writing examination. History and development of mathematical thought from ancient to modern times. Philosophical, sociological and biographical perspectives.
- 321 MATHEMATICS FOR TECHNOLOGY (4)
Prereq: Math 125. A survey of topics from differential equations, Laplace transforms, matrix theory, statistics, designed especially for students majoring in engineering technology. Cannot be counted toward any major in the Department of Mathematics.
- 331, 332 ORDINARY DIFFERENTIAL EQUATIONS (4 ea)
Prereq: Math 126; students should also have (or take concurrently) Math 205; 331 is prerequisite to 332. An introductory course in ordinary differential equations and applications, including topics selected from first order differential equations and systems, higher order differential equations, series and numerical solutions, Laplace transforms, special functions, Fourier series, Sturm-Liouville theory, comparison theorems, stability theory, and applications of these concepts to scientific problems.
- 341, 342 STATISTICAL METHODS (4 ea)
Prereq: Math 124 or Math 156. 341 prerequisite to 342. Statistical methods, including use of computer packages. Emphasis is on the use and validity of tests. Inference and hypothesis testing, ANOVA, regression and correlation, contingency, nonparametric tests. Applications from economics, business, the sciences, education and psychology.
- 360 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (4)
Prereq: Math 125 or 205. Metric development of Euclidean geometry and consideration of non-Euclidean geometrics.
- 401, 402 INTRODUCTION TO ABSTRACT ALGEBRA (4 ea)
Prereq: Math-CS 207 and Math 312, Math 401 prerequisite to 402. Groups, rings, fields, field extensions, Galois Theory.
- 404 LINEAR ALGEBRA (4)
Prereq: Math 126 and 205. Vector spaces, linear transformations, spectral theory, orthogonal matrices.
- 420 TOPICS IN THE HISTORY AND PHILOSOPHY OF MATHEMATICS (3)
Prereq: Math 312; passing grade on junior writing examination. Concentrated study of a topic or a closely connected group of topics associated with the history and philosophy of mathematics. Students will be required to write a substantial expository paper.
- 423 ADVANCED CALCULUS (4)
Prereq: Math 224 and 312. Detailed topics of advanced calculus of basic importance in many applications, both scientific and theoretical. Topics include uniform convergence; properties of continuous functions, the theory of the derivative and the Riemann integral. Normally offered fall quarter.
- 424, 425 PARTIAL DIFFERENTIAL EQUATIONS (4 ea)
Prereq: Math 331, 423; Math 424 prerequisite to 425. The basic theory of partial differential equations, including classification, characteristics, well posed problems, orthogonal functions, Sturm-Liouville theory, the Fourier transform, heat flow, and wave motion.
- 428 CALCULUS OF SEVERAL VARIABLES (4)
Prereq: Math 224, 404, and 423. Parameterization of curves and surfaces, implicit function theorem, differentials, integration of differential forms, generalized Stoke's theorem.

Mathematics

- 430 **FOURIER SERIES AND PARTIAL DIFFERENTIAL EQUATIONS (4)**
Prereq: Math 224 and 331. Math 430 is an introduction to the Fourier method for solving boundary value problems arising in physics and engineering. Fourier series, the wave equations, the heat equation, the Fourier transform, and related topics.
- 431 **INTRODUCTION TO COMPLEX VARIABLES (4)**
Prereq: Math 331 or 423. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculations of residues.
- 441, 442, 443 **MATHEMATICAL STATISTICS (4 ea)**
Prereq: Math 205 and 224; each course prerequisite to the next. Probability theory, development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.
- 481 **MATHEMATICS IN GRADES K THROUGH 8 (4)**
Prereq: Math 281. Survey of instructional modes and teaching strategies. Topics included are sequencing, evaluation, remediation, problem solving and attitudes.
- 483 **MATHEMATICS IN GRADES 7 THROUGH 12 (4)**
Prereq: at least two upper-division mathematics courses. Topics discussed include pre-algebra, algebra, geometry, problem solving and resource materials.
- 494 **EXPERIENCES IN THE MATHEMATICS LABORATORY (3)**
Prereq: one year of teaching experience and currently teaching mathematics. Each participant develops materials and experiences for use in the mathematics laboratory approach in his or her own teaching.
- 502 **TOPICS IN ABSTRACT ALGEBRA (3)**
Prereq: Math 401 and 404. Topics such as error correcting codes, group characters, crystallography.
- 504 **COMBINATORICS (3)**
Prereq: graduate status in mathematics. Counting techniques, generating functions, coding, coloring, relationships to probability theory.
- 505 **APPLIED MATRIX ALGEBRA (3)**
Prereq: Math 404. Linear modeling of mathematical phenomena, including phenomena from the sciences, and the application of matrix theory.
- 510 **MATHEMATICAL MODELING (3)**
Prereq: Math 404. The use of mathematics to model problems in the real world.
- 518 **TOPOLOGY (3)**
Prereq: Math 423. Topological spaces, metric spaces, connectedness, compactness, product and quotient spaces, function spaces.
- 520 **LEBESGUE MEASURE AND INTEGRATION (4)**
Prereq: Math 423, corequisite Math 404. Lebesgue outer measure and measure, Lebesgue integral of measurable functions of a real variable. Convergence theorems, $L_p(0,1)$, Holder and Minkowski inequalities, Riesz-Fisher Theorem. Abstract outer measure, measure and integration on a sigma-algebra of sets, product measures, Fubini's Theorem.
- 521 **HILBERT SPACE THEORY AND APPLICATIONS (3)**
Prereq: Math 520, Math 430 or equivalent. Bounded operators, continuous linear functionals, the Riesz theorem, projections, self-adjoint operators, unitary operators, completely continuous self-adjoint operators and their eigenfunction expansions, integral operators, applications to differential equations, a brief discussion of quantum mechanics, other applications to physical problems.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 **ADVANCED ABSTRACT ALGEBRA (3)**
Prereq: Math 401 or its equivalent. Special topics in algebra based on the theory of groups and the application of group theory to other fields.
- 524, 525 **PARTIAL DIFFERENTIAL EQUATIONS (4 ea)**
Prereq: Math 331 and 423, Math 524 prerequisite to 525. Topics in the theory of partial differential equations.

- 528 **ADVANCED CALCULUS OF SEVERAL VARIABLES (4)**
 Prereq: Math 224, 404, and 423. Parameterization of curves and surfaces. implicit function theorem, differentials, integration of differential forms, generalized Stoke's theorem.
- 532 **THEORY IN COMPLEX VALUED FUNCTIONS (3)**
 Prereq: Math 423. A rigorous development of analytic functions of a complex variable: Cauchy's Theorem, Taylor and Laurent expansions, conformal mappings and other topics.
- 541 **PROBABILITY (3)**
 Prereq: Math 441. Probability theory, both discrete and continuous. The Central Limit Theorem.
- 546 **STOCHASTIC PROCESSES (3)**
 Prereq: Math 404 and 441. Topics from Markov and sequential decision processes, renewal theory, inventory theory, stochastic control, etc.
- 570 **OPTIMIZATION (4)**
 Prereq: Math 404 and 423. Topics taken from nonlinear programming, calculus of variations or the theory of optimal control.
- 376 **NUMERICAL ANALYSIS (4)**
 Prereq: Math-CS 475, corequisite Math 525. Topics in advanced numerical analysis.
- 599 **MATHEMATICS SEMINAR (1-3)**
- 690 **THESIS (variable credit)**

- 335 **LINEAR PROGRAMMING (4)**
 Prereq: Math 205 and CS 210. Linear and quadratic programming; applications to game theory and to allocation and transportation problems.
- 375 **NUMERICAL METHODS (4)**
 Prereq: CS 210, Math 126 and 205. Elementary discussion of error, solution of nonlinear algebraic equations, polynomial interpolation, least squares approximation, numerical quadrature, and numerical differentiation.
- 435 **OPERATIONS RESEARCH I (4)**
 Prereq: Math 126 and Math-CS 335. Non-linear programming with emphasis on basic theory (including Lagrange multipliers and the Kuhn-Tucker conditions), algorithms for numerical solution of problems, and applications. Introductory dynamic programming, with emphasis on applications and algorithms.
- 436 **OPERATIONS RESEARCH II (4)**
 Prereq: Math-CS 435 and some knowledge of probability theory (for example, Math 241 or Math 341 or Math 441). Linear, nonlinear and dynamic programming problems in which statistical considerations form an essential part of the problem.
- 475 **NUMERICAL ANALYSIS (4)**
 Prereq: Math-CS 375 and Math 331. Numerical solution of ordinary differential equations, solution of systems of linear equations, calculation of eigenvalues and eigenvectors.
- 476 **NUMERICAL SOLUTIONS OF PARTIAL DIFFERENTIAL EQUATIONS (4)**
 Prereq: Math-CS 475, corequisite or prerequisite Math 425 or Math 430. Numerical solution of partial differential equations, including the finite difference and the finite element methods.

COURSES IN MATHEMATICS-COMPUTER SCIENCE

The courses listed below require background in both mathematics and computer science. The problems attacked in these courses cannot be solved without fruitful weddling of knowledge from both areas. In many of the upper-level computer science and math-computer science courses, majors have priority for admission.

- 207 **DISCRETE MATHEMATICS I (4)**
 Prereq: Math 124 or 128. Logic, set theory, induction, combinatorics, probability.
- 208 **DISCRETE MATHEMATICS II (4)**
 Prereq: Math-CS 207. Functions and relations, partially ordered sets, Boolean algebras, Boolean functions, Karnaugh maps, recurrences, graph theory, algebraic systems.

Graduate Courses

- 547 **QUEUEING THEORY (3)**
 Prereq: Math 441 or Math-CS 436. Analysis of random arrival and service processes to determine expected waiting time, number in waiting line, etc. Bulk arrivals, networks, balking, pre-emptive queues and various applications.
- 564 **GRAPH THEORY (3)**
 Prereq: graduate status in mathematics. Basic properties of graphs, planar graphs, duality theory, intersection graphs, interval graphs, trees, path problems (Eulerian and Hamiltonian circuits), line graphs, max-flow-min-cut theorem, and specific applications to such areas as game theory, electrical networks, error-correcting codes and coloring problems.

Nursing

PRE-NURSING

Western Washington University offers a one- and a two-year pre-nursing transfer program designed to assist students in meeting the requirements for admission to a nursing program at another college or university. A student may become a registered nurse by completing a nursing program in a two-year community college or a baccalaureate program in a four-year college or university and successfully completing State Board Examination for licensing.

Requirements for these programs vary; students are advised to seek individual guidance from the Department of Nursing.

Each institution selects the number of students that can be accommodated in the upper division. Therefore, no assurance can be given that all applicants admitted to WWU and successfully completing lower-division work will be admitted into the upper-division curriculum.

RN-BSN PROGRAM

The baccalaureate program at Western is an upper-division nursing major designed for individuals who possess a current "R.N." license and who wish to obtain a Bachelor of Science in Nursing. These individuals are graduates of associate degree nursing programs or diploma programs of nursing.

Admission to the RN-BSN program has been suspended for the 1987-88 academic year.

THE DOMAIN OF NURSING

Nursing is a service to clients — healthy and sick — individuals or groups. Nursing facilitates the individual's adaptation to a variety of factors and encourages the client to

assume increasing responsibility and participation in his own health care. The purpose of nursing is to assist clients and families to maintain a steady state of health, adapt to illness and/or optimal function. Nursing recognizes the right of the client to make autonomous decisions and participate in the planning and implementation of health care. The complexity of society necessitates health care to be offered in a variety of settings.

THE DOMAIN OF EDUCATION

Nursing education is committed to accountable and responsible nursing care and practice. Therefore, nursing education is an organized activity, and its purpose is to facilitate: the acquisition of knowledge; the application of the nursing process to client care within a variety of health care settings; proficiency in nursing skills for the delivery of health care; and, the utilization of research findings. With further academic preparation, the nurse is competent to initiate and conduct independent investigations in health care.

THE DOMAIN OF RESEARCH

Research contributes to the body of knowledge of the discipline through investigations into the significance of health. Nursing studies, study replications, and the generation of questions concerning the applicability of these findings to the health care of the client are the prime focus.

THE DOMAIN OF SERVICE

The educational unit in nursing provides services including direct health care to clients, families and communities; continuing education to meet the needs of practicing nurses and

consultation to service and educational agencies. The faculty members of the Department of Nursing are responsible for participation in professional, community and governmental health care organizations.

ACCREDITATION

The Department of Nursing is accredited by the National League for Nursing.

ADMISSION TO THE DEPARTMENT OF NURSING

Admission to the RN-BSN program has been suspended for the 1987-88 academic year. In the event the program continues, admissions requirements and procedures will be as described below.

Applications for admissions to the Department of Nursing are accepted from July through May prior to each academic year. The items below must be provided by each applicant:

1. A completed University application form and payment of the twenty-five dollar (\$25) application fee.
2. A completed Department of Nursing application form.
3. An official transcript from each school, college, university attended.
4. One letter of reference from each of the following individuals: (a) dean/chairperson/director or nursing instructor from the nursing program you attended; (b) nursing supervisor (if you have not been employed as a graduate nurse, substitute a second nursing instructor); (c) peer who can evaluate your nursing practice.
5. A valid Washington state license to practice professional nursing (required of the applicant at the time of admission interview).
6. A personal interview with members of the Nursing Admissions Committee. This interview

will be arranged after all of the information has been received from the candidate. The candidate will be notified of the time and place of this interview by the Department of Nursing.

VALIDATION OF CREDIT

The student who is admitted to the Department of Nursing as a transfer student must have a cumulative grade point average of 2.5 (C+) or better.

Students who have completed college/university science courses (biology, chemistry, microbiology and anatomy or physiology) more than seven (7) years before the quarter of admission will be required to establish competency in these courses prior to admission into the nursing major. Competency may be established through self study and examination; review class and examination; or retaking the course(s).

If the student is a graduate of a diploma program, the candidate must obtain college credit for the nursing courses through the completion of examinations from the American College Testing, Proficiency Examination Program (ACT/PEP) at the standard score of 45 or above.

NURSING FACULTY

- KAREN MOREN (1981) Chair.
Assistant Professor BSN, University of Nevada; MPH Tulane University
- MARY ELLEN O'KEEFE (1981) Assistant Professor. BSN, Montana State University, MN, University of Washington.
- MARTHA C. THOMAS (1982) Assistant Professor. BSN, University of Oregon; MS, University of Colorado.

BACHELOR OF SCIENCE IN NURSING

Courses prerequisite to the nursing major:

- Eng 101
- Speech 101

Nursing

- Psych 201, 316
- Anth 201
- Math 102 or satisfactory Math Intermediate Algebra Placement Exam
- Biol 101, 345, 348, 349
- Chem 115, 251

Major Concentration 69 credits

- Nurs 310, 320, 330, 430, 440, 445, 450, 460, 461
- Supporting Courses: Chem 371, 375; Anth 424 or upper-division cross-cultural course; Biol 449; Home Econ 250; Math 240
- Electives, selected under departmental advisement in nursing, humanities, non-Western and minority cultural studies to total 97 credits

A minimum of 180 quarter hours of credit is required for a Bachelor of Science degree in Nursing.

CHALLENGE EXAMINATIONS

The Department of Nursing offers selected course challenge examinations which facilitate the acceleration of the students through the program of study. For further information contact the Department of Nursing, (206) 676-3013.

SCHOLARSHIP

A cumulative grade point average of 2.5 must be maintained throughout the course of study leading to a Bachelor of Science in Nursing.

COURSES IN NURSING

Courses numbered X37: X97: 300, 400, 417; 445 are described on page 38 of this catalog.

- 310 NURSING HEALTH ASSESSMENT OF THE INDIVIDUAL (3)
Prereq: admission to nursing major. Physical assessment of the individual to promote health; includes all ages and clinical application.

- 320 NURSING PROCESS ACROSS THE AGE CONTINUUM I (6)

Prereq: Nurs 310; Chem 371, 375; Anth 424. The theoretical system of nursing as applied to individuals and families to facilitate health; includes clinical application.

- 330 NURSING PROCESS ACROSS THE AGE CONTINUUM II (6)

Prereq: Nurs 320; Biol 449. The theoretical system of nursing as applied to children, adults and families to facilitate health; includes clinical application.

- 410 NURSING PROCESS APPLIED TO THE ELDERLY (3-6) (Elective)

Prereq: Nurs 320; Chem 371, 375; Biol 449. Application of the nursing process to older persons to facilitate health; includes optional clinical application.

- 411 NURSING PROCESS APPLIED TO THE ADOLESCENT (3-6) (Elective)

Prereq: Nurs 320, 330. Application of the nursing process to facilitate and promote health in the young adolescent; includes optional clinical application.

- 430 NURSING PROCESS ACROSS THE AGE CONTINUUM III (6)

Prereq: Nurs 320, 330. The nursing process applied to individuals, families and groups having multiple physical and mental health needs; includes clinical application.

- 440 NURSING RESEARCH, AN INTRODUCTION (3)

Prereq: Math 240; Nurs 320, 330. Research method applied to nursing problems including use of descriptive and inferential statistics.

- 450 NURSING PROCESS ACROSS THE AGE CONTINUUM IV (6)

Prereq: Nurs 320, 330; Math 240. Nursing process applied to individuals, family, community and aggregate populations to promote and preserve health; includes all ages and diagnostic groups. Community analysis and diagnosis as a basis for intervention; includes clinical application.

- 460 ANALYSIS OF A CARE SYSTEM (3)

Prereq: Nurs 320, 330, 440, 450. The action research design applied to health-care systems as they influence nursing.

- 461 MANAGEMENT OF A CARE SYSTEM (6)

Prereq: Nurs 320, 330, 430, 440, 450. Health-care management system in nursing service, quality assurance; role of nurse and client. Clinical application.

Philosophy

The Department of Philosophy offers a wide range of courses in most of the traditional areas of philosophical concern: history of philosophy, ethics, philosophy of religion, metaphysics, to name only a few. A number of courses satisfy General University Requirements. Beyond this, the department offers a major and a minor program in philosophy. The major program is intentionally one of the smallest in the University to allow students maximum opportunity to explore other areas of interest and to encourage students to consider a double major.

Work in philosophy fits well into many pre-professional programs. It is highly desirable as preparation for law school; indeed, some law schools have historically listed it as the preferred undergraduate major. Emphasizing, as it does, careful, deep, critical analysis of concepts and problems, philosophy is an excellent major for students who will seek positions in business and government which require a liberal arts background.

Philosophy is among the oldest of intellectual disciplines. Many areas of study now distinct from philosophy, for example, the various sciences, may be regarded as offspring of philosophy which have come of age. Nevertheless, the central philosophical questions remain as vital as ever. Recent studies show that students who major in philosophy are among the very highest groups in performance on the Graduate Record and other such qualifying examinations.

Historically, philosophy has been regarded by many as the most basic of intellectual disciplines: it is the firm conviction of the faculty of the Department of Philosophy that it is among the most relevant. Among the questions dealt with in one philo-

sophy course or another are "What is knowledge?" "What is truth?" "Can we gain knowledge?" "Can we know the truth?" "Are there such things as right and wrong?" "Does God exist?" "What is the nature of the distinction between minds and bodies?" "Are persons machines?" and the like. The department believes that consideration of these and related questions is fundamental to being educated and as such should be of interest to all students; moreover the department believes that many students are sufficiently able and mature intellectually to pursue answers to these questions at an advanced level with profit, and the faculty invite them to join in this pursuit.

PHILOSOPHY FACULTY

- HUGH FLEETWOOD (1962) Chair
Associate Professor. BA, MA, PhD, The University of Michigan.
- THOMAS E. DOWNING (1968) Assistant Professor. AB, Wayne State University; PhD, Stanford University.
- MARK HINCHLIFF (1987) Assistant Professor. BA, Reed College; PhD, Princeton University.
- PHILLIP MONTAGUE (1966) Professor. BS, Loyola University; PhD, Stanford University.
- RICHARD L. PURTILL (1962) Professor. BA, MA, PhD, University of Chicago

In addition to regular faculty, the Department of Philosophy often includes one or two temporary faculty. The department also seeks to have a distinguished visiting philosopher for at least one quarter each year.

BACHELOR OF ARTS

Major — Philosophy 50 credits

- Phil 102, 112, 201, 202, 304, 306, 309, 310, 410, 417, 420, 425
- One course from Phil 305, 307
- Electives under departmental advisement

Philosophy

Minor — Philosophy 25 credits

- Phil 102, 112, 201, 310
- Electives under departmental advisement

COURSES IN PHILOSOPHY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

102 INTRODUCTION TO LOGIC (3)

Introduction to the techniques of formal reasoning. Acceptable general education alternative to Math 151 for students with three years of high school math.

107 LOGICAL THINKING (3)

An aid to speaking and writing so as to reflect clear, critical and responsive thinking, covering definition, classification, fallacies and techniques of good argument.

The following three courses are all introductory philosophy courses. They are not sequential and none of them presupposes any of the others.

112 INTRODUCTION TO PHILOSOPHY: MORAL ISSUES (3)

Introduction to philosophical thinking about moral problems. Seeks to understand central moral concepts such as good, right, duty, etc., in the context of contemporary issues.

113 PHILOSOPHY OF RELIGION: UNDERSTANDING RELIGION (3)

Special attention is given to questions about the nature and existence of God. Also examined are such topics as the problem of evil, concepts of faith, religious experience, miracles, etc.

201 INTRODUCTION TO PHILOSOPHY: KNOWLEDGE AND REALITY (3)

Emphasis is given to the nature and possibility of knowledge, to related concepts such as truth, belief and evidence, and to selected metaphysical problems.

202 INTERMEDIATE LOGIC (4)

Prereq: Phil 102. Systems of logic and their application to philosophical problems.

205 AESTHETIC VALUES AND THE PHILOSOPHY OF ART (3)

Examination of the nature of art, and of its creation, appreciation and criticism. The importance of aesthetic values in art and the environment.

207 PHILOSOPHY AND FANTASY (3)

Examination of some philosophical themes in the imaginative writings of C. S. Lewis, J.R.R. Tolkien and others.

210a,b,c EXTENDED INTRODUCTION TO PHILOSOPHY AND CRITICAL THINKING (3 ea)

A year-long introduction to the nature of argument, correct reasoning and inference in the context of extended discussion of introductory philosophical topics, including the nature and possibility of knowledge, and various problems in moral philosophy and the philosophy of religion.

Students taking this course will register for Philosophy 210a, 210b, and 210c in successive quarters. However, credit will not count toward graduation until the entire sequence is completed.

303 PHILOSOPHY OF LANGUAGE (3)

Prereq: Phil 202. The nature of symbols; notions of synonymy, meaning and reference; semantical and syntactical analysis applied to natural and artificial languages. Normally offered in odd-numbered academic years.

304 HISTORY OF PHILOSOPHY: ANCIENT TO EARLY MIDDLE AGES (4)

Prereq: one course in philosophy. Great philosophical thinkers from the early Greeks to the early Middle Ages; special attention to Plato and Aristotle. Normally offered in odd-numbered academic years.

305 HISTORY OF PHILOSOPHY: MIDDLE AGES TO RENAISSANCE (4)

Prereq: one course in philosophy. Great philosophical thinkers from the 12th to the 17th centuries, including St. Thomas Aquinas, St. Bonaventure, Duns Scotus, William of Occam, Roger and Francis Bacon. Normally offered in even-numbered academic years.

306 HISTORY OF PHILOSOPHY: RENAISSANCE TO THE AGE OF REASON (4)

Prereq: one course in philosophy. Great philosophical thinkers including Descartes and the rationalists, Locke and the empiricists. Normally offered in even-numbered academic years.

307 HISTORY OF PHILOSOPHY: THE NINETEENTH CENTURY (4)

Prereq: one course in philosophy. Kantian and post-Kantian philosophy with some attention to other significant movements such as utilitarianism, early existentialism, and pragmatism. Normally offered in odd-numbered academic years.

309 CONTEMPORARY PHILOSOPHY: THE ANALYTIC TRADITION (4)

Prereq: one course in philosophy. Critical examination of central concerns and methods of the 20th century analytic movement; treats such persons as Russell, Moore, Wittgenstein.

310 THEORY OF KNOWLEDGE (3)

Prereq: Phil 102 and one other philosophy course. The attempt to understand the possibility, nature, origins and limits of knowledge; problems and concepts.

315 INTRODUCTION TO EXISTENTIALISM (3)

Prereq: junior standing or permission of instructor. Major philosophers of the existential school, philosophical problems and answers as seen by existentialism. Special attention is given to Kierkegaard, Nietzsche and Sartre.

320 SPECIAL TOPICS IN CONTEMPORARY MORAL ISSUES (3)

Prereq: upper-division standing. A detailed, critical examination of the concepts, claims, assumptions and values of some areas of great current moral importance, e.g., nuclear deterrence, abortion, distribution and use of limited national resources, cloning, etc.

330 SOCIETY, LAW AND MORALITY (3)

Prereq: one course in philosophy or upper-class standing. Concepts and principles involved in analysis and appraisal of social institutions with attention to freedom, rights, justice, and the relation between laws and morality.

340 PHILOSOPHY OF SCIENCE (4)

Prereq: upper-division standing or permission of instructor. A critical examination of the methods and concepts of the sciences using historical examples. Topics include scientific revolutions, laws, theories, experimentation, explanation and evidence.

350 POLITICAL PHILOSOPHY (3)

Prereq: one course in philosophy or upper-division standing. The nature of the state, and of the institutions and practices of which it is comprised; the basis and scope of political obligation, the proper role of political activity; considerations of concepts of sovereignty, legitimacy, limits of state power, representation, and the like.

410 METAPHYSICS (3)

Prereq: Phil 202 and one additional course numbered above 200, or permission of instructor. Philosophical issues surrounding such notions as particular and universal, space, time, existence, substance and attribute; views of contemporary and traditional philosophers. Normally offered in even-numbered academic years.

420 ETHICAL THEORY (3)

Prereq: Phil 112. Critical analysis of writings of several major theorists in ethics — ancient, modern, and contemporary — and their treatment of ethical problems. Normally offered in even-numbered academic years.

425 PHILOSOPHY OF MIND (3)

Prereq: Phil 310. Problems relating to the mind-body distinction, knowledge of mental states and the study of mind-body identity theories. Normally offered in odd-numbered academic years.



Physical Education, Health and Recreation/Parks

The department offers degree programs for students interested in professions related to exercise and sport science, physical education, health fitness, health education and recreation/parks.

FACULTY

The department currently consists of 12 faculty members whose backgrounds span the entire range of physical education, health and recreation. Students are provided opportunities to interact individually with faculty who are involved in community projects and research in the exercise sciences, health and recreation.

FACILITIES

The department is housed in Carver Gymnasium. Recently expanded exercise physiology and biomechanics laboratories afford students an opportunity for in-depth study in the exercise sciences and health assessment as applied to health and sports medicine. Considerable practical experience using state-of-the-art laboratory and computerized equipment enables the student to develop skills in cardiorespiratory, anthropometrical, strength, movement analysis and health appraisals.

MAJOR PROGRAMS

Physical Education/Exercise and Sport Sciences

The major programs are varied and include undergraduate and graduate student preparation for careers as professional physical educators,

exercise science specialists, health fitness instructors in agencies, schools, industry, hospitals and health care facilities. The concentrations offered include the following:

- K-12 Physical Education Certification
- Exercise and Sport Science
 - Exercise Science
 - Pre-Physical Therapy
 - Athletic Training
 - Sport and Exercise Psychology

Health Education

The health education program curriculum reflects the broad and dynamic nature of the field. Development of the curriculum has been guided by *A Framework for the Development of Competency-Based Curricula for Entry-Level Health Educators*. The practice of health education/health promotion occurs in community, school, business and medical care settings. The department offers the following options:

- Community Health
- School Health Education

Recreation and Parks

The curriculum in recreation and parks offers a generalist preparation for a wide range of career entry-level positions including:

- Urban/Community Recreation
- Therapeutic Recreation
- Outdoor Recreation
- Industrial Recreation/Health Promotion
- Commercial Recreation
- Military Recreation

In addition to major/minor programs, a broad selection of activities are offered for students interested in

developing lifetime sports skills or the promotion of personal fitness and health. In addition to individual and team sports classes, courses are offered in outdoor pursuits including skiing, mountaineering, sailing, horsemanship, hiking and alpine travel.

Western students are generally interested in participating in sports, dance and aerobic fitness activities. Classes, intramural sports and aquatic programs sponsor popular activities throughout the year for a large number of students. Extensive inter-collegiate athletic and club sports programs also are available.

PHYSICAL EDUCATION, HEALTH AND RECREATION/ PARKS FACULTY

- M. CHAPPELLE ARNETT (1960) Chair
Professor. BS, Centenary College; MS, Purdue University, EdD, University of Missouri.
- EVELYN E. AMES (1964) Professor. BS, University of Nevada; MS, Washington State University; PhD, University of Maryland.
- LORRAINE BRILLA (1985) Assistant Professor. BS, Pennsylvania State University; MS, Pennsylvania State University; PhD, University of Oregon.
- ROY CLUMPNER (1975) Associate Professor. BS, University of Wisconsin, Lacrosse; MA, California State University; PhD, University of Alberta.
- KATHLEEN KNUTZEN (1977) Associate Professor. BA, MA, Western Washington State College; PhD, University of Oregon.
- BOYDE LONG (1966) Associate Professor. BS, MA, University of New Mexico
- JAMES E. MOORE (1977) Associate Professor. BA, University of Oregon. MEd, PhD, Oregon State University.
- RONALD D. RIGGINS (1977) Associate Professor. BA, Laverne College; MS Recreation, ReD, Indiana University.
- CHARLES D. SYLVESTER, (1984) Assistant Professor. BS, MA, University of Maryland, PhD, University of Oregon.
- RALPH A. VERNACCHIA (1973) Associate Professor. BA, Montclair State College; MS, Ohio University; PhD, The University of Utah
- JEANNE M. WENOS (1986) Lecturer. BS, Wheaton College; MS, PED, Indiana University.

Faculty Associates — Health

- JENNIFER E. ROY (1985) Director of Health Center. BSN, University of Wyoming; MSN, University of Portland; ARNP, Upstate Medical Center, Syracuse, New York.
- LYNNE P. SHERWOOD (1986) Coordinator of Education and Safety, St. Joseph Hospital, Bellingham BS (Food Nutrition and Nutrition-Public Health Nutrition). BA, Central Washington University.
- KARALEE J. STOKES (1987) Director of Lifequest, St. Joseph Hospital, Bellingham. BS, (Community Health), Western Washington University.
- LUCILLE TRUCANO (1982) Curriculum Consultant. BS, University of Washington; MS, University of California, Los Angeles.

Coaching Associates

- Lynda M. Goodrich (1973) Athletic Director. BA in Ed, MA, Western Washington State College.
- Paul O. Hansen (1983) Football Coach. BS, MS, University of Oregon
- Brad Jackson (1985) Men's Basketball Coach. BA, Washington State University; MA, Seattle Pacific University.

PHYSICAL EDUCATION

BACHELOR OF ARTS

*Major — Physical Education/
Exercise and Sport Science*

89-109 credits

This major provides a concentrated study of human movement from mechanical, physiological and pathological perspectives. The program is appropriate for students who plan to work in the fitness/exercise industry or for students who are pursuing a career in athletic training. It can serve as a preparatory course of study for graduate study in the areas of exercise physiology, adult fitness, biomechanics, physical therapy and sports psychology. Supporting courses from chemistry, physics, biology, psychology, computer science and nutrition are included to provide more in-depth analysis of principles associated with human structure and function.

Physical Education

Prerequisites for entry into the major are (1) completion of 75 credits with a 2.5 GPA; and (2) professional practical experience in related field of study. Guidelines are available through the departmental office.

- General Courses: 10 credits
 - PE 203, Biol 348, H Ed 252
- Developmental Skills/Fitness Leadership: 9 credits
 - PE 102, 103, 113, 208, 256
 - Select 2 credits from PE 122, 139, 154, 167, 170
- Exercise Science Foundations: 23 credits
 - PE 301, 302, 303, 307, 485, 490
- Socio-Cultural: 10 credits
 - PE 309 or 310; 407
 - Select 3 credits from PE 308, 309, 310, 409
- Field Experience: 6 credits
 - PE 491

Specializations (select one)

A. Fitness and Exercise Science 35 credits

The exercise science specialization is recommended for students who wish to pursue career opportunities in the fitness environment, or who have plans for post-baccalaureate study in the exercise science area. This specialization is appropriate preparation for (a) employment in a health club, adult fitness setting or workplace fitness setting; (b) graduate study in exercise physiology/adult fitness; or (c) graduate study in biomechanics. Students are required to obtain faculty authorization for the approved set of courses leading to emphasis in one of the three aforementioned areas.

- Select from the following: Biol 349, Chem 115, 121, 122, 123, 251, 371, Comp Sci 110, 210, H Ed 435, Hux 352a,b, 454, Math 240, PE 403, 440, Physics 131, 132, 133

B. Pre-Physical Therapy 53 credits

The pre-physical therapy option is available for students who wish to

pursue post-baccalaureate study in a physical therapy certification program. Students must complete all courses in the option to satisfy the admission requirement for most physical therapy professional programs.

- Biol 345, 349, Chem 121, 122, 251, Math 240, Physics 131, 132, 133, Psych 201, 316

C. Athletic Training 42 credits

The athletic training specialization is available for students who are pursuing certification in athletic training. This option may only be completed under the direct supervision of the athletic training adviser and the athletic trainer employed by the University. Written permission must be obtained from both parties before students may pursue this specialization. In order to be eligible for certification by the National Athletic Trainers Association, students must complete 1,800 hours of athletic training internship under the direction of a certified athletic trainer. Students must be committed to the completion of these hours before specialization approval will be given.

- Biol 349, H Ed 350, Home Econ 250, Hux 352a,b, PE 304, 402, 409, 440, Psych 201, and 9 additional credits in PE 491

D. Sport Psychology 30 credits

The sport psychology option is available for students who have a clinical or practical use for the application of psychology to the athletic environment. This option provides an emphasis in psychology which will serve as an adequate set of prerequisites for post-baccalaureate study in sport psychology. PE 307, 309 and 310 are required and must be taken as part of the core requirements in the major.

- PE 408, Psych 201, 311. Select 17 credits from the following: Psych 306, 313, 315, 316, 321, 322, 324, 342, 353

BACHELOR OF ARTS IN EDUCATION

Major — K-12 — Physical Education

68-71 credits

This major provides a concentrated study of instructional techniques, pedagogy, exercise and sport science, and socio-cultural aspects of physical education and sport. Completion of the requirements leads to teacher certification in K-12 physical education.

Prerequisites for entry into the major are (1) acceptance into the School of Education and a 2.75 grade point average; (2) competency test, or one credit class or equivalent experience in (a) all of the following activities: badminton, basketball, intermediate swimming, soccer, tennis, weight training, volleyball, (b) three of the following activities: martial arts, fencing, golf, archery, wrestling, football, softball, (c) three of the following activities: sailing, canoeing, bicycling, cross-country skiing, alpine skiing, board-sailing; (3) Biol 348 or equivalent; and (4) H Ed 252 or equivalent.

- Introduction to Physical Education: 3 credits
— PE 203
- Instructional Techniques: 16 credits
— PE 208, 220, 232, 243, 245, 250, 251, 256
- Pedagogy: Analysis of Teaching, Practicum: 16-19 credits
— PE 320, 350, 392, 401, 492, 496
- Exercise and Sport Science: 23 credits
— PE 301, 302, 303, 307, 485, 490
- Socio-Cultural: 10 credits
— PE 308 or 310; 309, 407

HEALTH EDUCATION

The curriculum reflects the broad and dynamic nature of the field of health education. Development of the curriculum had been guided by A

Framework for the Development of Competency-Based Curricula for Entry-Level Health Educators, prepared under the auspices of the National Task Force on the Preparation and Practice of Health Educators, Inc. The practice of health education/health promotion occurs in community, school, business and medical care settings.

Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements and health education major foundation courses. Several courses that are required for the community health and school health majors also fulfill GUR requirements (Chem 115 and 251, Home Econ 250 and Psych 201 or Soc 202). Electives that emphasize oral and written communication skills and the behavioral sciences are recommended. Junior and senior years are devoted to health education and human development core requirements and the community health concentration or teacher education sequence requirements.

BACHELOR OF ARTS IN EDUCATION

The school health education major prepares students to design, teach and evaluate educational programs that seek to promote healthy lifestyles among students and provide them with decision-making skills that will foster positive health choices. The school health educator is involved in the coordination of school health programs that consist of instruction, maintenance of a healthful school environment and provision of school health services. Students should contact the School of Education Admissions Office (Miller Hall 202) for certification, endorsement, admissions procedures and standards specifically related to teacher education requirements.

Physical Education

Major Declaration

To declare a major in school health, a student must meet the 2.75 GPA requirement of teacher education. Further information and major declaration forms are available from the coordinator of health education, Carver 104.

Major — School Health Education 65 credits

General Core 13 credits

- Chem 115*
- Nutrition — Home Econ 250 or Hux 352a
- Psych 201 or Soc 202*

*Meets General University Requirements

Health Education Core 32 credits

- H Ed 150, 151, 152, 252
- H Ed 349, 350, 407, 447, 450, 460, 470

Human Development Core

20 credits

- Biol 348, 349
- Behavioral/Social Sciences — 10 credits under advisement

Minor — School Health Education 30 credits

- 4 credits from H Ed 150, 151, 152, 220
- H Ed 252 or 352, 349, 350, 447, 450
- Biol 348
- Home Econ 250 or Hux 352a
- 1-3 credits under departmental advisement

BACHELOR OF SCIENCE

Major — Community Health

110 credits

This major prepares students to design, implement and evaluate educational programs that stimulate an individual's or a group's awareness, understanding, and practice of health behaviors that promote health and well-being. Students participate in all aspects of programs that identify and

address the health needs of target populations.

Prerequisites for entry into the major are (1) completion of 7.5 credits with a 2.5 grade point average, and (2) 26-28 credits (of which 18 credits meet GUR requirements) from the following: H Ed 150, 151, 152, 252 or 352, Chem 115, 251, Home Econ 250 or Hux 352a, and Psych 201 or Soc 202.

Students must maintain a 2.5 GPA in courses required in the major. Further information and major declaration forms are available from the coordinator of health education, Carver 104.

PROGRAM OF STUDY

Health Education Core: 41 credits

- H Ed 349, 350, 407, 435, 447, 450, 451, 460

Human Development Core:

29 credits

- Behavioral Sciences — 5 credits upper-division psychology or sociology course
- Biol 348 and 349; 345 or 449
- PE 303
- Communications — Speech 204 or 309 or Journ 205

Concentration Core:

14 credits under advisement

Students select one of the two concentrations listed below. Concentrations relate to the setting in which the student wishes to practice.

- Community-based setting: Biol 370, H Ed 220, 470, Home Econ 350, Hux 454, Soc 335, 340, Speech 404
- Workplace-based setting: PE 208, 302, 403, 440, Rec 377, Psych 320, Tech 328

Minor — Community Health

25 credits

- H Ed 252 or 352, 349, 350, 447, 450
- Home Econ 250 (or Hux 352a)
- Biol 348
- 1-2 credits under departmental advisement

RECREATION AND PARKS

As our society becomes increasingly leisure oriented and responsive to needs for recreation activity, career opportunities for professionals in recreation become more numerous and diverse. The Recreation and Parks curriculum prepares students to plan, develop and administer programs and resources in community, outdoor and therapeutic recreation settings.

The curriculum adapts the quarter system of scheduling classes to a phase system. Students enter phase I of the program during spring quarter of their sophomore year. They continue through the curriculum as a group, as indicated in the schedule below.

	Fall	Win	Spr	Sum
Fresh				
Soph			I	
Junior		II	III	or III
Senior	IV			

The phase system allows maximum flexibility in scheduling workshops, field experiences, conferences and seminars both on and off campus. By making use of other departments at Western, statewide recreation resources and recreation professionals, a wide range of educational experiences is available to the student.

The Recreation and Parks program emphasizes preparation in the broad areas of outdoor recreation, community recreation, and therapeutic recreation. Community and outdoor recreation graduates have been successful in finding employment in federal and state recreation and park agencies, county and community recreation departments, commercial recreation businesses and industrial recreation settings. Therapeutic recreation graduates find employment in hospitals, senior centers, nursing homes, mental health agencies, community recreation departments, and federal, state and private agencies serving special populations.

The program received national accreditation by its governing body, the NRPA, in 1986. Students interested in this program should consult Recreation and Parks for current information on admission procedures. The program is popular, and the number of major and minor students is limited.

BACHELOR OF ARTS

Major — Recreation and Parks 66 credits

- Prerequisite: Rec 171
- Phase I: Rec 271, 272, 274, 275, 276
- Phase II: Rec 372, 373, 374, plus 2 of 3: Rec 375, 376, 377
- Phase III: Rec 471
- Phase IV: Rec 444, 450, 476, plus 2 of 3: Rec 421, 474, 475

Support Area

Recreation and Parks majors must develop a 25-credit support area. Support area prescriptions are worked out cooperatively with the student's faculty adviser and must have the adviser's final approval. They may range from traditional minors in sociology, environmental studies and other fields to interdisciplinary studies incorporating courses from a broader spectrum of University course offerings. Support areas are designed on the basis of previous experience in recreation related programs, skills and interests, and professional aspirations.

Example Support Areas: business administration, sociology, special education, communications, retail management, psychology, journalism, natural resource management, environmental planning, physical education, cultural arts, commercial recreation, biology, health promotion.

Minor 35 credits

- Prerequisite: Rec 171
- Complete Phases I and II

Physical Education

COURSES IN PHYSICAL EDUCATION

Courses numbered X37: X97: 300, 400, 417: 445 are described on page 38 of this catalog.

Developmental Skills/Fitness Leadership

Activities courses, with the exception of varsity sports and those so noted, may not be repeated for credit.

100-level classes: Courses numbered 179 or below are S U graded. A \$10 fee is required upon registration

Beginning courses, or equivalent, are prerequisite to intermediate courses, which are in turn prerequisite to advanced courses in any given activity

101-109 DEVELOPMENTAL (1 ea)

- 102 Conditioning/Aerobic Fitness
- 103 Jogging
- 108 Weight training

111-119 AQUATICS (1 ea)

- 112 Beginning Swimming (for non-swimmers)
- 113 Intermediate Swimming
- 114 Advanced Swimming
- 116 Advanced Lifesaving and Water Safety (2)
Prereq: advanced level in swimming proficiency test. Instruction leading to qualification for the American Red Cross Lifesaving Certificate.

120-129 DANCE (1 ea)

(See Theatre/Dance Department for additional dance offerings)

- 120 Social Dance
- 122 Folk and Square Dance

130-139 DUAL SPORTS (1 ea)

- 132 Beginning Badminton
 - 133 Intermediate Badminton
 - 134 Fencing
 - 136 Beginning Tennis
 - 137 Intermediate Tennis
 - 139 Racquetball
- The student furnishes equipment for PE 132, 133, 136, 137, 139.

140-149 TEAM SPORTS (1 ea)

- 142 Basketball
- 144 Soccer
- 145 Volleyball
- 148 Lacrosse
- 149 Rugby

150-173 INDIVIDUAL SPORTS (1 ea)

- 150 Archery
- 151 Gymnastics
- 154 Golf
- 156 Track and Field
- 157 Beginning Skiing
- 158 Intermediate Skiing

- 159 Advanced Skiing
- 160 Sailing and Canoeing
Prereq: swimming test
- 161 Board Sailing
- 162 Horsemanship
- 167 Bicycling
- 168 Karate
- 170 Hiking and Alpine Travel (2)
- 173 Riflery

The student enrolling in 157, 158, 159, 160, 161, 162, 170 and 173 pays cost of transportation and individual instruction. Students in 157, 158, 159, 161 also furnish own equipment.

180-193 INTERCOLLEGIATE SPORTS (2 ea)

- 180m Intercollegiate Football
- 181 Intercollegiate Basketball
- 183 Intercollegiate Track and Field
- 185 Intercollegiate Golf
- 189 Intercollegiate Cross Country
- 190 Intercollegiate Crew
- 192w Intercollegiate Volleyball
- 193m.w Intercollegiate Soccer

Professional Courses

201 PERSPECTIVES OF HUMAN LIFESTYLE AND WELLNESS (3)

Overview and analysis of the role and place lifestyle and wellness play in society (past, present and future).

203 INTRODUCTION TO PHYSICAL EDUCATION (3)

Required for acceptance into the program. Career orientation, professional organization, research, physical fitness and skill competency testing, relationship between physical education and athletics

208-256 INSTRUCTIONAL TECHNIQUES (2 ea)

Selectively required of majors and/or minors in physical education as these courses deal with teaching of the sport. Prereq: competency in skills and knowledge of the sport

- 208 Strength Training for Fitness Conditioning
- 220 Dance: Creative, Folk and Square K-6
- 232 Racket Sports
- 243 Contemporary Recreational Activities
- 245 Team Sports
- 250 Body Management and Gymnastics K-6
- 251 Gymnastics
- 256 Track and Field

217 WATER SAFETY INSTRUCTORS' COURSE (2)

Prereq current American Red Cross Advanced Lifesaving Certificate Stroke analysis and methods of teaching lifesaving and aquatic skills instruction leading to qualification as an American Red Cross Water Safety Instructor.

- 301 **BIOMECHANICS (4)**
Prereq: Math 104 or 105. Application of basic mechanical principles to movement. Motion fundamentals, kinetics, kinematics, aerodynamics, hydrodynamics, equilibrium and external forces, rebound and spin, two-dimensional analysis, and the body as a machine; laboratory work is included.
- 302 **KINESIOLOGY (5)**
Prereq: Biol 348 or equivalent. Important muscles of the body; origin, insertion and action; principles of human movement; performance analysis of basic locomotor movements, daily living activities, and sports skills; laboratory work included.
- 303 **PHYSIOLOGY OF EXERCISE (5)**
Prereq: Biol 348. Nature of muscular, metabolic, cardiovascular and respiratory adjustments to acute and chronic exercise. The effect of training on fitness and health. Includes experimental laboratory sessions.
- 304 **ATHLETIC INJURIES AND TRAINING (3)**
Prereq: Biol 348. Care and prevention of athletic injuries; procedures for building physical stamina; experience in taping procedures.
- 305 **MICROCOMPUTER APPLICATIONS IN HEALTH, PHYSICAL EDUCATION AND RECREATION (3)**
Prereq: junior status; students must be health, physical education or recreation majors. Survey of currently available microcomputer software within the areas of health, physical education and recreation. Programs will be reviewed and analyzed in areas such as fitness evaluation, scheduling and organization, sport statistics, record keeping, data acquisition, nutritional evaluation and word processing.
- 306 **PHYSICAL EDUCATION FOR ELEMENTARY SCHOOL (3)**
Prereq: Psych 316 or 352. Physical activities in dance, games and gymnastics for elementary age. Methods of teaching and developmental characteristics of children.
- 307 **MOTOR LEARNING (3)**
Prereq: PE 203 and six credits from PE 208-256. Principles of motor skills acquisition as it relates to teaching methodology and coaching techniques.
- 308 **INTERNATIONAL PHYSICAL EDUCATION AND SPORT (3)**
Prereq: PE 200. An analysis of various physical education and sport programs throughout the world, with an emphasis on socialist countries, Western European countries, and Canada.
- 309 **PSYCHOLOGY OF SPORT (3)**
Psychological principles and states which are present in sporting activities, both at recreational and highly competitive levels.
- 310 **SOCIOLOGY OF SPORT (3)**
Sociological implications of sport in contemporary American society.
- 320 **DANCE: SOCIAL 6-12 (2)**
Prereq: PE 220. Introduces a sequence of ballroom and social dance steps with view to teaching children to dance. Methodology is geared primarily to the secondary level, although students learn steps appropriate for the elementary level.
- 341-347 **SPORTS OFFICIATING (2 ea)**
Officiating techniques for individual and team sports.
342m Basketball
342w Basketball
343 Track and Field
- 350 **GAMES AND SPORTS: STRATEGIES FOR TEACHING IN ELEMENTARY AND MIDDLE SCHOOLS (2)**
Prereq: PE 306 or equivalent. Developing problem-solving strategies, modified games/sports, creative games in cooperative and competitive activities. Use of learning centers/stations.
- 380-387 **COACHING SPORTS (2-3 ea)**
Practical and theoretical aspects of coaching the sport with special emphasis on advanced skill development and current methodology and resource material being utilized.
380 Football (3)
381 Basketball (3)
383 Track (3)
385 Volleyball (2)
387 Tennis (2)
- 392 **PHYSICAL EDUCATION OBSERVATION/TEACHING EXPERIENCE WITH CHILDREN (1-4)**
Prereq: PE 250 or 306. Observation and micro-teaching experience in school settings.
- 401 **SECONDARY SCHOOL METHODS AND PROFESSIONAL PRACTICUM (5)**
Prereq: junior status and completion of 20 hours in the major program. Seminar, observation, and practical experience in teaching physical education in secondary schools.

Physical Education

- 402 CORRECTIVE PHYSICAL EDUCATION (3)**
Prereq: Biol 348 or equivalent; PE 302. Implications of growth patterns, coordinations and postural deviations relating to the physical education program; conditioning techniques, corrective procedures.
- 403 PHYSICAL FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION (4)**
Prereq: PE 302, 303. Examine techniques of evaluation for physical fitness with an emphasis on aerobic capacity, flexibility, strength and body composition, design, implement and administer exercise programs for developing physical fitness.
- 406 THE ADMINISTRATION OF ATHLETICS (3)**
Prereq: senior status. Organization and administration of policies and procedures for interschool athletic programs with special emphasis on management of contests, financing, care and maintenance of facilities and equipment.
- 407 HISTORY, PHILOSOPHY AND ETHICS OF PHYSICAL EDUCATION (4)**
Prereq: PE major or minor; senior status. Philosophical and historical considerations of physical education with emphasis on social, cultural and aesthetic aspects of sports and dance.
- 408 SEMINAR IN SPORT PSYCHOLOGY (3)**
Prereq: Psych 201, 311; PE 307, 309, 310. An interdisciplinary seminar (psychology/physical education) exploring core topics of sport psychology including: evaluation of athletes, research design and strategies, personality assessment, mental and physical preparation for competition, clinical applications.
- 409 PHYSICAL EDUCATION ADMINISTRATION & MANAGEMENT (3)**
Prereq: PE 203; 15 credits in the major courses. Criteria for the selection of program activities, planning and maintenance of facilities and equipment, personnel development, evaluative procedures and techniques, administrative policies.
- 440 PHYSICAL ACTIVITY AND NUTRITION (3)**
Prereq: Home Econ 250 or Hux 352. Current topics on exercise and nutrition; weight control, obesity, dietary supplementation and performance, fluid regulation, atherosclerosis, diabetes and exercise.
- 485 HUMAN GROWTH AND MOTOR DEVELOPMENT (3)**
Growth characteristics and sequence of motor development to maturity, implications for motor performance.
- 490 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION (3)**
Application of the theory of measurement, evaluation, and appropriate statistical processes to physical education programs; practical experiences involving test selection, administration and evaluation and interpretation of results in public school and college physical education programs.
- 491 FIELD EXPERIENCE IN PHYSICAL EDUCATION ACTIVITIES (3)**
Prereq: senior standing and permission of department. Practical experience in local public schools and voluntary agencies in conducting activity programs. Course may be repeated once. S/L grading.
- 492 PRACTICUM IN PHYSICAL EDUCATION (2)**
Prereq: upper-division status, permission of department. Individualized practicum in teaching physical education activities. The course may be repeated. S/U grading.
- 496 PHYSICAL EDUCATION FOR THE EXCEPTIONAL CHILD (3)**
Prereq: permission of instructor. Use of movement experiences for child-centered education for exceptional children; methods, activities in gymnastics, games and sports, body competencies and creative movement.

Graduate Courses in Physical Education

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 502 RESEARCH TOPICS IN PHYSICAL EDUCATION (2-5)**
Prereq: graduate status. Supervised study in topics relating to sociology/psychology of sport, biomechanics, exercise physiology, history, curriculum, pedagogy, human growth and motor development.
- 504 CURRICULUM IN PHYSICAL EDUCATION (4)**
Prereq: teaching experience. Physical education programs, based on the needs, interest, abilities of students.

- 505 **ADVANCED PEDAGOGY (4)**
 Prereq: PE 401 or equivalent. access to a teaching situation, previous teaching experience. Exploration of the past and current research in the area of teaching physical education. The study of current measurement of physical education teaching effectiveness. The design of a teaching effectiveness instrument and its implementation in a school setting.
- 506 **RESEARCH DESIGN IN PHYSICAL EDUCATION (4)**
 Prereq: graduate status or Ed 501 or taken concurrently. Purpose and design of various methods with emphasis upon experimental, descriptive, survey methods usually incorporated in schools, agencies, colleges; computer application.
- 507 **MOTOR LEARNING ADVANCED (3)**
 Prereq: PE 307 or equivalent. Factors affecting the acquisition of skill; individual and group differences, retention, transfer of training, motivation in learning motor skills.
- 509 **ADMINISTRATION OF PHYSICAL EDUCATION, SPORTS, PHYSICAL ACTIVITY CENTERS (3)**
 Prereq: Ed 541a, Phys Ed major degree, teaching experience. Administrative structures, policies and procedures for the conduct of physical education and sports programs in school, commercial and governmental agencies. Discussion will be given to budgets, legal liability, purchase and maintenance of equipment, facilities, public relations.
- 513 **TECHNIQUES AND APPLICATION OF FITNESS EVALUATION PROCEDURES (4)**
 Prereq: PE 303 or equivalent and permission of the instructor. Fitness evaluation of the human body. Emphasis on electrocardiography, exercise stress-testing techniques, physique, and body composition analysis, muscular strength and endurance, and phlebotomy/blood analysis.
- 514 **PHYSICAL ACTIVITY AND HYPOKINETIC DISEASES (3)**
 Prereq: PE 303 or equivalent and permission of instructor. Survey of effects of physical activity on disease processes related to hypokinesia: cardiovascular disease, obesity, diabetes, osteoporosis, arthritis. Overview of needs of special populations: geriatrics, children.
- 513 **EXERCISE PRESCRIPTION AND PROGRAMMING (4)**
 Prereq: PE 302, 303 or equivalents. Design safe, effective and enjoyable physical activities for selected populations in competitive, preventive and rehabilitative exercise programs. Medico-legal aspects and administration of exercise prescription and programming. Case studies.
- 520 **READINGS IN PHYSICAL EDUCATION (2-4)**
 Prereq: graduate status. Directed readings, analysis, discussion of current literature on physical education culminating in a colloquium of a chosen topic.
- 531 **SEMINAR: COMPARATIVE PHYSICAL EDUCATION (3)**
 Prereq: PE 407. Physical education systems in major countries; backgrounds, types, aims and present function; comparison with the American system.
- 533 **CARDIOVASCULAR PHYSIOLOGY (3)**
 Prereq: PE 303 or Bio 348 or equivalent. Advanced principles and concepts regarding cardiovascular dynamics. Examines various parameters of the cardiovascular system, the relationship of resting data to exercise data, and electrocardiography.
- 540 **APPLIED EXERCISE PHYSIOLOGY (4)**
 Prereq: exercise physiology. Selected topics in advanced exercise physiology: homeostasis, energy systems, metabolism, cardiorespiratory adjustments, hormonal control, neuromuscular physiology, ergogenic aids, thermoregulation, by lecture and recitation.
- 541 **SEMINAR: SPORT PSYCHOLOGY (3)**
 Prereq: PE 309 or equivalent. Application of data from psychology to sport activity, athletics, performance and coaches.
- 542 **SEMINAR: SOCIOLOGY OF SPORT (3)**
 Prereq: PE 310 or equivalent. Role and nature of sport in society; affluence and sport, urban life and leisure, amateur and professional sport, politics and sport.
- 543 **SEMINAR: BIOMECHANICS (4)**
 Prereq: PE 301, 302 or equivalent. Application of mechanical principles to analysis of motor skills and athletic events.
- 544 **BIOMECHANICS OF THE MUSCULO-SKELETAL SYSTEM (4)**
 Prereq: PE 301, 302 or equivalent and permission of instructor. Selected topics relating to biomechanics of the musculoskeletal system, muscular and skeletal system characteristics, biomechanics of the hip, knee, shoulder, foot, ankle and vertebral column.

Physical Education

546 INSTRUMENTATION IN BIOMECHANICS (4)

Prereq: PE 301 or equivalent and permission of instructor. Selected topics relating to current research techniques in biomechanics: computerized data acquisition, electrogoniometry, cinematography, smoothing and filtering techniques, anthropometrics, force platforms, EMG and surface topography

592 INTERNSHIP (2-6)

Prereq: completion of coursework and permission of instructor. Supervised internship in schools, hospitals, clinics or corporation/industries as appropriate to complement the student's area of interest. S/U grading.

690a THESIS (6-9)

Prereq: formal advancement to candidacy for the master's degree.

690b FIELD PROJECT (6-9)

Prereq: formal advancement to candidacy for the master's degree.

COURSES IN HEALTH EDUCATION

Courses numbered X37; X97: 300, 400, 417; 445 are described on page 38 of this catalog.

150 CONSUMER HEALTH (2)

Analysis and evaluation of health products, services, and information; selection of health care providers and programs; consumer protection agencies.

151 SOCIETY AND DRUGS (2)

Physical and psychological effects of mood altering drugs; societal use and misuse of legal and illegal drugs, including OTC drugs.

152 SOCIETY AND SEX (2)

Sociological, psychological, and biological aspects of human sexuality.

220 CANCER: FACTS AND FICTION (1)

An educational series providing basic overview of cancer, its forms of development and prevention. Environmental carcinogens, methods of cancer treatment and community resources available to patients and family members will be discussed.

252 FIRST AID AND PERSONAL SAFETY (2)

Aid for common injuries and illnesses based on the American Red Cross Standard First Aid and Personal Safety course. ARC certificate issued on completion of course requirements.

349 CONTEMPORARY HEALTH ISSUES (3)

Prereq: junior status; 6 credits in health education. Exploration of current health issues and fads; analysis of the implication of legislation and medical technology on individual and societal health.

350 WELLNESS AND ILLNESS (3)

Prereq: junior status. Topics covered: stress-relationship to wellness/illness; chronic/degenerative diseases; communicable diseases; respiratory, allergies and internal disorders; high-level wellness.

351 FIRST AID AND CARDIO-PULMONARY RESUSCITATION (1)

First aid using a multi-media program including units of cardio-pulmonary resuscitation.

352 ADVANCED FIRST AID AND EMERGENCY CARE (3)

The development of first aid skills required of persons who are responsible for providing emergency care as part of job and/or recreation. ARC certificates are issued on completion of course requirements.

407 HISTORICAL PERSPECTIVES OF HEALTH EDUCATION (3)

Prereq: H Ed 349, 350 and 447. Historical perspectives of health and health education; principles and practices of health education. Writing intensive course. Normally offered in alternate years.

435 ASSESSMENT AND DESIGN OF HEALTH PROMOTION (5)

Prereq: H Ed 350, PE 303; health, physical education or recreation major. Analysis and application of health risk appraisal; interpretation of health screening procedures; exploration, analysis and design of health promotion programs; application of computer software.

447 COMMUNITY HEALTH (3)

Prereq: 10 credits in health education or permission of instructor. Definition of community health, organization and administration of community health issues, program evaluation and direct involvement with health-related agencies.

450 METHODS AND MATERIALS IN HEALTH EDUCATION (4)

Prereq: H Ed 349 and 350 or permission of instructor. Basic principles and application of the process of health education in school and/or community health settings. Identification, examination, development and evaluation of resource materials.

- 451 **FIELD EXPERIENCE IN COMMUNITY HEALTH (15)**
Prereq: H Ed 450, 460 and Community Health major. Practicum in health-related community agencies. S/U grading.
- 452 **FIRST AID INSTRUCTOR'S COURSE (2)**
Prereq: current ARC certificate. Instructional methods, skills, resource materials for teaching first aid. ARC certificates issued on completion of requirements.
- 460 **CURRICULUM DESIGN AND EVALUATION IN HEALTH EDUCATION (5)**
Prereq: senior status. Application of concepts of curriculum design and evaluation of health education programs for school and community settings; models of health behavior; analysis of implementation process.
- 470 **SCHOOL HEALTH PROGRAM (3)**
Prereq: senior status, teaching experience, or permission of instructor. Analysis of the philosophical, organizational, and legal aspects of the school health program.
- 274 **INTRODUCTION TO THERAPEUTIC RECREATION (4)**
Prereq: Rec 171; majors and minors only. Introduction to the principles and practices of therapeutic recreation. Includes history, philosophy, and trends and issues. Also presents an overview of consumer groups associated with therapeutic recreation.
- 275 **PROFESSIONAL PRACTICUM (2)**
Prereq: Rec 171; majors and minors only. Participation in a recreation and park agency in the delivery of recreation services.
- 276 **RECREATION PROGRAMMING I (2)**
Prereq: Rec 171; majors and minors only. Leading and processing recreation experiences in community, outdoor and therapeutic recreation settings; individual, group and environmental factors.
- 372 **MANAGEMENT OF RECREATION AND PARK SERVICES (3)**
Prereq: Phase I. Entry-level administrative skills associated with managing personnel and organizational resources within parks and recreation systems.
- 373 **RECREATION PROGRAMMING II (4)**
Prereq: Phase I. Systems approach to programming methods for individual and group program planning in all parks and recreation settings.
- 374 **SUPERVISED FIELDWORK (3)**
Prereq: Phase I. Supervised laboratory experience in the recreation service professions. S/U grading.
- 376 **THERAPEUTIC RECREATION PROGRAM DESIGN (3)**
Prereq: Phase I or appropriate experience and written permission. Methods and techniques in the organization, implementation and evaluation of recreation programs for special populations needs assessment, activity modification, adaptive equipment, physical and behavioral management and intervention techniques.
- 377 **INDUSTRIAL RECREATION (3)**
Prereq: Phase I or written permission. Providing recreation and employee service programs in organizations planning, organization, marketing, leadership and evaluation.
- 378 **LEISURE FACILITATION (3)**
Prereq: Phase I; recreation major or written permission. Exploration of the concepts and skills required of the recreation professional as a facilitator of meaningful leisure experiences. Leisure facilitation is approached from a systems reference, emphasizing individual, interpersonal, social, political and economic factors.
- 451 **FIELD EXPERIENCE IN COMMUNITY HEALTH (15)**
Prereq: H Ed 450, 460 and Community Health major. Practicum in health-related community agencies. S/U grading.

COURSES IN RECREATION AND PARKS

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 171 **FOUNDATIONS OF RECREATION AND LEISURE (3)**
Professional course dealing with the history, philosophy, present status, future goals, and challenges of leisure and the recreation service professions.
- 271 **COMMUNITY RECREATION AND LEISURE SERVICES (4)**
Prereq: Rec 171; majors and minors only. Community-based recreation service agencies; philosophies, functions, services, personnel and facilities. Emphasis on the diversity and inter-relatedness of community recreation service agencies.
- 272 **DYNAMICS OF OUTDOOR RECREATION (4)**
Prereq: Rec 171; majors and minors only. Introduction to the major professional components of the outdoor recreation field; interpretive services, camping, resource management, programming, private recreation and tourism. Focuses on trends, programs, and related professional issues.



421 PRINCIPLES AND PRACTICES OF THERAPEUTIC RECREATION (3)

Prereq: Phase III or appropriate experience and written permission. Principles and practices of therapeutic recreation in relation to a variety of special populations served by recreation professionals.

444 RECREATION BUDGETING AND FINANCE (4)

Prereq: Phase III. Principles and techniques of obtaining, budgeting and managing financial resources in parks and recreation agencies.

450 RESEARCH AND INFORMATION SYSTEMS (3)

Prereq: Phase III. Survey research methods: mail, telephone and face-to-face interviews; data analysis and report writing. Library research source and techniques.

471 INTERNSHIP (15)

Prereq: Phase II. Full-time supervised professional experience emphasizing functional proficiency under joint sponsorship of University and agency personnel. S/U grading

474 OUTDOOR PROGRAM DEVELOPMENT (3)

Prereq: Phase III or appropriate experience and written permission. Methods and techniques in the organization, implementation and evaluation of recreation programs in outdoor settings. Emphasis on outdoor adventure programming.

475 PARK AND FACILITY DESIGN AND OPERATION (3)

Prereq: Phase III or appropriate experience and written permission. Design and operations considerations for the park and recreation administrator: program development, site analysis, unit relationships, site plans, plan evaluation, master plans, functional considerations, scheduling and maintenance.

476 TOURISM PLANNING AND DEVELOPMENT (3)

Prereq: Phase III or written permission. Study of the nature and process of planning as a function of tourism industry development; focus on the application of resource and activity planning principles to the recreational travel and tourism experience

Physics & Astronomy

The undergraduate major provides a broad coverage of basic physical topics and principles and combines both lecture and laboratory work. Students may choose from one of a number of programs which allow different relative emphasis on physics, math-physics, physics-computer science, optics or astronomy. Combined with the general educational program, students are well prepared for a varied career choice, e.g. high school teaching, graduate study and research/development work in governmental and industrial laboratories. Admission requirements are flexible enough to accommodate students who are beginning university-level work in mathematics and physics as well as those who can be granted advanced placement and credit for service-related experience or accelerated high school science and mathematics programs. Similarly, community college students with technical and academic credit in general physics and calculus can enter these programs without undue loss of credit and time.

The department has always given first priority to instruction and has acquired facilities, faculty and technical staff to support a strong curriculum including master's degree programs. Students have opportunity to participate in research projects involving nuclear, solid-state and theoretical physics, lasers, optics, acoustics, electronics or microcomputer interfacing.

The department provides an extensive program of student employment in laboratory instruction and technical work which provides valuable experience and financial support and promotes close association of faculty and students.

PHYSICS AND ASTRONOMY FACULTY

- AJIT S. RUPAAL (1964) Chair.
Professor. BSc, MSc, Panjab University; Ph.D., University of British Columbia.
- RICHARD A. ATNEOSEN (1968) Associate Professor. BS, MS, University of Minnesota; Ph.D., Indiana University.
- W. LOUIS BARRETT (1968) Associate Professor. BS, University of Idaho; MS, Ph.D., University of Washington.
- WILLIAM J. DITTRICH (1951) Associate Professor. BS, MS, University of Washington.
- RICHARD FEINBERG (1980) Associate Professor. BS, State University of New York; MS, Ph.D., Stanford University.
- RICHARD H. LINDSAY (1961) Professor. BS, University of Portland; MS, Stanford University; Ph.D., Washington State University.
- ROBERT J. QUIGLEY (1970) Professor. BS, MS, California Institute of Technology; MA, Ph.D., University of California, Riverside.
- LESLIE E. SPANEL (1968) Associate Professor. BS, University of Missouri, Rolla; Ph.D., Iowa State University, Ames.
- DONALD L. SPRAGUE (1965) Associate Professor. BS, MS, Ph.D., University of Washington.
- RICHARD D. VAWTER (1968) Associate Professor. BS, Texas Technological University; MS, State University of Iowa; Ph.D., State University of New York.
- J. JOSEPH VEIT (1963) Professor. BSc, University of London; MSc, University of Birmingham; Ph.D., University of London.

Research Associate

- Roy F. Potter (1977) BS, University of Washington; MS, University of Maryland; Ph.D., University of Rhode Island.

BACHELOR OF ARTS

Major — Physics 86 credits

Core Courses (required of all BA majors)

- Physics 241, 242, 279; Math 124, 125, 126, 205
- Physics 341, 342, 343, 351, 352, 353; Math 224, 331, 332
- Physics 381, 382, 383, 391, 392, 393

It is recommended that each of the above groups be taken in the first, second and third year, respectively.

Physics/Astronomy

In addition every major must complete one of the following concentrations:

Physics Concentration

- 11 credits of upper-division courses

Astronomy Concentration

- Astron 315, 316, 317

Chem 121 and Computer Science 210 are recommended for both concentrations.

Minor — Physics

25 credits plus supporting courses

- Physics 241, 242, 341, 342, 343, 351, 352, 353
- Math 124, 125, 126

BACHELOR OF SCIENCE

Major — Physics 110 credits

Core Courses (required of all BS majors)

- Physics 241, 242, 279; Math 124, 125, 126, 205; Chem 121
- Physics 341, 342, 343, 351, 352, 353, 371; Math 224, 331, 332; Comp Sci 210
- Physics 381, 382, 383, 391, 392, 393
- Physics 421, 422

It is recommended that each of the above groups be taken in the first, second, third and fourth years, respectively.

In addition every major must complete one of the following concentrations:

Physics Concentration

- Physics 355, 356
- Plus 6 credits of 400-level courses

Math-Physics Concentration

- Math 404, 430, 431
- Plus one 400-level course in physics or mathematics

Optics Concentration

- Physics 355, 405, 409, 411

Combined Major — Physics/Computer Science 110 Credits

- Physics 241, 242; Math 124, 125, 126, 205
- Physics 341, 342, 351, 352, 355, 356; Math 331, 332; Comp Sci 210, 310
- Physics 381, 382; Comp Sci 331, 332; Math/CS 207, 208, 375; plus 3 to 5 credits of upper-division electives in computer science or math/computer science
- Physics: 14 to 16 credits of upper-division electives of which up to 6 credits may be in computer science or math/computer science

BACHELOR OF ARTS IN EDUCATION

Teaching Endorsement

Recommendation for teaching endorsement normally requires completion of the appropriate major with a minimum grade point average of 2.50.

Each of the major concentrations below provides endorsement in two related areas. Students wishing to combine physics with some other teaching major should refer to the BA minor in physics.

Major — Physics/Mathematics 91 credits

- Physics 241, 242, 279; Math 124, 125, 126; Comp Sci 210
- Physics 341, 342, 343, 351, 352, 353; Math 205, 224, Math/CS 207
- Physics 355; Math 305, 360, 483
- Physics: 15 credits under advisement

Major — Chemistry/Physics

See Chemistry Department section of catalog for details.

COURSES IN PHYSICS

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 101 **PHYSICS FOR THE LIBERAL ARTS (4) F,W,S**
 Basic concepts of physics. Some sections emphasize special topics such as household physics; environmental physics; light, sound, color and music; etc. For students with no previous physics background. Laboratory included.
- 131 **PRINCIPLES OF PHYSICS I (5) F,W**
 Prereq: high school algebra and geometry, or equivalent; knowledge of elementary trigonometric functions. Kinematics and dynamics of particles; concepts of force, momentum and energy; behavior of fluids; vibrations and waves. Recommended for students in science and pre-professional programs not requiring physics and calculus.
- 132 **PRINCIPLES OF PHYSICS II (5) W,S**
 Prereq: Physics 131. Kinetic theory; heat and thermodynamics; principles of electricity and magnetism. Laboratory.
- 133 **PRINCIPLES OF PHYSICS III (5) S**
 Prereq: Physics 132. Geometrical and wave optics; relativity; atomic and nuclear physics. Laboratory.
- 201 **THE SCIENCE OF HIGH FIDELITY (3) F,S**
 High-fidelity audio components. Basic principles applied to the recording and reproduction of music. Operation and evaluation of tape recorders, turntables, phonocartridges, amplifiers, loudspeakers, etc. Laboratory.
- 202 **SOUND SYSTEMS (3) W**
 Prereq: Physics 201. Room acoustics, electronic alteration of sound amplifiers, crossover networks, VHS and Beta HiFi, digital sound.
- 203 **MUSICAL ACOUSTICS (3) S**
 Physical and subjective characteristics of sound; analysis of musical sounds; musical instruments; scales and room acoustics. Laboratory. Not intended for physics majors.
- 205 **LASERS AND HOLOGRAPHY (3) S**
 Introduction to lasers, laser light and holography. Laboratory. Not intended for physics majors.

207 **SOLAR ENERGY (3) F**

Prereq: high school algebra and geometry, or completion of Astron 103. Practical utilization of the solar resource. Natural processes and solar motion as a function of latitude; collection of light energy; storage of thermal energy and heat transfer. Working details and performance data for passive and active solar buildings.

241 **PHYSICS WITH CALCULUS I (5) F,W**

Prereq: Math 124. Kinematics and dynamics of particles; work and energy; collisions and conservation of momentum; rotational kinematics and dynamics. Laboratory.

242 **PHYSICS WITH CALCULUS II (5) W,S**

Prereq: Physics 241 and Math 125. Oscillation; gravitation; fluid statics and dynamics; waves and sound; thermo-dynamics. Laboratory.

271 **STATICS FOR ENGINEERS (4) W**

Prereq: Math 125 (or concurrent) and Physics 241. Principles of statics, basic concepts, parallelogram law, Newton's law, resultants, force-couple relationships, equilibrium diagrams, equilibrium analysis, three-dimensional structures, two-dimensional frames, trusses, friction and virtual work.



Physics/Astronomy

- 272 DYNAMICS FOR ENGINEERS (4) S
Prereq: Physics 271 and Math 126. Rectilinear motion, vector calculus, kinematics and kinetics of a particle, friction, vibration, impulse, momentum, work and energy, conservation laws, moving references, central force motion, systems of particles, rigid body mechanics.
- 279 INTRODUCTION TO SPECIAL RELATIVITY (3) F
Prereq: Math 124 or concurrent. The relationship of space and time; the Michelson-Morley experiment, the Lorentz-Einstein transformations; time dilation and the Lorentz contraction; space-time events and the world lines; relativistic dynamics.
- 341 ELECTRICITY AND MAGNETISM (4) F,S
Prereq: Physics 242 and Math 126. Concurrent enrollment in Physics 351 required for physics majors. Electrostatics; magnetic fields of steady currents; time-varying electric and magnetic fields; DC and AC circuits; electromagnetic waves.
- 342 OPTICS (4) W
Prereq: Physics 242 and Math 126. Concurrent enrollment in Physics 352 required for physics majors. Reflection and refraction at plane and spherical surfaces, lenses and aberrations; optical instruments; interference and interferometers; diffraction; polarization.
- 343 THERMAL PHYSICS (4) S
Prereq: Physics 242 and Math 126. Concurrent enrollment in Physics 353 required for physics majors. Thermal properties of matter; kinetic theory; laws of thermodynamics; thermodynamic potentials and Maxwell's relations.
- 344 ACOUSTICS (3) F
Prereq: Physics 242 and Math 126. Generation, transmission and reception of acoustic waves. Applications to selected areas of practical acoustics.
- 351 E AND M LABORATORY (1) F,S
Prereq: concurrent enrollment in Physics 341.
- 352 OPTICS LABORATORY (1) W
Prereq: concurrent enrollment in Physics 342.
- 353 THERMAL LABORATORY (1) S
Prereq: concurrent enrollment in Physics 343.
- 355 FUNDAMENTALS OF ELECTRONICS (4) F
Prereq: Physics 341 (or 133 with permission) Principles of DC and AC circuit theory; diodes; bipolar and FET transistors; transistor amplifiers, opto-electronic devices and waveform generators. Laboratory.
- 356 ANALOG AND DIGITAL ELECTRONICS (4) W
Prereq: Physics 355. Principles of operational amplifiers; active filters, logarithmic and non-linear circuits. Boolean algebra; TTL and CMOS logic gates; counters and registers; multiplexing; timing and control; A to D and D to A conversion; microprocessors and noise. Laboratory.
- 357 SELF-DIRECTED DIGITAL LABORATORY (2) S
Prereq: Physics 341 (or 133 with permission). Self-paced study in advanced digital electronics using the Bug Books; gating, counters, decoders, multiplexers, shift registers and semiconductor memories.
- 371 ELECTRIC AND MAGNETIC FIELDS (4) W
Prereq: Physics 341; Math 224, 331 (may be taken concurrently). Differential representation of electric and magnetic field laws; Maxwell's equations and electromagnetic waves in free space, dielectrics and conductors; reflection and refraction at a plane boundary; guided waves; dipole radiation.
- 375 CLASSICAL MECHANICS (3) F
Prereq: Physics 242, Math 331. Newtonian mechanics; general motion of a particle in three dimensions; the harmonic oscillator; non-inertial reference systems. Celestial mechanics; mechanics of rigid bodies; motion of rigid bodies in three dimensions. Oscillating system.
- 381 QUANTUM PHYSICS (4) F
Prereq: Physics 279, 341, 342 and Math 332. Concurrent enrollment in Physics 391 required for physics majors. Dual nature of radiation and matter; the Bohr atom; Schrodinger's theory applied to the square well, the harmonic oscillator and one-electron atoms.
- 382 ATOMIC AND SOLID-STATE PHYSICS (4) W
Prereq: Physics 381. Concurrent enrollment in Physics 392 required for physics majors. Quantum physics applied to multi-electron atoms, molecules and solids; spectra, structure and properties of solids.

- 383 **NUCLEAR AND ELEMENTARY-PARTICLE PHYSICS (4) S**
 Prereq: Physics 382. Concurrent enrollment in Physics 393 required for physics majors. Structure, properties and decay of atomic nuclei; detection of nuclear radiation; nuclear reactions; introduction to elementary particles.
- 391 **QUANTUM PHYSICS LABORATORY (1) F**
 Prereq: concurrent enrollment in Physics 381. Selected experiments in quantum physics.
- 392 **ATOMIC PHYSICS LABORATORY (1) W**
 Prereq: concurrent enrollment in Physics 382. Selected experiments in atomic, molecular and solid-state physics.
- 393 **NUCLEAR PHYSICS LABORATORY (1) S**
 Prereq: concurrent enrollment in Physics 383. Selected experiments in nuclear physics, including nuclear reactions using a particle accelerator.
- 395 **FRONTIERS IN PHYSICS AND ASTRONOMY (3)**
 Prereq: one college-level physics course. Important developments in physics and astronomy during the 20th century. Not intended for physics majors. (Summers only.)
- 399 **SOLAR ENERGY PHYSICS (3) W**
 Prereq: Physics 101 or 131 or Astron 103. Solar, atmospheric and blackbody physics. Solar heat collection, transfer and storage with applications to solar space heating. Design criteria: solar measurements; resource studies. Research into large-scale solar systems.
- 405 **LASERS (3) S**
 Prereq: Physics 382. Properties of laser light, basic laser principles, laser output and its modifications (intracavity elements, Q-switching, frequency doubling, etc.). Laser types: gas, solid, semiconductor and dye. Laser applications.
- 409 **MODERN OPTICS (4) F**
 Prereq: Physics 382. Concurrent enrollment in Physics 485 is recommended. Fresnel diffraction, Fourier treatment of Fraunhofer diffraction with applications to optical data processing, etc. Theory of partial coherence with applications to stellar interferometry and Fourier transform spectroscopy. Laboratory.
- 411 **ELECTRO-OPTICS (3) W**
 Prereq: Physics 382 (or concurrent enrollment). Principles of electro- and acousto-optic modulation of laser light, beam deflection; magneto-optics; wave propagation in non-linear anisotropic media; optical second harmonic generation; theory of fiber optic communications and sensors; light sources and detectors; imaging devices. Applications.
- 415 **HOLOGRAPHY (3) S**
 Prereq: Physics 342 and 352. Basic concepts of holography in thin and thick recording media; theory of elementary holograms and Gabor zone plates; major hologram types; interferometric holography. Laboratory.
421. 422 **QUANTUM MECHANICS (4 ea) F,W**
 Prereq: Physics 383. Review of Schroedinger's theory; eigenfunctions and eigenvalues; operator methods; angular momentum and spin; stationary-state and time-dependent perturbations; multiparticle systems.
- 431 **SOLID-STATE PHYSICS (4) W**
 Prereq: Physics 382. Phonons and lattice vibrations; free electron theory of metals; electrical conductivity; thermal properties, energy-band theory; diamagnetism and paramagnetism.
- 451 **NUCLEAR PHYSICS (3) S**
 Prereq: Physics 383. Basic nuclear properties; nuclear models; interaction of radiation with matter; radioactive decay; elementary nuclear reactions.
- 471 **ELECTROMAGNETIC THEORY (3) S**
 Prereq: Physics 371. Dielectric materials; general methods for solving Laplace's and Poisson's equations for the electrostatic potential; magnetic materials; radiation from an arbitrary distribution of charges and currents; radiation from accelerated charges; relativistic electrodynamics. Normally offered alternate years; alternates with 491.
- 475 **CLASSICAL DYNAMICS (3) W**
 Prereq: Physics 375 and Math 332. Lagrangian mechanics, perturbation techniques for dynamical systems; theory of oscillations; central forces and scattering theory.
- 479 **RELATIVITY THEORY (3) S**
 Prereq: Physics 279 and 371. Review of special relativity. Tensor analysis and Riemannian geometry applied to the major Einstein predictions: advance of the perihelion of planetary orbits, the bending and retardation of light in a gravitational field and the Einstein red shift. Offered alternate years; alternates with Astronomy 416.

Physics/Astronomy

- 485 MATHEMATICAL METHODS OF PHYSICS I (3) F
Prereq. 15 credits in physics; Math 125. Fourier transforms with applications to physics and other relevant sciences.
- 486 MATHEMATICAL METHODS OF PHYSICS II (3) W
Prereq. 20 credits of physics; Math 331. Applications of linear vector spaces, complex variables, group theory, etc.
- 491 STATISTICAL PHYSICS (3) S
Prereq: Physics 382. Probabilistic interpretation of entropy; relationships between statistical mechanics and thermodynamics; Fermi-Dirac and Bose-Einstein statistics with applications. Offered alternate years - alternates with 471.

- 499 CURRICULUM DEVELOPMENT FOR PHYSICS TEACHERS (1-6)
Prereq: permission of instructor.

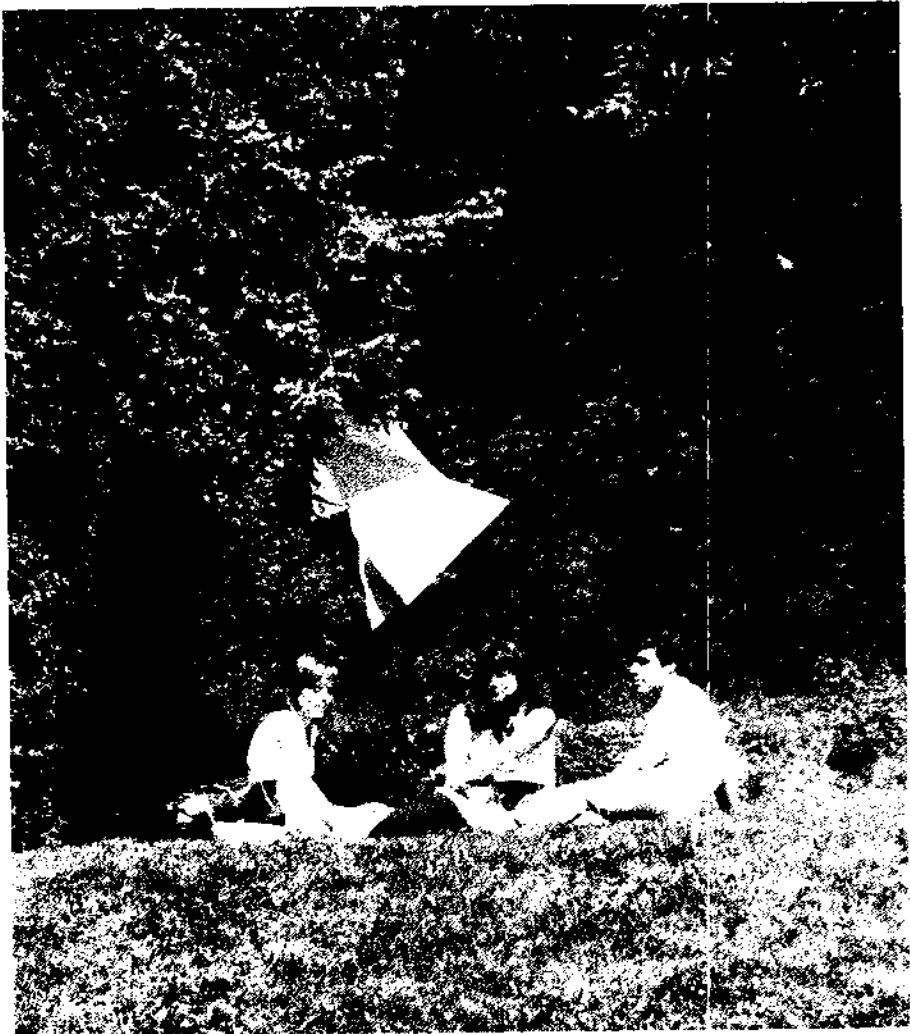
Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Special permission required.

- 531, 532 SOLID STATE PHYSICS (3 ea)

Prereq: Physics 421 or equivalent. Physics 531 prerequisite to 532. Crystal structure and reciprocal lattice space; dielectric properties; ferroelectric crystals; magnetism and superconductivity.



- 541 HAMILTONIAN DYNAMICS (3)
Prereq: 45 credits in physics including Physics 476. Variational principles; Hamilton's equations; canonical transformation theory.
- 542 SPECIAL TOPICS IN MECHANICS (3)
Prereq: Physics 541
- 551, 552 NUCLEAR THEORY (3 ea)
Prereq: 45 credits in physics including Physics 451 or equivalent. Physics 551 prerequisite to 552. Theory and experimental basis for the structure of the atomic nucleus and nuclear properties and reactions.
- 571 ELECTRODYNAMICS (3)
Prereq: 45 credits in physics including Physics 471. Electromagnetic waves; wave guides and resonant cavities; radiation.
- 572 SPECIAL TOPICS IN ELECTROMAGNETIC THEORY (3)
Prereq: Physics 571.
- 581 QUANTUM THEORY (3)
Prereq: 45 credits in physics including Physics 422 or equivalent. Interaction of radiation with matter; approximation methods in quantum theory; scattering theory.
- 582 SPECIAL TOPICS IN QUANTUM THEORY (3)
Prereq: Physics 581
- 598 GRADUATE SEMINAR (1-3)

- 210 COMPUTATIONAL ASTRONOMY (2) W
Prereq: Astronomy 103, Physics 131 or equivalent. Application of calculators and computers to solving problems of observational astronomy. Calculation of orbits, positions, angular sizes and distances of solar system bodies; predictions of eclipses and occultations; time and coordinate system conversions, times and azimuths of risings and settings of astronomical objects

- 315 GENERAL ASTRONOMY: SOLAR SYSTEM (4) F
Prereq: Physics 131 or equivalent. Motions of the planets, satellites, and other bodies of the solar system. Eclipses, time systems, properties and composition of the planets and their satellites, with particular emphasis on the discoveries of the space program. Intended for science, math and computer science majors

- 316 GENERAL ASTRONOMY: STARS (4) W
Prereq: Physics 131 or equivalent. Origin, structure and evolution of stars. Binary stars; magnitudes and spectra; variable stars and supernovae, neutron stars and black holes. Intended for science, math and computer science majors

- 317 GENERAL ASTRONOMY: GALAXIES AND BEYOND (3) S
Prereq: Astronomy 316 (or Astronomy 103, and one year of college physics). The structure of galaxies, radio galaxies; quasars; origin and evolution of the universe. Intended for science, math and computer science majors.

- 333 SEARCH FOR LIFE IN THE UNIVERSE (3) S
Prereq: three credits of college physics or astronomy. Life in and beyond the solar system; interstellar intelligence and communication; radio search for extraterrestrial life; life detection experiments; problems of interstellar travel. Offered alternate years; alternates with Astronomy 105.

- 404 TELESCOPE DESIGN AND CONSTRUCTION (1-3) F,W,S
Prereq: Astron 103 and upper-division standing. Optical design and lens grinding applied to constructing a telescope

- 416 ASTROPHYSICS (3) S
Prereq: Physics 383. Application of physics to stellar systems; radiation theory; atomic spectra and chemical abundances in stellar atmospheres; nuclear synthesis in and evolution of stars. Offered alternate years; alternates with Physics 479

COURSES IN ASTRONOMY

- 103 ASTRONOMY FOR THE LIBERAL ARTS (4) F,W,S
A survey of astronomy including the solar system, galactic structure and cosmology. Not recommended for science, math or computer science majors.
- 105 COSMOLOGY (3) S
Prereq: Astron 103 or equivalent. Investigates questions such as: how did the universe begin, how is the universe evolving and how will the universe end? Curved space; black holes; the Big Bang; the expanding universe. Offered alternate years; alternates with Astronomy 333

Political Science

Politics and government affect the lives of all of us. What we do, and what we think, is affected by the decisions and actions of state, local and national governmental institutions and political leaders. The objectives and policies of foreign countries can also affect our daily lives, particularly during periods of international tension and war.

Political science is one of the oldest fields of academic inquiry. Social ideals and their realization through law were systematically studied in ancient Greece. In an increasingly interdependent world, the study of politics and government has flourished as the relations between persons, groups and nations have become more complex, and questions of freedom and authority have challenged every citizen. Modern political science is equally concerned with questions of political philosophy and with the pursuit of social scientific research. These concerns are reflected in a broad and diverse curriculum.

The political science faculty is committed to the belief that understanding politics and government is essential to a well-educated person, vital to democratic citizenship, indispensable to effective public service, and critical to the maintenance and ethical progress of a free society.

The political science curriculum prepares students for careers in public service-related occupations in both government and business. Many students majoring in political science go on to law school, graduate school, and into the professions; many others who are not majors take political science courses as an essential part of their liberal arts education.

THE CURRICULA

The Political Science Department

offers several curricula leading to the Bachelor of Arts, the Bachelor of Arts with secondary education endorsement and the Master of Arts. These curricula are listed below, and their details are set forth following the list of the department faculty.

Bachelor of Arts

Majors and Concentrations: political science, public policy and administration, political science for secondary education.

Minors: political science, Canadian-American studies, East Asian studies.

Master of Arts in Political Science

Master of Arts in Political Science (Public Policy and Administration)

POLITICAL SCIENCE FACULTY

- DONALD K. ALPER (1971) Chair.
Associate Professor. BA, MA, California State University, Long Beach; PhD, University of British Columbia.
- DAVID E. CLARKE (1966) Associate Professor.
BA, MA, Trinity (Cambridge); PhD, Stanford University.
- JAMES W. DAVIS (1974) Professor. BA/Ed, Valley City State; MA, PhD, University of Minnesota.
- MAURICE H. FOISY (1970) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon.
- EUGENE J. HOGAN (1959) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon.
- RALPH E. MINER (1970) Associate Professor.
BA, San Jose State College; MA, PhD, University of Oregon.
- GERARD F. RUTAN (1969) Professor. BA, MA, University of Montana; PhD, University of North Carolina at Chapel Hill

DAVID W. ZIEGLER (1967) Associate Professor.
BA, Oberlin College; MA, PhD, Harvard
University.

The department's faculty and staff invite questions about the program and its career potential. Persons seeking more information should visit the department in Arntzen Hall, or telephone (206) 676-3469. Written inquiries should be directed to the Department of Political Science, Western Washington University, Bellingham, Washington 98225.

BACHELOR OF ARTS

Major — Political Science

65 credits

- Pol Sci 250
- Additional credits selected from not fewer than four of the areas listed below; at least 20 credits in one area; at least 10 credits in another area. No course may be counted in more than one area. Pol Sci 101 credits apply toward the major but do not count in any area.

Comparative Politics: Pol Sci 291, 301, 302, 303, 304, 307, 309, 343, 365 or 366; 402, 406, 416, 418a, 418b, 418c, 418g, 430, 431, 471

Politics and Government: Pol Sci 202 or Speech 202, 340, 343, 345, 346, 353, 364, 365 or 366, 418d, 423, 426, 427, 429, 440, 441, 443, 445b, 446, 449, 450, 454, 471, 480, 481, 490

Public Policy and Administration: Pol Sci 202 or Speech 202, 320, 345, 346, 353, 365 or 366, 413, 414, 415, 418f, 420, 421, 422, 423, 424, 425, 426, 427, 429, 444a,b, 454, 481

Public Law: Pol Sci 202 or Speech 202, 311, 313, 365 or 366, 410, 411, 413, 414, 415, 416

Political Theory: Pol Sci 360, 364, 365, 366, 418e, 424, 460, 461, 463, 464, 465, 467, 480, 481

International Relations: Pol Sci 270, 305, 365 or 366, 376, 411, 418a, 418b, 470, 471, 476

Minor — Political Science

25 credits

- Pol Sci 250
- Remaining credits from at least 2 areas

Minor — Canadian/American Studies 30 credits

Program Advisers: Dr. Donald Alper, Dr. Gerard Rutan

See the College of Arts and Sciences Interdisciplinary Programs section for specification and description of Canadian/American Studies minor. A Canadian/American Studies major may be taken as a joint major with political science.

Minor — East Asian Studies 30 credits

Program Adviser: Dr. Robert Marshall

This may be added to the major for a major concentration.

See the College of Arts and Sciences Interdisciplinary Programs section for specifications.

Major-Minor Concentration — Public Policy and Administration

99 credits, minimum

Program Adviser: Dr. Ralph E. Miner

Students majoring in political science having a particular interest in the making and implementation of government policy in the United States or Canada may choose a concentration in public policy and administration as an alternative to the 65-credit major. This option entails a major program with preparation relevant to problems and techniques of policy and administration in public agencies.

The total course requirement of 99-119 credits, depending upon course options selected, satisfies both a major and a minor in political science.

Political Science

- Eng 101 (subject to waiver, see General University Requirements), and 301 or 302 or 401
- Speech 204 or 488
- Anth 201 or Soc 202
- Psych 201, and 320 or 315
- Econ 203 or 204
- Math 155 (Math 103 or qualifying exam a prerequisite)
- Acctg 241, 242, 377
- Pol Sci 250, 414, 415 or 410, 320, 353, 365, 413 or 423, 424, 427, 429 or 465, and 463
- Plus one course from each of the following groups:
 - (1) Mgmt 322 (Mgmt 311 a prerequisite), Pol Sci 418f or 422
 - (2) Pol Sci 345, 346, 420, 421, 467, Hux 430 (Pol Sci 250 or Hux 202 or permission of instructor as a prerequisite), or one course from the Ethnic Studies program
 - (3) Pol Sci 425, 426, Econ 410 (Econ 204 prerequisite), 442 (Econ 302 or 306 prerequisite)
 - (4) Pol Sci 440, 441, 443, 444a

Students choosing the public policy and administration concentration are encouraged to complete Math 156 as an elective within their total programs.

Modifications in the above program can be made through the public policy and administration adviser for those individual students having previous credit or work experience in areas covered by the listed courses.

Legislative internships are awarded on a competitive basis. See Pol Sci 443 catalog description.

Where possible, students choosing the public policy and administration concentration will serve in administrative internships in federal, state, or local government agencies. Credit toward the concentration for such internships is limited to a maximum of 10 credits with 5 of these in lieu of 5 credits from certain political science 300-400 courses. These arrangements must be made one quarter in advance on an individual basis through the public policy and ad-

ministration adviser in the Political Science Department. See Pol Sci 444a,b catalog description.

Combined Major — Political Science/Economics

100 credits

Students interested in the relationships between politics and the economy and those considering government, law, or related careers may choose a combined major with Economics. This concentration is also available to Economics students and is cross-listed in that part of this catalog devoted to the Economics curriculum.

- Pol Sci 250, 270 or 291, 360, 365, 427
- A minimum of one course from three of these areas: Pol Sci 320; Pol Sci 346 or 345; Pol Sci 420 or 467; Pol Sci 425 or 426; Pol Sci 463 or 465; Pol Sci 470; Pol Sci 490
- 8-13 additional credits in upper-division political science electives, to complete the total required 100 credits of this program
- Econ 203, 204, 301, 302, 303, 311
- Econ 271 or Math 341 or FMDS 255
- Econ 410 or 415
- Econ 442 or 485
- 12 additional credits in upper-division economics courses, under departmental advisement
- Econ/Pol Sci 491

BACHELOR OF ARTS IN EDUCATION

Major — Political Science

60 credits

Program Adviser: Dr. Ralph E. Miner

In order to receive an endorsement as a teacher in secondary education, students must complete an academic degree program. For this career goal, the Political Science Department offers the following degree program.

- Pol Sci 101, 250, 270, 291, 311 or 313, 320
- 30 credits *under advisement* from the following courses: Pol Sci 343, 345, 346, 353, 360, 365, 376, 420, 421, 427, 440, 446, 449, 450, 462, 464, 465, 467, 470, 481
- Students must also complete the specific program requirements for social studies education, as outlined in the College of Arts and Sciences Interdisciplinary section.

Completion of this program leads to teaching endorsements in political science and social studies at the secondary level.

Minor — Political Science

35 credits

- Pol Sci 101, 250, 270, 481 or any other 400-level course (under advisement)
- Electives under departmental advisement to total 12 credits
- Soc St Ed 426

DEPARTMENTAL HONORS

A political science major who wishes to graduate with honors in Political Science must complete: Political Science 496 with the advice of the departmental honors adviser and two years of foreign language (or a satisfactory reading knowledge of a foreign language or two years of participation in college debate). He/she must also submit a senior thesis and have a grade average of 3.5 in upper-division political science courses.

INTERNSHIPS

Students are encouraged to obtain internships in state, local, or national government agencies, political parties, and interest groups. Credit may be obtained by prior arrangement. The academic relevance and adequacy must be determined by the department through a written evaluative report.

GRADUATE STUDY

For concentrations in political science and public policy and administration leading to the Master of Arts degree, see Graduate section of catalog.

COURSES IN POLITICAL SCIENCE

Courses numbered X37: X97: 300, 400, 417; 445 are described on page 38 of this catalog.

- 101 GOVERNMENT AND POLITICS IN THE MODERN WORLD (5)
Introduction to concepts of politics; types of governments, and political problems in the world today.
- 202 PARLIAMENTARY PROCEDURE (2)
Theory and practice of parliamentary law. Also offered as Speech 202.
- 250 THE AMERICAN POLITICAL SYSTEM (5)
Consideration of the system and process of American politics and government with primary focus on the national level.
- 270 INTRODUCTION TO INTERNATIONAL POLITICS (5)
Interaction of states and other factors in the international system in terms of basic relationships of war and peace.
- 291 INTRODUCTION TO COMPARATIVE POLITICS (5)
Basic structures, functions, and socio-cultural environments of foreign political systems; methods of comparative study.
- 301 BRITISH MODEL PARLIAMENTARY SYSTEMS (5)
Prereq: Pol Sci 101 or 250 or 291. Introduction to parliamentary political systems; analysis of selected structures; examination and comparison of selected parliamentary polities.
- 302 WESTERN EUROPE (5)
Prereq: Pol Sci 101 or 291. Governments and politics of selected western European states.
- 303 SOVIET UNION AND EASTERN EUROPE (5)
Prereq: Pol Sci 101 or 291. The political system of the Soviet Union and other communist states in Eastern Europe
- 304 LATIN AMERICA (5)
Prereq: Pol Sci 101 or 291. Government and society in contemporary Latin America.

Political Science

- 305 INTERNATIONAL POLITICS IN THE MIDDLE EAST (4)
Prereq: Pol Sci 101 or 270. The interplay of Zionism and Arab nationalism; the individual and collective responses of the Arab states to the creation of Israel.
- 307 EAST ASIA (5)
Prereq: Pol Sci 101 or 291. Survey course covering China, Japan and Korea since the mid nineteenth century.
- 309 SOUTHEAST ASIA (5)
Prereq: Pol Sci 101 or 291. Political development and politics in Thailand, Indonesia, Vietnam and Burma.
- 311 JURISPRUDENCE (5)
Prereq: Pol Sci 250. Origin and development of basic concepts and practices of law with emphasis upon legal reasoning and values in contemporary societies.
- 320 PUBLIC ADMINISTRATION (5)
Prereq: Pol Sci 250 or one course from Psych 201, Econ 204. Organizational structure and behavior, administrative processes and procedures, and individual behavior in complex public organizations.
- 340 POLITICAL PARTIES (5)
Prereq: Pol Sci 250. The origin, development, structure, organization, and activities of political parties. Various party theories in the light of current political conditions and changing patterns of political participation and political leadership.
- 343 POLITICAL COMMUNICATION (5)
Prereq: Pol Sci 101 or 250. The relationship between mass media and politics; issues of law, regulation and bias; public officials and the press; the impact and role of media in election campaigns.
- 345 WOMEN AND POLITICS (3)
Prereq: Pol Sci 101 or 250. The history and ideas of the women's movement; investigation of the changing role of women in American politics including legal status, economic position and political behavior. Not offered every year.
- 346 POVERTY, MINORITIES, AND GOVERNMENT (5)
Prereq: Pol Sci 250. Federal, state and local programs affecting minorities and the poor especially in large city ghettos; some emphasis on Washington State.
- 353 STATE AND LOCAL POLITICAL SYSTEMS (5)
Prereq: Pol Sci 250. Sub-national levels of government and intergovernmental relations; developing and administering policies for problems of rice, population, pollution, crime, poverty, housing, resource depletion.
- 360 INTRODUCTION TO POLITICAL THEORY (5)
Prereq: Pol Sci 101 or 250. Origin and evolution of major concepts of political theory.
- 364 POLITICS AND FILM (5)
Prereq: Pol Sci 101 or 250. Basic political concepts of authority, ideology, revolution and democracy as portrayed in film. How cinematic images and techniques can be used to propagate types of political values and to clarify the moral choices involved in political action. Approximately seven feature films shown. Themes emphasized and films shown may vary each year.
- 365 POLITICAL INQUIRY (5)
Prereq: Pol Sci 101 or 250. Introduction to methods of political analysis with emphasis upon the contribution of science and philosophy to political knowledge and political action. Techniques for identifying and defining problems for analysis.
- 366 RESEARCH IN POLITICS (5)
Prereq: Pol Sci 101 or 250. Fundamentals of research design, including basic methods for the collection and analysis of political data.
- 376 AMERICAN FOREIGN POLICY (5)
Prereq: Pol Sci 250 or 270. Background organization of American foreign policy; the conduct of diplomatic relations with other states; current issues and problems in foreign affairs.
- 402 REGIONAL EUROPEAN SOCIETY AND POLITICS (3)
Prereq: Pol Sci 101 or 291. Government and society in selected countries from the Scandinavian, Alpina, Benelux and Iberian European regions.
- 406 CANADA (5)
Prereq: Pol Sci 250 or 291. Canadian social and political systems; governmental structures and functions; social, political, economic problems and foreign relations.
- 410 LAW AND SOCIETY (5)
Prereq: Pol Sci 250. A comparative study and analysis of public policy on outstanding contemporary socio-political issues.

- 411 **INTERNATIONAL LAW (5)**
Prereq: Pol Sci 270. Origin, principles and problems. Not offered every year.
- 413 **LAW AND PUBLIC ADMINISTRATION (5)**
Prereq: Pol Sci 320 and 414. Law, organizational behavior, and the public administrative process: law in relation to agency mission, agency interests and strategies of program implementation. Not offered every year.
- 414 **AMERICAN CONSTITUTIONAL LAW: NATIONAL POWERS (5)**
Prereq: Pol Sci 250 and upper-division standing. Supreme Court decisions interpreting major parts of the Constitution: judicial power; separation of powers; and federalism.
- 415 **AMERICAN CONSTITUTIONAL LAW: INDIVIDUAL RIGHTS (5)**
Prereq: Pol Sci 250, 414 and upper-division standing. Supreme Court decisions interpreting major parts of the Constitution: Bill of Rights and Fourteenth Amendment.
- 416 **COMPARATIVE LEGAL CULTURES (3)**
Prereq: Pol Sci 311 or 313. Contemporary representative legal cultures/systems, including the United States, Great Britain, western European states, the Soviet Union, and one or more Asian countries.
- 418 **SPECIAL PROBLEMS (2-3)**
(Not offered every year.)
- 418a Seminar in International Politics (3)
Prereq: Pol Sci 270.
- 418b Contemporary Latin American issues (3)
Prereq: Pol Sci 304.
- 418c Selected Problems in East Asian Politics (3)
Prereq: Pol Sci 307.
- 418d Electoral Politics Workshop (2)
- 418e Political and Social Simulations (3)
- 418f Modern Bureaucratic Politics (3)
Prereq: Pol Sci 320
- 418g Contemporary Canadian Politics (3)
- 418h Presidential Politics Workshop (2)
Prereq: Pol Sci 250 or equivalent.
- 420 **POLITICS, ADMINISTRATION, AND ENVIRONMENT (4)**
Prereq: Pol Sci 101 or 250. History of environmental problems and their causes. The administrative and political responses to them. Contemporary difficulties in formulating and applying environmental policy. Political and administrative changes needed to meet the environmental challenge. Also offered as Huxley 420.
- 421 **METROPOLITAN AREA GOVERNMENT (5)**
Prereq: Pol Sci 353. Decision-making structures of central city and suburban political systems: regional interaction, federal-state-local relations; problems related to minorities, poverty, and growth.
- 422 **STAFFING THE PUBLIC BUREAUCRACY (5)**
Prereq: Pol Sci 320. Public personnel systems; general principles and specialized aspects such as recruitment, training and employee morale. Not offered every year.
- 423 **THE AMERICAN PRESIDENCY (3)**
Prereq: Pol Sci 250. The growth of presidential power: the institutionalized presidency, and styles of presidential leadership. The president as party leader, policy initiator, chief executive, commander-in-chief, and head of foreign relations.
- 424 **THEORY OF PUBLIC ORGANIZATIONS (5)**
Prereq: Pol Sci 320. Organization theory as related to public organizations and the political system.
- 425 **THE BUDGETARY PROCESS (5)**
Prereq: Pol Sci 320. Public budgeting as both a political and administrative process.
- 426 **POLITICS AND PUBLIC FINANCE (5)**
Prereq: Pol Sci 250. The American political system and the development and maintenance of the structure of taxation and the distribution of governmental benefits.
- 427 **POLICY-MAKING AND POLICY ANALYSIS (5)**
Prereq: Pol Sci 250. Organizational and societal policy-making, and the nature and consequences of policy for various groups and sectors of the polity; the possibility and problems of objective analysis conducted from within the boundaries of the subject political system.
- 429 **ADMINISTRATION AND DEMOCRACY (5)**
Prereq: Pol Sci 320. Relationships of various administrative forms, processes, and behaviors to varying theoretical conceptions and empirical descriptions of democracy. Not offered every year.
- 430 **MODERN CHINESE POLITICS (5)**
Prereq: Pol Sci 307. Governments and political movements in the twentieth century.
- 431 **MODERN JAPANESE POLITICS (5)**
Prereq: Pol Sci 291 or 307. Japanese political development, 1868-present; political culture, government-opposition relations; policy-making in contemporary Japan.

Political Science

440 STATE LEGISLATURES (5)

Prereq: Pol Sci 353. Interaction of elected executives, legislators, administrators, political parties, pressure groups, the press, and public in the legislative process at the state level, with some emphasis on Washington State

441 CONGRESS: PEOPLE AND POLITICS (5)

Prereq: Pol Sci 250. The politics and policies of the National Congress in the internal organization of the U.S. Senate and House of Representatives and in their external relations with the President, the bureaucracy, interest groups, and the voters. Not offered every year.

443 LEGISLATIVE INTERNSHIP (5-15)

Prereq: permission of department. Internship in the Washington State Legislature during winter quarter; assignment is primarily as research assistant to a legislator. Enrollment limited to the number of internships allocated by the Legislature. Open only to juniors and seniors, competitively selected.

444a,b ADMINISTRATIVE INTERNSHIPS (5.5)

Prereq: two courses in public administration area and permission of department. Part-time internships in administrative agencies of the federal, state and local governments. Priority given to seniors. Where the number of applicants exceeds the available intern positions, competitive selections will be made. Requests for internships should be filed with the department one quarter in advance of registration for this course

446 CURRENT PROBLEMS IN AMERICAN GOVERNMENT AND POLITICS (3)

Prereq: upper-division standing. Discussion and assessment of current changes in the laws, institutions, policies and political processes of American government. Issues and problems, drawn from scholarly journals, journals of opinion, magazines and newspapers, will provide focus. This course will study current changes and contemporary issues and problems from both a scholarly and journalistic perspective.

449 POLITICS AND SOCIAL CHANGE (5)

Prereq: Pol Sci 101 or 250. Theories linking social change and politics. The role of ideas and ideology, mass movements, political institutions, social disruption and violence in causing and directing change.

450 POLITICS, CAMPAIGNS AND ELECTIONS (5)

Prereq: Pol Sci 250. Voters and voting behavior; candidates and campaign strategy, the resources of politics — workers, money, and mass media. Not offered every year.

454 POLITICS OF HOUSING (5)

Prereq: Pol Sci 250. The role of government in housing and historic preservation; interface with the private sector; availability of affordable housing; public housing, urban renewal, historic preservation, displacement, and New Towns; Canadian, European, and other examples. Not offered every year.

460 POLITICAL THEORY: ANCIENT AND MEDIEVAL (5)

Prereq: Lbrl 121 or Pol Sci 360. Origin and evolution of major concepts in Western political thought from Pericles to Machiavelli. Not offered every year.

461 POLITICAL THEORY: RENAISSANCE AND MODERN (5)

Prereq: Lbrl 122 or Pol Sci 360. Origin and evolution of major concepts in Western political thought from Machiavelli to Edmund Burke. Not offered every year.

463 AMERICAN POLITICAL THOUGHT (5)

Prereq: Hist 103, 104, or equivalent, or Pol Sci 101 and/or 250. Major concepts in American political thought from the Colonial period to the present.

464 CONTEMPORARY POLITICAL THEORY (5)

Prereq: Pol Sci 360. Recent developments in formal theory, including contributions from behaviorism, modern political economy, holistic or system theories, and normative theory.

465 THEORIES OF DEMOCRACY (5)

Prereq: Pol Sci 360. Survey and analysis of theories of democracy from ancient to modern. Normative and empirical theories with emphasis on contemporary theory and research findings. Not offered every year.

466 SYSTEMS THINKING, GOVERNMENT AND ENVIRONMENT (4)

Prereq: Pol Sci 101 or 360. Systems thinking as an emerging world-view. Origins in biology, neurology, operational research, cybernetics, ecology, etc. Applications to environmental control and political process. The promise and dangers of an "information society." Also offered as Huxley 466

467 POLITICS, TRANSFORMATION AND ENVIRONMENT (4)

Prereq: Pol Sci 101 or 250 Incompatibility between the growth-oriented goals of contemporary political cultures and environmentally-derived "steady state" imperatives. The politics of transformation and value-change. Also offered as Huxley 467.

470 NATIONAL DEFENSE POLICY (4)

Prereq: Pol Sci 270. Causes of military competition; weapons and strategy; defense spending; arms control, disarmament, and other alternatives to arms races.

471 STATE POLICY, ESPIONAGE, AND INTELLIGENCE UTILIZATION (4)

Prereq: permission of instructor.

476 CHINA, JAPAN AND THE U.S.: WAR AND PEACE IN EAST ASIA (5)

Prereq: Pol Sci 270 or 307 Cultural images, foreign policy decision making; political, military and economic issues in American-East Asian relations. Not offered every year.

480 POLITICS, GOVERNMENT AND RELIGION (3)

Prereq: permission of instructor How political activity and government structures relate to religious perceptions and organizations. Not offered every year.

481 POLITICAL SOCIALIZATION (5)

The role of the family, school and adult agencies in the learning of political beliefs and behavior. Not offered every year.

490 SENIOR SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (5)

Prereq: senior standing, political science majors only, except with permission. Advanced analysis and evaluation of American politics and government. Emphasizes contemporary theory and approaches in the literature.



Political Science

491 ISSUES IN POLITICAL ECONOMY (4)
Prereq: senior standing in the Pol Sci/
Econ combined major or a Pol Sci major
and Econ minor. Discussion and analysis
of selected issues of significant political
and economic content. Listed jointly as
Political Science/Econ 491.

496a,b,c HONORS TUTORIAL (2-5 ea)

Graduate Courses

*Courses numbered 500, 517, 545, 597 are
described on page 38 of this catalog.*

*Admission to Graduate School or special per-
mission required. See Graduate section of this
catalog.*

501 POLITICAL SCIENCE AS A DISCIPLINE
(5)
Study of political science as an academic
field; description and critique of subfields;
trends and challenges.

502 RESEARCH TECHNIQUES IN
POLITICAL SCIENCE (5)

503 PUBLIC POLICY AND
ADMINISTRATION (5)

Consideration of current and emerging
problems facing public organizations.

505 SEMINAR IN COMPARATIVE
GOVERNMENT AND POLITICS (5)

Principles of government and politics in
existing and developing states.

506a,b ADVANCED TOPICS IN
COMPARATIVE GOVERNMENT AND
POLITICS (5 ea)

Prereq: permission of instructor and grad-
uate adviser. Advanced comparative con-
sideration of the political systems of
selected nation-states.

510 SEMINAR IN PUBLIC LAW (5)

The tradition and emerging trends.

520 SEMINAR IN PUBLIC
ORGANIZATIONAL THEORY (3)

Organizational theory and practice in pub-
lic settings.

521 SEMINAR IN PUBLIC POLICY
ANALYSIS (3)

Advanced problems in public policy and
analysis.

523 SEMINAR IN POLITICS AND PUBLIC
FINANCE (3)

Advanced problems in politics and public
finance.

525 SEMINAR IN MODERN POLITICAL
ECONOMY (3)

Prereq: permission of instructor. Consid-
eration of contemporary theories of politi-
cal economy: the political aspects of
resource allocation and the politics of the
distribution of governmental benefits and
burdens. Consideration is also given to
various exchange theories of collective
decision making in democratic systems.

528a,b SPECIAL PROBLEMS IN PUBLIC
POLICY AND ADMINISTRATION (1-5)

Prereq: permission of instructor and grad-
uate adviser. The consideration of special
problems and the conduct of independent
study under the guidance and supervision
of a member of the faculty.

540 SEMINAR IN THE POLITICAL PROCESS
(5)

The influence of organizations and indi-
viduals in the formation of public policy.
Includes study of the role of beliefs in the
political process.

542a,b PUBLIC SERVICE INTERNSHIP (5, 5)

Prereq: Pol Sci 501, 503 and permission of
department. Work as research and man-
agement assistant with a local, state or
federal government body (executive, legis-
lative or judiciary), political party, interest
group or private, non-profit organization.
Work-load: 15 hours/week for 5 credits
and 30 hours/week for 10 credits. (Repeat-
able to a maximum of 10 credits)

550 SEMINAR IN STATE AND LOCAL
GOVERNMENT (3)

Problems at sub-national levels, both
American and other, internally and in rela-
tion to national levels.

560a,b SEMINAR IN POLITICAL THEORY
(5 ea)

Function and history of political theory;
the crisis in traditional theory; emerging
trends.

570a,b SPECIAL PROBLEMS IN POLITICAL
SCIENCE (1-5)

Prereq: permission of instructor and grad-
uate adviser. The consideration of special
problems and the conduct of independent
study under the guidance and supervision
of a faculty member.

690 THESIS/THESIS RESEARCH (6-9)

Psychology

College of Arts and Sciences

Most of the major problems facing the people of the world today — hunger, overpopulation, the continuing threat of war, prejudice, pollution, drug addiction — are people problems; people have created them and it will be people who must and will find solutions to them. Psychology, as the scientific study of behavior, will help provide the answers to many of these pressing problems.

Psychology's attempt to understand the human condition takes many approaches. Some psychologists study brain chemistry and its relation to behavior, while others study the behavior of individuals in groups (for example, in a religious cult). Still others are engaged in providing counseling or psychotherapy to people who are mentally ill or who are having difficulty in coping with the demands of life. With a faculty of 28 men and women, all of whom hold a doctoral degree, the department is able to offer a program of study which provides a solid foundation in the general concepts and methods of psychology, as well as courses and programs for students in many of the more specialized areas of this large and exciting field.

The Department of Psychology has limited the number of credits required for a major in psychology so that students may develop minors or a second major in another department. The core program in general psychology is designed to insure that all majors will develop a sound basic background in psychology which will provide effective preparation for advanced study as well as contribute significantly to a liberal education. Since the number of required courses is relatively small, students can complete the major from a variety of course offerings under advisement. Concentrations of elective courses have been designed to guide stu-

dents who wish to complete their requirements beyond the core program by following a prescribed program of studies in the following areas: awareness and reasoning, biopsychology, human development, humanistic psychology, industrial/organizational psychology, mental health, and social psychology. The requirements for the major in psychology can be completed by following one of the concentrations or by developing an individualized program of study with faculty advisement.

A very important kind of learning takes place when students become personally involved in psychological research. Students are encouraged to become active participants in their own research projects, or to cooperate with a faculty member in his or her ongoing research. It is also recommended that students seek participation in one of the off-campus field experiences which are available.

In addition to its undergraduate offerings, the department offers the M.S. degree in general psychology. There are also specialized concentrations in counseling psychology, measurement, evaluation and statistical analysis and behavioral toxicology (with Huxley College of Environmental Studies). Complete descriptions of the master's program are included in the Graduate section of this catalog.

PSYCHOLOGY FACULTY

- RICHARD W. THOMPSON (1967) Chair.
Professor. BA, MA, PhD, Michigan State University.
- STEPHEN L. CARMEAN (1964) Professor. BA, MA, PhD, University of Illinois.
- LOWELL T. CROW (1968) Professor. BS, MA, University of South Carolina; PhD, University of Illinois.

Psychology

- GEORGE T. CVETKOVICH (1969) Professor. BA, Youngstown State University; MA, Akron State University. PhD, Kansas State University.
- CAROL J. DIERS (1963) Professor. BA, BA in Ed, Western Washington State College; MA, University of British Columbia; PhD, University of Washington.
- DALE L. DINNELL (1986) Assistant Professor. BS, MAT, MA, PhD, University of Nebraska
- PETER J. ELICH (1961) Professor and Dean of College of Arts and Sciences. BA, University of Washington; MEd, Western Washington State College; PhD, University of Oregon
- FREDERICK W. GROTE, JR. (1970) Associate Professor. AB, Dartmouth College, PhD, University of North Carolina
- DAVIS C. HAYDEN (1986) Assistant Professor. BA, MA, PhD, University of California.
- B. L. KINTZ (1965) Professor. BA, MA, PhD, University of Iowa.
- RONALD A. KLEINKNECHT (1970) Professor. BA, MS, PhD, Washington State University.
- LOUIS G. LIPPMAN (1966) Professor. BA, Stanford University; MA, PhD, Michigan State University.
- MARCIA Z. LIPPMAN (1969) Associate Professor. BA, MA, Michigan State University; PhD, University of British Columbia.
- WALTER J. LONNER (1968) Professor. BA, MA, University of Montana; PhD, University of Minnesota.
- ROBERT D. MEADE (1965) Professor. BA, Indiana University. MA, PhD, University of Pennsylvania
- LAURENCE P. MILLER (1968) Professor. BA, University of California, Los Angeles; MA, San Fernando Valley State College; PhD, Ohio State University.
- DAVID M. PANEK (1965) Associate Professor. BA, Beloit College. MS, University of Wisconsin; PhD, Washington State University
- NORVAL L. PIELSTICK (1973) Associate Professor. BA, Linfield College, MA, Washington State University; PhD, University of Illinois.
- MERLE M. PRIM (1969) Associate Professor. BA, University of Washington; MS, San Diego State College; PhD, Washington State University
- EARL R. REES (1970) Associate Professor. BA, Southern Illinois University; MA, PhD, Brown University.
- RONALD W. SHAFFER (1970) Associate Professor. BA, California State College, Los Angeles; MA, PhD, University of New Mexico
- DAVID SUE (1985) Professor. BS, University of Oregon. MS, PhD, Washington State University
- CHRISTOPHER J. TAYLOR (1968) Professor. AB, Wittenberg University. MS, PhD, Ohio University
- SAUNDRA J. TAYLOR (1968) Associate Professor. BA, DePauw University; MA, Bowling Green State University; PhD, Ohio University

- ROBERT M. THORNDIKE (1970) Professor. BA, Wesleyan University. PhD, University of Minnesota
- JOSEPH E. TRIMBLE (1978) Professor. BA, Waynesburg College; MA, University of New Hampshire; PhD, University of Oklahoma.
- VERNON O. TYLER, JR. (1965) Associate Professor. BS, University of Washington; MA, University of Iowa; PhD, University of Nebraska.

BACHELOR OF ARTS

Major — Psychology

60 credits

The psychology major consists of a 45-credit core and 15 elective credits in psychology.

Core required courses:

- Psych 201, 306, 307
- Two courses from Psych 311-316
- Two courses from Psych 321-326
- One course from Psych 402-403
- One course from Psych 404-406
- One course from Psych 411-412
- 15 elective credits in psychology; consult your adviser in psychology for assistance in selecting your elective courses

Elective Concentrations

The core program of required courses is designed to insure a solid background in general psychology. The requirements for the B.A. in psychology can be met by the 45 credit core program and any 15 credits in psychology. Several concentrations of elective courses have been developed to guide students in the selection of their elective credits.

General Advisers — R. Thompson, S. Carmean, C. Diers, R. Meade, L. Miller

Students who wish to maximize breadth of study in psychology are advised to select their electives according to the following program:

- At least one course from each of the following pairs: Psych 311, 312; 313, 314; 315, 316; 321, 322; 323, 324; 325, 326

- Two courses from both of the following groups: Psych 402-403, 404-406

Awareness and Reasoning: Advisers — R. Shaffer, R. Rees, L. Miller, S. Carmean

- Core program to include Psych 324 and 405
- Psych 342 and 344

Biopsychology: Advisers — L. Crow, M. Prim, R. Thompson

- Core program to include: Psych 312, 316, 325, 326, 403, 406
- Electives from Psych 321-324, 335
- Suggested biology courses: Biol 212, 348, 349, 370, 403, 408, 424, 460, 465, 490.

Human Development: Adviser — F. Grote

- Core program in psychology to include Psych 316 and 403; two of the following: Psych 353, 355, 357, 456a, 456b, 456c, 456d
- Electives under advisement

Humanistic-Phenomenological Psychology: Adviser — R. Shaffer

- Core program to include: Psych 313, 314, 322, 324, 402 or 403, 404
- Psych 343, 347, 418
- Electives from Psych 344, 346, 357 and additional credits under advisement.

Industrial/Organizational Psychology: Advisers — C. Taylor and B. L. Kintz

- Core program to include Psych 311 or 313, 315, 321, 322 or 324
- Psych 320 and 420
- Electives under advisement

Mental Health Services: Advisers — D. Panek, D. Sue and V. Tyler

- Core program to include: Psych 313, 314, and one course from 311, 312, 315, 316
- Psych 402, 431, 432
- Two quarters of Psych 449

Social Psychology: Adviser — G. Cvetkovich

- Core program to include Psych 315, 403
- Two of the following: Psych 335, 420, 440, 441, 449

See Sociology section for related course offerings.

Students who are planning to pursue graduate study in psychology are advised to take a supporting sequence of 15 credits (beyond the 101 survey course) in biology, chemistry, mathematics or physics.

Minor Psychology 24 credits

- Psych 201
- One course from Psych 311-316
- One course from Psych 321-326
- Electives under advisement (Psych 306, 307 are recommended)

Minor — Sport Psychology

30-32 credits

This interdisciplinary program is designed to introduce the student to the discipline of sport psychology. More specifically, it emphasizes the educational and behavioral approaches to sport psychology and introduces students to psychometric and clinical techniques which are an integral part of this discipline.

- Psych 201, 311; PE 307, 309, 310
- PE 408 (to be taken after all courses in the minor are completed)
- Select two courses under advisement from Psych 306, 313, 315, 316, 321, 322, 324, 342, 353

BACHELOR OF ARTS IN EDUCATION

Major — Elementary — Human Development

50-54 credits

Adviser — F. Grote

- Psych 201

Psychology

- Psych 306 and 307
- Either Psych 316 or Psych 352
- Either Psych 321 or Psych 351
- One course from Psych 311-315
- One course from Psych 322-326
- Either Psych 402 or 403
- One course from Psych 404, 405, or 406
- Two courses from Psych 353, 355 or 456
- Psych 411 or Psych 412

Major — Psychology — Secondary 60 credits

Prospective secondary teachers are advised to complete the core program in psychology as outlined under the Bachelor of Arts curriculum, plus electives under advisement from Dr. L. Miller.

Students must also complete the specific program requirements for social studies education, as outlined in the College of Arts and Sciences Interdisciplinary Program section. Completion of this program leads to a teaching endorsement in psychology and social studies at the secondary level.

Minor — Psychology

24 credits

- Psych 201
- One course from Psych 311-316
- One course from Psych 321-326
- Electives under advisement (Psych 306, 307 are recommended)

DEPARTMENTAL HONORS

Advisers — S. Carmean and C. Diers

In addition to the general requirements for all honors students, a psychology major who wishes to graduate "with honors" will develop a program of studies with the department honors adviser, complete Psychology 425 and prepare a thesis which will be defended before a faculty committee.

GRADUATE STUDY

For concentrations in psychology leading to the Master of Education or the Master of Science degrees, see Graduate section of the catalog.

COURSES IN PSYCHOLOGY

Courses numbered X37, X97: 300, 400, 417, 445 are described on page 38 of this catalog.

Courses in educational psychology include Psych 316, 351, 352, 353, 371, 372, 451. Psych 371, 372 and 451 are not applicable to the Arts and Sciences major or minor. Note that credit may not be earned for both Psych 321 and 351 or 316 and 352.

- 100 INTRODUCTION TO COLLEGE LEARNING (1)
Basic skills in effective study habits. Major topics are: time management and motivation, reading improvement, classroom notetaking, studying a textbook, writing papers, using the library, studying for exams, taking exams. Emphasis is on practical application. S/U grading.
- 201 INTRODUCTION TO PSYCHOLOGY (5)
Examination of basic psychological processes utilizing results of research investigations; participation in at least two experiments or equivalent activities.
- 217 PSYCHOLOGY OF HUMAN SEXUALITY (3)
Human sexual behavior, attitudes, customs, practices and relationships, from historical to present times; sex research; sexual communication and miscommunication; and treatment for sex problems will be emphasized. Reproduction and physical aspects will be considered insofar as they are basic to the psychology of sex.
- 219 PSYCHOLOGY OF SEX ROLES (4)
Basic concepts, foundations for sex roles: similarities and differences between the sexes; historical customs, personality theories, cultural, sub-cultural and cross-cultural perspectives
- 306 EXPERIMENTAL PSYCHOLOGY AND STATISTICS I (5)
Prereq: Psych 201. Introduction to experimental methodology in psychology and statistical treatment of results. Lectures and laboratory.
- 307 EXPERIMENTAL PSYCHOLOGY AND STATISTICS II (5)
Prereq: Psych 306. Design and conduct of psychological research investigations and statistical treatment of results; individual research project; lectures and laboratory.

- 311 **PSYCHOLOGICAL TESTS AND MEASUREMENT (5)**
 Prereq: Psych 201 Philosophy, history and development of psychological measurement. Reliability, validity, standardization and norms, tests of intelligence, special abilities, personality, interests and values. Students will review non-restricted instruments of various types in small groups.
- 312 **PSYCHOLOGY OF INDIVIDUAL DIFFERENCES (5)**
 Prereq: Psych 201. Research strategies, correlational procedures and inferential processes. The nature-nurture question. Elements of genetics, heredity and behavior genetics. Dimensions of differences in intelligence by race, social class, age and sex. The effect of cultural influences on intelligence.
- 313 **PERSONALITY (5)**
 Prereq: Psych 201. An examination of the major approaches to personality development, research and application.
- 314 **ABNORMAL PSYCHOLOGY (5)**
 Prereq: Psych 201 Human behavior patterns culturally labeled as abnormalities, or as mental illness, their etiology, incidence, treatment, and social attitudes toward such patterns. Historical review of the concepts used to explain such behavior and of the research relating to the treatment of psychoses and neuroses.
- 315 **SOCIAL PSYCHOLOGY (5)**
 Prereq: Psych 201 Socialization (moral development, racial, ethnic and class differences), attitudes and attitude change, conformity, interpersonal attraction. Theories and methods of social psychology stressing applicability of social psychological research and knowledge to contemporary social problems
- 316 **DEVELOPMENTAL PSYCHOLOGY (5)**
 Prereq: Psych 201 or Lbrl 105. Basic principles of development. Topics include behavior genetics, early experience, language, cognition, personality, and social development. Students cannot earn credit for both Psych 316 and 352. May be substituted for Psych 352 in the teacher education program
- 318 **PSYCHOLOGY AND CULTURE (3)**
 Prereq: Psych 201. Cultural and ecological factors and their effect on perception, thinking, language, intelligence, sexuality, and other psychological variables. An examination of the "universality" of traditional Euro-American psychological theories.
- 320 **INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (4)**
 Prereq: Psych 201 or Lbrl 105. Application of psychological principles to industrial problems of personnel selection and appraisal, human relations, marketing, training, and engineering psychology.
- 321 **LEARNING (5)**
 Prereq: Psych 201. A survey of the major principles of learning, with special emphasis upon the sources of, evidence for, and theoretical implications of these principles. May be substituted for Psych 351 for teacher certification. Students cannot earn credit for both Psych 321 and 351.
- 322 **MOTIVATION (5)**
 Prereq: Psych 201. Theoretical and empirical study of human and subhuman motivational process. Topics covered range from basic physiological drives to achievement motivation and conformity. Emphasis on both biological and social sources of motivation.
- 323 **SENSORY PROCESSES (5)**
 Prereq: Psych 201. The mechanisms by which man and lower animals process information through various sensory modalities. The adaptive significance of sensory processes.
- 324 **PERCEPTION (5)**
 Prereq: Psych 201. Classical and contemporary descriptions of human perceptual behavior; specific perceptual phenomena such as perceptual constancies, perception of intersensory stimuli, creativity, and levels of awareness. Examples are drawn from music, art, verbal and nonverbal communication.
- 325 **COMPARATIVE PSYCHOLOGY (5)**
 Prereq: Psych 201. Phylogenetic comparison of animal behavior, learning, motivation and sensory processes in selected species of animals.
- 326 **PHYSIOLOGICAL PSYCHOLOGY (5)**
 Prereq: Psych 201. The biological foundations of behavior
- 335 **SOCIAL BEHAVIOR IN ANIMALS (4)**
 Prereq: Psych 201. Comparative social behavior, aggression, altruism, variability and adaptive strategies. Normally offered alternate years.
- 342 **THINKING AND IMAGINATION (4)**
 Prereq: Psych 201. Discussions and/or demonstrations of logical and intuitive thinking, creativity, symbolism and fantasy. Consideration of the relationships of patterns of thinking and brain activity and of the implications of differences in cognitive style

Psychology

343 PHENOMENOLOGY (5)

Prereq: Psych 201. An introduction to phenomenology as an alternative method for psychological research and understanding. Works by Husserl, Heidegger, Levinas and Merleau-Ponty are examined, and students participate in research projects that emphasize the phenomenological approach to psychology.

344 CONSCIOUSNESS AND ITS ALTERNATE STATES (3)

Prereq: Psych 201. Research and theory concerned with various "states" of consciousness: sleeping and dreaming, hypnosis, effects of psychoactive drugs, meditation and lateralization of function in the cerebral hemispheres.

347 HUMANISTIC PSYCHOLOGY (5)

Prereq: Psych 313. Course will review the personality theories, practices and research generated by the contemporary humanistic view of man. Some work of such leaders in this third force of psychology as Adler, Allport, May, Maslow, Rogers, Frankl and Fromm

349 PSYCHOLOGY AND THE ARTS (3)

Prereq: Psych 201. Concepts from a wide variety of areas in psychology are used to analyze issues in art. Specific works of art which may include literature, music, and visual arts - are considered through class discussion and written essay.

351 PSYCHOLOGY OF HUMAN LEARNING, COGNITION, AND INSTRUCTION (4)

Prereq: Lbrl 105 or Psych 201; not open to those with credit in 321. Psychological principles of learning and cognition and their application to classroom teaching. Students cannot earn credit for both Psych 321 and 351.

352 CHILD DEVELOPMENT AND EDUCATION (4)

Prereq: Psych 351 (may be taken concurrently). Basic principles of development, with special attention to the pre-school and elementary school age child. Students cannot earn credit for both Psych 316 and 352.

353 ADOLESCENT PSYCHOLOGY (4)

Prereq: Psych 201 or 351. Basic principles of development with special attention to the secondary school age child; implications for educational practices.

355 PSYCHOLOGY OF CHILD REARING (3)

Prereq: Psych 201. Models of early experience, bonding and attachment; day care; discipline; parental influence on social and cognitive development; child abuse; cultural variations.

357 ADULT DEVELOPMENT AND AGING (4)

Prereq: Psych 201. Development during adulthood, aging and the life-span perspective on development; biology and aging; perception, learning, and memory; intelligence and problem-solving ability; personality and aging — crisis and challenge at different life stages; careers; psychopathology; and death and dying.

371 EVALUATION IN THE SECONDARY SCHOOL (3)

Evaluation of student achievement in secondary school with particular emphasis upon teacher-made tests and application of statistical procedures to test results. Does not count for credit for a psychology major or minor.

372 EVALUATION IN THE ELEMENTARY SCHOOL (2)

Evaluation of student performance in elementary school including emphasis on systematic observational techniques, teacher-made tests and standardized tests. Does not count for credit for a psychology major or minor.

396a,b,c HONORS TUTORIAL (2-5)

402 SEMINAR IN PERSONALITY AND ABNORMAL PSYCHOLOGY (3)

Prereq: Psych 307 (may be taken concurrently with permission of instructor), 313 or 314. Major issues and methods in the study of personality and abnormal psychology. Laboratory and library research.

403 SEMINAR IN SOCIAL PSYCHOLOGY AND DEVELOPMENTAL PSYCHOLOGY (3)

Prereq: Psych 307 (may be taken concurrently with permission of instructor), 315 or 316. Major issues and methods in the study of social and developmental psychology. Laboratory and library research.

404 SEMINAR IN LEARNING AND MOTIVATION (3)

Prereq: Psych 307 (may be taken concurrently with permission of instructor), 321 or 322. Major issues and methods in the study of learning and motivation. Laboratory and library research.

405 SEMINAR IN SENSORY, PERCEPTUAL AND THOUGHT PROCESSES (3)

Prereq: Psych 307 (may be taken concurrently with permission of instructor) and 323, 324 or 342. Major issues and methods in the study of perception and sensation. Laboratory and library research.

- 406 SEMINAR IN COMPARATIVE AND PHYSIOLOGICAL PSYCHOLOGY (3)
Prereq: Psych 307 (may be taken concurrently with permission of instructor), 325 or 326. Major issues and methods in the study of comparative and physiological psychology. Laboratory and library research.
- 411 SEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY (4)
Prereq: junior standing. An historical perspective of the development of psychological systems and theories and the impact of these developments on contemporary psychology.
- 412 SEMINAR IN PSYCHOLOGICAL THEORY (4)
Prereq: junior standing and written permission of instructor. A seminar examining the philosophical assumptions of science in general and psychology in particular.
- 418 SEMINAR IN HUMANISTIC PSYCHOLOGY (3)
Prereq: Psych 307 (may be taken concurrently), Psych 347. Major issues and methods in the study of existential phenomenology, ontology and hermeneutics. Laboratory and research.
- 420 ADVANCED INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY (5)
Prereq: Psych 306, 320 and written permission of instructor. Psychological theories, methodology and findings related to the problem of business and industry, lectures, and laboratory.
- 425 HONORS SEMINAR (3)
Prereq: permission of instructor. Intensive examination of selected problems in psychology.
- 426 HONORS THESIS SEMINAR (2)
Prereq: permission of instructor. In-depth investigation of a selected topic in psychology culminating in an honors thesis. Should be taken the quarter before the thesis is begun and while it is in progress. Repeatable up to 6 credits. S/U grading.
- 431 INTRODUCTION TO SCHOOL AND COMMUNITY COUNSELING (4)
Prereq: 15 credits in psychology, junior status. Overview of professional counseling in schools, colleges and communities. Includes counselor roles, ethics, counseling theories and techniques, training and licensing, counseling minorities, outreach, use of paraprofessionals and research.
- 432 INTERVIEWING THEORY AND PRACTICE (4)
Prereq: written permission of instructor. Skills and underlying psychological principles which facilitate communication - particularly the helping interview. Lecture, demonstration, role playing and videotape feedback, with special emphasis on listening skills and assessing one's impact on others.
- 440 ENVIRONMENTAL PSYCHOLOGY (3)
Prereq: Psych 306, 315. Theoretical, methodological and empirical problems and issues relating to behavior in constructed and natural environments.
- 441 SEMINAR IN CROSS CULTURAL PSYCHOLOGY (3)
Prereq: Psych 306 and written permission of instructor. Theoretical and methodological problems and issues relating to cross-cultural research in psychology. Normally offered alternate years.
- 449 FIELD EXPERIENCES IN PSYCHOLOGY (5)
Prereq: 20 credits in psychology (students in the mental health concentration must have Psych 431 and 432, and written permission of instructor). Mental health, child development, behavior problems of adolescence, and other relevant topics. Field work combined with readings and seminars. This course may be taken two times for credit only by students in the psychology mental health services concentration. All other students are limited to one quarter credit.
- 451 SCHOOL MOTIVATION (5)
Prereq: Psych 201 or 351. To acquaint teachers and prospective teachers with principles of human motivation as they apply to the school and learning environment. To develop skills in the teacher for promoting individual and group motivation. Does not count for credit for a psychology major or minor.
- 456 ADVANCED TOPICS IN DEVELOPMENTAL PSYCHOLOGY (5)
Prereq: Psych 306 and 316. Topics vary and include: cognitive development; personality and social development; psycholinguistics; and youth and social issues. Two of these seminars will be offered during a given academic year. Check the class schedule to determine which topic is covered in a given quarter. Repeatable for credit.
- 471 STANDARDIZED TESTS (3)
Prereq: Psych 311 or 371. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Note: Graduate courses in psychology (500 level and above) are open only to graduate students in psychology. Graduate students in other departments may enroll in psychology graduate courses if they obtain the permission of the instructor and department chairman.

501 PERCEIVING, KNOWING AND ACTING (4)

Prereq: admission to M.S. Program. Considerations of the active organism in relation to a complex environment. Encompasses the concept of organization on several levels, such as physiological structure/function, perceptual ordering and changes in behavior. Draws on both reductionistic and holistic methods, theory and data. Diverse topics will be used to develop these themes.

502 PERSONALITY AND PSYCHOPATHOLOGY (4)

Prereq: admission to M.S. Program. Consideration of major theoretical perspectives on human personality and psychopathology to include psychoanalytic and neoanalytic, cognitive social learning, biomedical and humanistic perspectives. Current research into diagnostic classification, etiology, description, diagnosis and treatment of behavioral and mental disorders will be covered. The overall orientation of this course will be to seek integration of cultural, social, psychological and physiological processes into resultant patterns of personal, social and behavioral maladaptation.

503 SYSTEMS OF PSYCHOLOGY (4)

Prereq: admission to M.S. program. Provides the student with a basic understanding of the processes of science including theory construction, scientific explanation, operationism, etc. Provides the student with an historical perspective for modern psychology by examining various systems which have preceded current views (for example, gestalt psychology, behaviorism, psychoanalysis).

504 LIFESPAN AND SOCIAL PSYCHOLOGICAL DEVELOPMENT (4)

Prereq: admission to the M.S. in psychology program or permission of the instructor. An overview of the major theories and principles in developmental and social psychology. Theories, issues and principles are highlighted through an analysis of various topics across the lifespan and as they affect the psychological development of the individual.

508 CONTEMPORARY PSYCHOLOGY (2)

A review of psychology as a profession, current research activities, thesis development, and related legal and ethical considerations. S/U grading.

510 COMPUTERIZED DATA ANALYSIS (2)

Prereq: admission to M.S. program or permission of instructor. Applications of computers to data entry methods and statistical packages for data analysis. Use of computer packages to "clean" data for analysis. S/U grading.

511 FUNDAMENTALS OF PSYCHOLOGICAL TESTING (2)

Prereq: admission to M.S. program and Psych 306 or equivalent Principles of psychological measurement, including assessment of the reliability and validity of tests, methods of test construction and scale development, use of norms for interpretation.

512 RESEARCH DESIGN AND ANALYSIS (4)

Prereq: Psych 511. Topics in the bivariate distribution are covered and the basic linear regression model is introduced. Basic topics in research design and data analysis are covered. Those ANOVA designs that represent a large portion of published research are studied. The theoretical and mathematical issues that are of concern to the modern researcher are covered. Computer examples of data analyses using SPSS or other statistical packages are used to provide practical experience with analysis problems and the interpretation of interactions.

513 COMPUTER APPLICATIONS AND DATA ANALYSIS (3)

Prereq: Psych 512. Multiple regression analysis and factor analysis are compared and studied in detail. Practice data are analyzed using SPSS. The various strengths and weaknesses involved in the multivariate analyses are covered. Students develop a broad and solid understanding of why these designs are used and how the results are of value to researchers and practitioners alike. Advanced analysis of variance and covariance designs are also covered.

514 TOPICS IN QUANTITATIVE PSYCHOLOGY (1-6)

Prereq: Psych 515 or 516 or permission of instructor. Specific content of course to be arranged by agreement of instructor and students. Examples of appropriate content would be: computer applications in psychological research; mathematical models of behavior; statistical consulting. Repeatable to a maximum of 6 credits. S/U grading.

- 515 **MULTIVARIATE ANALYSIS (3)**
 Prereq: Psych 513. Topics in advanced multivariate analysis including canonical analysis, discriminant functions analysis, cluster analysis and factor analysis. Logical and geometric properties of multivariate techniques and interpretation on research results are stressed.
- 516 **ADVANCED RESEARCH AND EVALUATION DESIGN AND DATA ANALYSIS (3)**
 Prereq: Psych 513. Multivariable designs, multiple interaction analysis, computer programs and operation. Research designs that involve several criterion measures.
- 518 **INSTRUMENTATION FOR PSYCHOLOGICAL RESEARCH (2)**
 Prereq: Typical technological solutions to problems encountered in original research; lecture and laboratory.
- 519 **CONSTRUCTION OF PSYCHOLOGICAL MEASURING DEVICES (2)**
 Prereq: Psych 311 or equivalent. Course content varies with the interest of the students, but will include material on scaling, domain specification, item writing, test format and reproduction of instruments. Students, as a group, conceive, construct and pretest some measuring device of their own choosing.
- 520 **SEMINAR IN PERCEPTION (3)**
 Prereq: permission of instructor.
- 521 **SEMINAR IN LEARNING (3)**
 Prereq: permission of instructor.
- 522 **SEMINAR IN COMPARATIVE PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 523 **SEMINAR IN PHYSIOLOGICAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 524 **SEMINAR IN MOTIVATION (3)**
 Prereq: permission of instructor.
- 525 **SEMINAR IN CURRENT PHILOSOPHICAL ISSUES IN PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 526 **SEMINAR IN DEVELOPMENTAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 527 **SEMINAR IN PERSONALITY (3)**
 Prereq: permission of instructor.
- 528 **SEMINAR IN SOCIAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 529 **SEMINAR IN BEHAVIOR PATHOLOGY (3)**
 Prereq: Permission of instructor.
- 530 **SEMINAR IN ADVANCED MEASUREMENT THEORY (3)**
 Prereq: permission of instructor.
- 531 **SEMINAR IN EDUCATIONAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 532 **SEMINAR IN CROSS-CULTURAL COUNSELING (3)**
 Prereq: admission to M.S. or M.Ed. programs in psychology, or permission of the instructor. Review of fundamental issues in counseling theory and techniques as they relate to providing mental health services to clients of different cultural and ethnic backgrounds. Some skill development through simulation, role playing and other laboratory procedures in counseling the culturally different.
- 538 **INTERDISCIPLINARY SEMINAR IN BEHAVIORAL TOXICOLOGY (2)**
 Prereq: graduate standing, Hux 456/556 or Psych 501, or permission of instructor. Assessment of the impacts of toxic environmental chemicals on various behavioral processes.
- 550 **RESEARCH ISSUES AND METHODS IN COUNSELING (3)**
 Prereq: admission to M.S. clinical-counseling curriculum or M.Ed. school counseling program and Psych 512. Covers content and research methods relevant to psychological processes in psychotherapy. Students will produce a research proposal.
- 552 **STRATEGIES OF BEHAVIOR CHANGE (3)**
 Prereq: admission to M.S. program. Study of selected current approaches to behavior change with particular attention to application with children.
- 553 **THEORIES OF COUNSELING AND PSYCHOTHERAPY (3)**
 Prereq: admission to M.S. clinical/counseling psychology, school psychology curriculum or to M.Ed. school counseling program. May be taken by students in the M.S. general curriculum with permission of the instructor. Basic orientation to counseling theories including the history and development of theories of counseling; comparison of the theories in terms of goals, process, methods; and evaluation and research in counseling. Some consideration of consultation strategies, systemic skills and psychological education models used by psychological counselors and psychotherapists.

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555 PSYCHOLOGY OF OCCUPATIONS (4)

Prereq: Admission to M.S. clinical/counseling psychology curriculum or to M.Ed. school counseling program and Psych 553. Critical examination of major theories of career development and vocational counseling. Sources of occupational materials and analysis of their use and distribution in counseling practice.

556 PROBLEMS AND ISSUES IN PSYCHOLOGICAL ASSESSMENT (4)

Prereq: admission to M.S. clinical/counseling psychology or school psychology curriculum. Problems and issues related to the technical aspects of assessment, the concepts of personality and intelligence, and the use of assessment procedures in evaluating personality, intelligence and school achievement.

557 TESTING AND APPRAISAL IN COUNSELING (3-4)

Prereq: admission to M.S. clinical/counseling curriculum or M.Ed. school counseling program and Psych 511 for M.S. counseling students, Psych 471 and EdAF 473 for M.Ed. students. The evaluation and use of various psychological tests, scales and inventories in the assessment of intelligence, personality, interests and other human dimensions. Some consideration of other modes of assessment (e.g., behavioral, projective and neurological). Emphasis is on the practical application of psychological assessment in counseling. Collection, evaluation, application and interpretation of case data.

558 FAMILY, MARITAL AND SEX COUNSELING (3)

Prereq: admission to M.S. clinical/counseling psychology curriculum or M.Ed. school counseling program plus Psych 553 and 564. A review of major theories, techniques and research in psychological counseling with families. Emphasis is on parent-child developmental problems and the role of interpersonal relationships within the total family. Students will be involved in limited supervised family counseling experiences.

559 PSYCHOLOGICAL ASSESSMENT (4)

Prereq: Psych 556 and permission of instructor. Development of skill in administering and interpreting the results of individually administered intelligence tests and in reporting results.

561 SEMINAR: PROFESSIONAL, LEGAL AND CULTURAL ISSUES (3)

Prereq: admission to M.S. clinical/counseling psychology or school psychology curriculum or M.Ed. school counseling program. Consideration of the professional, cultural, ethical and legal issues and special problems in the application of psychological theories and research in educational settings, community clinics and private practice.



- 562 **PRACTICUM IN PSYCHOLOGICAL EVALUATION (4)**
 Prereq: Psych 559 and permission of instructor. Development of skill in making behavioral analyses and incorporating the results with those of other assessment procedures in formulating treatment decisions and plans.
- 564 **INDIVIDUAL COUNSELING TECHNIQUES (5)**
 Prereq: admission to M.S. clinical/counseling psychology or school psychology curriculum or M.Ed. school counseling program. Skill development in individual counseling, psychotherapy and behavior modification techniques using actual interviews, simulations, videotape and other laboratory procedures. Prerequisite to practicum in individual counseling and psychotherapy
- 565 **GROUP PROCESSES IN COUNSELING (3-4)**
 Prereq: admission to M.S. clinical/counseling psychology or school psychology curriculum or M.Ed. school counseling program. Current group counseling and psychotherapy techniques. Task-directed, encounter, decision-making and communication techniques are covered. Prerequisite to practicum in group psychotherapy and counseling.
- 570 **PRACTICUM (1-10, not to exceed a total of 15 credits)**
 Prereq: admission to M.S. counseling psychology or school psychology curriculum or M.Ed. school counseling program. Professional practice under assigned departmental supervision. Repeatable. S/U grading.
- 580 **SEMINAR IN COLLEGE TEACHING OF PSYCHOLOGY (3)**
- 581 **PRACTICUM IN COLLEGE TEACHING OF PSYCHOLOGY (1-12)**
 Prereq: permission of instructor. S/U grading.
- 582 **PRACTICUM IN RESEARCH IN PSYCHOLOGY (1-12)**
 Prereq: permission of instructor. Student initiates and conducts a project under faculty supervision. S/U grading.
- 648 **PROFESSIONAL INTERNSHIP (1-6)**
 Prereq: admission to M.S. counseling psychology or school psychology curriculum or M.Ed. school counseling program. Supervision during employment in professional practice after completion of academic work for master's degree. Thesis may be taken concurrently with approval. S/U grading.
- 649 **SEMINAR IN COUNSELOR SUPERVISION AND CONSULTATION (4)**
 Prereq: state certification in counseling or college certificate of completion of a graduate program in counseling. Development of supervisory competencies in counselor preparation. Planning, organizing and implementing counseling experiences for trainees in counseling in the public schools or counseling agencies. Development of effective assessment techniques of counseling competencies. S/U grading.
- 653 **ADVANCED SEMINAR IN COUNSELING THEORY (3)**
 Prereq: admission to M.S. counseling psychology curriculum, M.Ed. school counseling program, initial certification in school counseling or permission of instructor. Selected counseling theories and techniques in current use, including counseling with children and families. Evaluation of research on counseling process and counseling outcome. Take concurrently with Psych 570 or 670.
- 655 **ADVANCED SEMINAR IN VOCATIONAL COUNSELING (4)**
 Prereq: admission to M.S. counseling psychology curriculum, M.Ed. school counseling program, initial certification in school counseling or permission of instructor. An advanced seminar regarding major theories, trends and research in vocational counseling and career awareness programs. For students who are in internships or for counselors with a year of practical experience.
- 661 **ADVANCED SEMINAR IN PROFESSIONAL ISSUES IN COUNSELING PRACTICE (4)**
 Prereq: admission to M.S. counseling psychology curriculum, M.Ed. school counseling program, initial certification in school counseling or permission of instructor. An advanced seminar in professional, cultural, ethical and legal issues in counseling. For students who are in internships or for counselors with a year of practical experience.
- 670 **INTERNSHIP (1-10)**
 Prereq: admission to M.S. counseling psychology or school psychology curriculum or M.Ed. school counseling program. An extension of Psych 570 with increasingly independent responsibilities for practice in a professional setting. Primary supervision is by appropriate staff in the cooperating agency. S/U grading.
- 690 **THESIS (1-6)**
 Prereq: advancement to candidacy. S/U grading.

Sociology

In common with the other branches of science, sociology is not simply a point of view but rather a method for discovery and a body of information specifically about social organization and behavior. Sociology begins with the simple assumption that organization and behavior are not random events. Its fundamental purpose is to discover the patterns which underlie social events and to describe these patterns in a parsimonious and concise manner.

The programs leading to degrees in sociology at Western are designed to provide the student with a strong academic and practical training. Through formal class work and seminars, the student is introduced to the method and theory of sociological inquiry. This preparation may be extended if the student chooses to become involved in one of many research projects in the department. Working under faculty supervision, the student may choose to pursue more thoroughly such areas as demography, human ecology, criminology/law, human sexuality, education, or applied sociology.

The department currently houses a number of facilities for sociological research. The Demographic Research Laboratory contains a wide variety of research resources which include: U.S. Census Bureau products in published, microfiche and machine-readable format; a collection of census boundary maps for the local area; vital statistics data; and a demographic serials collection. National survey data are included in the laboratory collection for social scientific research and training. The department, with funding assistance from the National Science Foundation, has a computer laboratory equipped with microcomputers (IBM and Apple) and terminal access to University mainframes. Computer peripherals provide video graphic

display, plotter and laser print capability. Additionally, several members of the faculty are involved in field research, employing the local community and region as a laboratory.

With a faculty of ten members, all holding the doctoral degree, the department is able to offer specific degree concentrations. In addition, students interested in pre-professional training in social services will find an adviser and two curricular options in the department.

The department has programs leading to the B.A., B.A. in education, and B.S. in sociology. The Bachelor of Arts degree is designed to provide students with a liberal arts education, with individual specialization in sociology under advisement. While employment prospects are difficult to identify with precision for a general liberal arts degree, it has been the case for most of this century that such degree holders remain more likely to be employed, to be employed throughout their lifetimes as market conditions change, and to report higher lifetime incomes and job satisfaction throughout their working life than any other general category in the labor force. The department offers career advising and information in sociology and encourages students to make use of these services. Former graduates holding the B.A. currently fill numerous positions in both the public and private sectors; many have pursued advanced studies in sociology and other related fields. The B.S. degree is designed to provide students with a theoretical and substantive background in sociology, together with accessory skills in mathematics and computer science.

SOCIOLOGY FACULTY

JOHN G. RICHARDSON (1974) Chair.
Professor. AB. University of the Pacific,
Stockton; MA. Ph.D. University of California, Davis

- DONALD J. CALL (1958) Associate Professor BA, MA, PhD, University of Oregon.
- GEORGE F. DRAKE (1968) Associate Professor BA, MA, University of California, Berkeley. PhD, University of Wisconsin.
- CHARLES GOSSMAN (1968) Associate Professor BA, University of Puget Sound, MA, PhD, University of Washington.
- JAMES INVERARITY (1985) Visiting Assistant Professor BA, University of Michigan; PhD, Stanford University
- E. R. MAHONEY (1970) Professor BA, Chico State College. PhD, University of Oregon
- D. PETER MAZUR (1960) Professor of Sociology and Demography BA, Stetson University, MA, University of Colorado; PhD, University of Washington
- INGEBORG L. E. PAULUS (1971) Associate Professor. BA, MA, University of British Columbia; PhD, University of London.
- CARL H. SIMPSON (1978) Associate Professor. BA, PhD, Stanford University.
- G. EDWARD STEPHAN (1970) Professor BA, San Francisco State College; PhD, University of Oregon.

BACHELOR OF ARTS

Major — Sociology 70 credits

Elective Concentrations

The following concentrations are offered to assist students in selecting an undergraduate program which meets specific needs and interests while at the same time guaranteeing sufficient breadth to avoid overspecialization. Courses listed as being taught through other departments will count toward the 70-credit major in sociology; non-departmental courses must be approved by the department in order to count toward the major.

Sociology students are encouraged to formulate a plan of study at the point of declaring their major. At that time, allowable transfer credits and/or credits from other departments which may apply to the major will be established. The department maintains an Office of Undergraduate Advising throughout the year for this purpose.

Students should obtain a copy of the undergraduate "*Student Guide to Sociology*" available in the Sociology office.

Core Program

- Soc 202, 302, 310, 315

General Sociology:

Adviser — Richardson

- Core program
- Soc 303, 321, 330
- Additional sociology electives to total 70 credits

Criminology: Advisers — Paulus, Call

- Core program
- Soc 351, 352, 353, 354, 380, 452, 454
- Additional sociology electives to total 70 credits

Demography/Ecology:

Advisers — Gossman, Mazur

- Core program
- Soc 321, 322, 323, 415, 421
- Math 105
- CS 110
- Geog 340
- Additional sociology or mathematics electives to total 70 credits

Combined Major

A combined major is available as an option to students whose educational or professional interests may best be furthered by an integrated curriculum from two disciplines. A combined major may be fulfilled by the completion of requirements stipulated by both the Sociology Department and a department with which sociology has established arrangements. A plan of study must be approved by both departments for completion of the major.

Minor — Sociology 25 credits

- Soc 202, 302, 321, or 330
- Electives under departmental advisement

Minor — Demography

30 credits

A minor in demography is offered by the department for students whose major work in another discipline can

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be strengthened by training in the techniques of demographic analysis.

- Soc 202, 321, 421
- CS 110
- Choose either Soc 323 or 324
- Electives under advisement

BACHELOR OF ARTS IN EDUCATION

Major — Elementary and

Secondary 50 credits

Adviser — J. Richardson

- Soc 202, 302, 310, 315, 361, 380
- At least two courses from Soc 321, 338, 352, 360
- Under advisement: electives from sociology or other disciplines

BACHELOR OF SCIENCE

Major — Sociology 75 credits.

Adviser — G. E. Stephan

- Math 105, 124, 125, 126
- CS 110
- Soc 202, 302, 303, 310, 315, 321, 415, 421, 492
- Additional credits under advisement in mathematics, computer science, sociology or cognate areas

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a sociology major who wishes to graduate "with honors" must demonstrate a reading knowledge of a foreign language and submit a senior thesis.

GRADUATE STUDY

For concentration leading to a Master of Arts degree, see Graduate section of the catalog.

COURSES IN SOCIOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

202 INTRODUCTION TO SOCIOLOGY (5)

Basic problems and concepts in the study of society; social change and organization; human behavior in the family, education, religion, cities; social class, race, age, sex and the structure of society; sociology as science and as response to human problems.

251 SOCIOLOGY OF SOCIAL PROBLEMS (5)

Prereq: Soc 202 or equivalent. A survey of selected social problems, defined as circumstances or conditions which attract and hold public attention, which are historically or politically "controversial" and which both demand and defy solutions. The course is primarily concerned with the application of sociological concepts and techniques to the understanding of the sources of social problems and the prospects for their "solutions."

261 SOCIAL WELFARE IN AMERICA (5)

Prereq: Soc 202. The social work profession in modern society; professional and social scientific elements of social work; social work and social welfare.

302 HISTORY OF SOCIAL THOUGHT (5)

Prereq: Soc 202. The emergence of sociology; sociology as response to the Industrial Revolution and as an attempt to develop a scientific understanding of social organization, behavior and change; the development of social thought. Comte, Spencer, Marx, Durkheim and Weber.

303 CONTEMPORARY SOCIOLOGICAL THEORY (5)

Prereq: Soc 302. Major contemporary perspectives in sociology.

310 INTRODUCTION TO RESEARCH METHODS (5)

Prereq: Soc 202. The nature of scientific theory; the development of social research; the basic methods and techniques of data gathering, processing and analysis.

311 EVALUATION RESEARCH (5)

Prereq: Soc 202, 310. Logic and methods of evaluating the effectiveness and efficiency of social service programs.

315 SOCIAL STATISTICS (5)

Prereq: Soc 202. Application of statistical reasoning and methods in sociological research.

- 320 **COMPUTER APPLICATIONS FOR SOCIAL SCIENCE DATA (5)**
Prereq: Soc 315, or equivalent. Designed to integrate fundamental statistical knowledge with direct computer applications for the organization and analysis of data sets encountered in social science research. Training in the use of library statistical routines (e.g., SPSSx) central to research in the social sciences is emphasized.
- 321 **INTRODUCTION TO DEMOGRAPHY (5)**
Prereq: Soc 202. Provides a systematic introduction to the study of human populations. Designed for students interested in the subject regardless of their major discipline. Examines social, economic and biological factors associated with fertility, mortality and migrations.
- 322 **SOCIAL ECOLOGY (5)**
Prereq: Soc 202. Human social organization as response to changes in population, technology and environment; development of the field of social ecology from plant and animal ecology; research methods in social ecology.
- 323 **URBAN SOCIETY (5)**
Prereq: Soc 202. The city in history, the ecology of urban areas, social classes in the city, the city lifestyle, effects of crowding on human behavior, crime in cities, and other urban social problems; urban politics and urban planning.
- 324 **DEMOGRAPHY OF AGING (5)**
Prereq: Soc 202, 333. Basic demographic analysis of distribution of the elderly population in America: distribution of income, health care availability, places of residence, migration, marital status and living arrangements; causes of death among the older population. Past patterns studied and future patterns projected.
- 330 **INTRODUCTION TO SOCIAL PSYCHOLOGY (5)**
Prereq: Soc 202. Interpersonal behavior, perception of others, attraction toward and liking of others, self evaluation, helping behavior, aggression, attitudes and their relationship to behavior, sexual behavior, types of interaction processes, childhood and adult socialization, deviance and conformity, personal space, environmental effects on behavior, sex role attitudes and behavior.
- 333 **AGING IN AMERICA (5)**
Prereq: Soc 202. Introduction to basic concepts, theories, and issues of aging. Social history of aging; perception, status and responsibilities of the elderly from prehistory to the present; development of gerontology and social theories of aging.
- 335 **SOCIOLOGY OF MEDICINE, HEALTH, AND ILLNESS (5)**
Prereq: Soc 202. How health, illness and disease in American society differ by age, sex, race, social class, and ethnicity; social-psychological factors in health and illness, interpersonal relationships among patients and health personnel, health care system in the United States and modern medical technology; death and dying.
- 338 **SOCIOLOGY OF SEXUAL BEHAVIOR (5)**
Prereq: Soc 202. Human sexuality, with an emphasis on western cultures and the United States in particular, is studied from a scientific perspective. Emphasis is placed on both description and explanation of patterns and diversity in sexuality. While focusing on the social dimensions of sexuality, the historical, biological and psychological aspects of sexuality are integrated into a comprehensive overview.
- 340 **COMMUNITY ORGANIZATION (5)**
Prereq: Soc 202. Development, structure, and interrelationships of social systems that address the definition and solution of problems facing people within specified geographical areas.
- 341 **SOCIOLOGY OF ORGANIZATIONS (5)**
Prereq: Soc 202. Sociology of organization is an introduction to the study of organizational systems. The structure and function of organizations, their environments, resources and goals will be analyzed as they interact with each other in a system of interrelated variables.
- 351 **SOCIOLOGY OF DEVIANT BEHAVIOR (5)**
Prereq: Soc 202. Examination of labeling and behavior processes in deviance. Analysis of labeling by both the public and formal agencies such as the police and courts; effects of labeling and the behavioral characteristics of deviant lifestyles.
- 352 **CRIMINOLOGY (5)**
Prereq: Soc 202. The study of adult crime, defined as violation of legal norms. The course focuses on problems of measurement and attempts to explain crime as a social phenomenon and a cultural product. It includes an in-depth analysis of various forms and classes of crimes and their victims.
- 353 **JUVENILE DELINQUENCY (5)**
Prereq: Soc 202. Juvenile delinquency as a socially created phenomenon distinct from adult criminality; the juvenile court; extent and correlates of delinquency; group and gang delinquency, explanations for juvenile misbehavior.

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- 354 **TREATMENT AND CORRECTIONS (5)**
Prereq: Soc 202. Analysis of the structure and processes of law enforcement and corrections. Treated as an input-output system, police practices, sentencing practices and correctional treatment includes correction institutions, community corrections and probation and parole and the future of corrections.
- 360 **SOCIOLOGY OF THE FAMILY (5)**
Prereq: Soc 202. Analysis of the family as an institution and network of relationships in American life.
- 361 **SOCIOLOGY OF EDUCATION (5)**
Prereq: Soc 202. Analysis of the historical origins and spread of public education; schooling as a major form of socialization and status placement; the political and legal bases of education; the analysis of nonformal schooling, the relation between educational traditions and nation-state formation.
- 362 **POLITICAL SOCIOLOGY (5)**
Prereq: Soc 202. The social aspects of political phenomena with an emphasis on power and authority, conflict and change, political attitudes and ideologies.
- 363 **SOCIOLOGY OF RELIGION (5)**
Prereq: Soc 202. Religion in society. Religion as a force for change or stability; the social causes of religious beliefs; religion and the search for meaning. An examination of the structure and organization of religious groups and a special emphasis on recent experimentation with Eastern and charismatic religions.
- 364 **SOCIAL STRATIFICATION (5)**
Prereq: Soc 202. Social causes and consequences of inequality in America. Social distribution of wealth, power, and status, emphasis on poverty and racial social inequality
- 365 **PUBLIC OPINION (5)**
Prereq: Soc 202. Factors involved in the formation of public opinion; the role of mass media of communication and propaganda in a contemporary society. Offered in alternate years.
- 367 **SOCIOLOGY OF WORK AND OCCUPATIONS (5)**
Prereq: Soc 202. Sociological and social-psychological significance of work; factors affecting contemporary occupational structures and associated with typical career patterns/life cycle changes; sex, race, ethnic and social class differences; structural characteristics of selected occupational areas.
- 368 **SEX ROLES AND SOCIAL STRUCTURE (5)**
Prereq: Soc 202. Socially constructed differences between the sexes; socialization into sex roles; reactions to sexual deviation; sex role differentiation and socialization in family and social institutions; the effect on life changes of sex socialization.
- 369 **MINORITIES IN AMERICA (5)**
Prereq: Soc 202. Sociological and socio-psychological aspects of minority group situations and minority relations with the larger society; emphasis on non-white subcultures in the United States.
- 370 **HISTORICAL SOCIOLOGY**
Prereq: Soc 202. Historical sociology is cross-disciplinary in theory and method, examining the interrelation of historical attention to detail and the sociological focus on general patterns. The application of conceptual frameworks and quantitative methods to specific historical events are elaborated to this end.
- 372 **APPLIED SOCIOLOGY (5)**
Reviews major examples of research having practical applications for planning or evaluation and discusses methods of accomplishing valid applied research. Students conduct a full scale applied research project, the results of which will be used by WWU.
- 373 **SOCIAL SERVICES PLANNING (5)**
Prereq: Soc 202. Principles, problems and techniques of applying sociological knowledge to the planning process.
- 374 **INDUSTRIAL SOCIETY - A COMPARATIVE LOOK AT AMERICAN-CANADIAN INDUSTRIAL ORGANIZATION (5)**
Prereq: Soc 202. Comparative analysis of Canadian and American social organization in the area of industrial production.
- 380 **SOCIOLOGY OF YOUTH (5)**
Prereq: Soc 202. Sex and age status definitions and role-taking; historical, institutional and social process aspects of maturation, with special emphasis on Western industrial society from the 18th century to the present
- 396a,b,c **HONORS TUTORIAL (3-5 ea)**
- 410 **RESEARCH (3-5)**
Prereq: permission of instructor. Investigation of a problem through field or library research



415 ADVANCED QUANTITATIVE METHODS (3)

Prereq: Soc 315 or equivalent. Experimentation and tests of significance applied to research problems

421 DEMOGRAPHIC ANALYSIS (3)

Prereq: Soc 315, 321, or equivalents. Theory and method of population analysis; measures of mortality, fertility and migration; population forecasting techniques.

435 SOCIAL MOVEMENTS AND COLLECTIVE BEHAVIOR (3)

Prereq: Soc 202 and 330. Study of processes whereby social movements are formed to attempt to bring about major social changes; organizational structure and social psychological dynamics of

social movements, the consequences of social movements for society in general and for the members themselves. Offered in alternate years

452 ADVANCED CRIMINOLOGY (3)

Prereq: Soc 202, 352, 353, 354. An in-depth examination of selected areas in sociological criminology

454 SOCIOLOGY OF THE CRIMINAL JUSTICE SYSTEM (3)

Prereq: Soc 202, 352, 353, 354. The criminal law as an aspect of formal social control. The criminal law in action through police enforcement, prosecutorial and judicial decisions and their impact on defendants in the criminal courts.

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455 WOMEN AND THE LAW (3)

Prereq: Soc 202. Historical aspects of women's drive for equality and civil and criminal matters affecting women's daily lives; 14 video tapes used as discussion topics. All topics are illustrated by the state laws of Washington.

471 DIRECTED INTERNSHIP (3-15)

Prereq: junior status; completion of Soc 302, 310; and permission of instructor. Participant observation in research and applications in human services agencies and organizations.

473 SOCIAL INDICATORS AND FORECASTING (3)

Prereq: Soc 202, 315, 321. Introduction to social indicators and examination of the logical and methodological problems associated with use of social indicators to predict future social patterns; population forecasting and social implications of knowledge gained from forecasting.

492 SENIOR THESIS (5)

Prereq: Bachelor of Science major. Supervised independent research in partial completion of the requirements for the Bachelor of Science in sociology degree. The student will normally undertake such research upon completion of all other courses required for the degree.

496a,b,c HONORS TUTORIAL (3-5 ea)

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

501 ADVANCED GENERAL SOCIOLOGY (2)

Prereq: graduate status in sociology and permission of instructor. Review of major substantive areas of sociology. Overview of fundamental concepts, research methods and findings. Introduction to research interests of faculty, designed to familiarize students with examples of research and attendant problems.

502 SEMINAR: HISTORY OF SOCIAL THOUGHT (3)

Review and evaluation of major nineteenth and early twentieth century theories of social organization and change.

503 SEMINAR: CONTEMPORARY SOCIOLOGICAL THEORY (3)

Review and evaluation of major contemporary perspectives in sociology.

505 COMPUTER APPLICATIONS IN SOCIOLOGY (3)

Prereq: admission to graduate standing; concurrent enrollment in Soc 515. Emphasis on computer applications in the analysis of large-scale data sets; training in the use of SPSS and other library statistical routines.

510 SEMINAR: METHODOLOGY (3)

Prereq: Soc 310 and 315 or equivalent. Analysis and evaluation of the procedures, assumptions and modes of explanation employed in sociological research.

515 SEMINAR: QUANTITATIVE TECHNIQUES (3)

Prereq: course in Social Stats. Regression, path analysis and related techniques as applied to sociological research.

521 SEMINAR: DEMOGRAPHY (3)

Prereq: Soc 321 and 315 or equivalent, or permission of instructor. Critical review of demographic theory, methods and applications in the light of contemporary world population problems.

530 SEMINAR: SOCIAL PSYCHOLOGY (3)

Theoretical approaches, research methods and findings concerning identity, communications, task performance, deviation, sanctioning, leadership and other processes occurring in face-to-face and extended social interaction contexts.

535 SEMINAR: CURRENT SUBSTANTIVE RESEARCH (1-3)

Prereq: graduate status. Topics to vary. Repeatable with different subject area. Examines current research in a selected substantive field of sociology.

540 COMPLEX ORGANIZATIONS (3)

Theory and research on structure and processes of large-scale formal organizations in Western society, industrial-commercial, governmental, religious, military, political and educational organizations.

551 SEMINAR: SOCIAL CONTROL AND DEVIANCE (3)

Critical review of theories and concepts of deviance; analytic and philosophic problems of attempts at programmed social control.

690 THESIS (3-12)

Prereq: formal advancement to candidacy for the M.A. in sociology. S/U grading.

Speech and Broadcast

The Speech and Broadcast Department provides the focus for a strong liberal arts education and professional preparation. Students develop additional depth in other academic disciplines.

The department offers degree programs in Broadcast Communication, Speech Communication and Speech Education. In addition, the department maintains its commitment to the liberal arts tradition by offering courses in support of the General University Requirements and other departments.

Two degrees are granted: the Bachelor of Arts, and the Bachelor of Arts in Education. The Bachelor of Arts degree can lead to placement in industry, government, or one of the professions. The Bachelor of Education degree gives certification for elementary or secondary school teaching. A master's degree is ordinarily the requirement for community college teaching and other professional work.

BROADCAST COMMUNICATION

Students of broadcasting gain practical experience on Western's prize-winning student media, and majors additionally take field internships with broadcast stations, production houses or other media organizations. Graduates find careers in newspapers, magazines, radio, television, publishing, advertising, public relations, teaching and throughout government and industry wherever communications skills, with general knowledge, are vital.

A major in broadcast communication allows the student to develop specific skills which may be applied to future vocational opportunities in broadcasting and other fields which utilize

mass communication media.

In radio and television classes students participate in a regular series of radio and television broadcasts. The student-operated campus station KUGS-FM offers further opportunities for the development of radio broadcasting skills.

SPEECH COMMUNICATION

A major in speech communication at the bachelor level is useful as a basis for such professions as law or the ministry, or careers in advertising, personnel, sales, the diplomatic corps, and public relations. Speech consultants are employed by labor unions, elected officials, and as communication specialists by various industries.

Undergraduates are offered a wide variety of communication opportunities including an extensive program of forensic activities in which students may participate regardless of their chosen major.

SPEECH EDUCATION

Speech graduates with the Bachelor of Arts in Education at the secondary level find that the most common assignment is one involving not only speech but English as well. An interdisciplinary major in Speech/English is offered as preparation for this type of assignment. As much of the elementary classroom activity involves communication skills, it is recommended that the prospective teacher select a speech program to accompany an elementary major or minor.

The Department of Speech and Broadcast offers broad opportunities for learning. Further information and guidance may be obtained by contacting the department chairman.

SPEECH AND BROADCAST FACULTY

LARRY S. RICHARDSON (1970) Chair.

Associate Professor. BA, Western Washington College of Education; MEd, Central Washington State College; MA, PhD, Washington State University (Speech Communication, Debate/Forensics).

ANNA EBLEN (1986) Visiting Assistant Professor. BA, Duke University; MA, University of West Florida; PhD, University of Oregon (Speech Communication).

MARVIN L. OLMSTEAD (1969) Associate Professor. BS in Ed, Black Hills Teachers College; MA, Washington State University; PhD, University of Washington (Speech Communication).

ALDEN C. SMITH (1966) Associate Professor. BS, Florida Southern College; MS, Syracuse University; PhD, University of Illinois (Broadcast Communication).

DECLARATION OF MAJOR

All students who wish to major in speech communication or broadcast communication must:

- File an application (which includes a planned program of study) with the Speech and Broadcast Department (see departmental secretary for forms/instructions).
- For Speech Communication:* Have completed Speech 101, 204, 205, and English 101, with a grade of B or higher.
For Broadcast Communication: Have completed Speech 101 and Broadcast 240, with a grade of B or higher.
- Have a minimum cumulative GPA (all college work) of 2.5.

BACHELOR OF ARTS

Major — Broadcast Communication 77 credits

- Satisfy departmental requirements for declaration of major (see above)
- Broadcast 241, 340, 341, 342, 343, 441 or 443

- 10 credits from Broadcast 244, 344, 442 taken under departmental advisement (a combined total of six credits of Broadcast 244 and 344 may be applied to the major)
- 12 credits from Broadcast 300, 400, 449, to be taken under advisement. (A minimum of 6 credits must be taken in Broadcast 449).
- 15 credits from Speech 203, 204, 205, 304, 309, 404, 405, 407, 409
- Journ 104, 350 and 15 credits of additional supporting courses taken outside the department under departmental advisement.

Minor — Broadcast

Communication 30 credits

- One of the following: Speech 101, 302
- Broadcast 240, 241, 340, 342, 343
- Journ 104, 350
- Electives under departmental advisement

Major — Speech

Communication 75 credits

- Satisfy departmental requirements for declaration of major (see above)
- Speech 304, 307, 409, 490
- 25 credits in the department under advisement — no more than 12 credits total in 300, 400, and 499
- Minor in an approved field — 24-40 credits

Program approval must be obtained during the quarter in which the major is declared. Any changes or deletions must be approved by the departmental adviser.

Minor — Speech

Communication 28 credits

- One of the following: Speech 101, 302
- Speech 204, 205, 304, 307
- Electives in speech communication, under departmental advisement

BACHELOR OF ARTS IN EDUCATION**Major — Speech (General Classroom for Elementary Teachers)** 45 credits

- Speech 101, 203, 204, 302, 484
- Speech Path/Aud 351, 354, 373
- Th/D 101, 350 or 351, 452
- Library Science 309
- Electives in Speech/Broadcast

Minor — Speech (General Classroom for Elementary Teachers) 25 credits

- Speech 101 or 302, 484
- Th/D 101, 350 or 351 or 452
- Speech Path/Aud 351, 354
- Library Science 309
- Electives in Speech/Broadcast

Major — Speech (Secondary Teachers) 60 credits

- Speech 101, 204, 302, 407, 485
- Completion of six courses, three from each of two of the following modules:
 - Broadcasting: Broadcast 240, 241, 340, 342, 343
 - Communication Theory: Speech 307, 309, 404, 405, and 409
 - Forensics: Speech 205, 206 (4 credits), 406 (4 credits), 486
 - Th/D 101, 160, 212, 215, 216
 - Electives under departmental advisement

Minor — Speech (Secondary Teachers) 30 credits

- Speech 101 or 302
- Speech 204, 407, 485
- Either theatre dance emphasis: Th/D 101, 160, 212; or debate forensics emphasis: Speech 206 or 406 for 6 credits and Speech 486
- Electives under departmental advisement

Interdisciplinary Major Concentration — Speech/English 94 credits

(Speech 45 credits & English 49 credits)

(Satisfies both major and minor and leads to teaching endorsement in both Speech and English.)

Speech 45 credits

- Speech 101, 204, 302, 407, 485
- Completion of six courses, three from each of two of the following modules:
 - Broadcasting: Broadcast 240, 241, 340, 342
 - Communication Theory: Speech 307, 405, 409, 490
 - Forensics: Speech 205, 206 (4 credits), 406 (4 credits)
 - Theatre: Th/D 101, 160, 212, 215, or 216
- Electives in speech under departmental advisement

English (see English section of catalog) 49 credits**COURSES IN BROADCAST***Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.*

- 240 INTRODUCTION TO BROADCASTING (3)
Theory and technique of basic broadcast procedure; use of recording and transmitting equipment; fundamentals of broadcast speech, contemporary broadcast facilities and practice.
- 241 BROADCAST COMMUNICATION I (3)
Prereq. Broadcast 240. Laboratory practice in applying communication skills to broadcast media, gathering, preparation and delivery of radio news.
- 244 RADIO NEWS STAFF I (2)
Prereq. Journ 104, Broadcast 240 and written permission. Participation on the news staff of the university radio station KUGS. Practicum in reporting, writing, production and announcing. A maximum of six credits may be earned.

Speech/Broadcast

- 340 INTRODUCTION TO MASS COMMUNICATION MEDIA (3)
Prereq: junior standing. Development of mass media; newspapers, films, radio and television; their contemporary role in society.
- 341 BROADCAST COMMUNICATION II (3)
Prereq: Broadcast 241, 340. Laboratory practice in production of radio news and public service programs.
- 342 T/V PRODUCTION I (3)
Prereq: Broadcast 340 and written permission of the broadcast adviser. Theory and technique of basic television production. Laboratory practice utilizing instructional media facilities.
- 343 BROADCAST WRITING (3)
Prereq: Broadcast 240 and Journ 104. The preparation of news, advertising and public service copy for radio and television.
- 344 RADIO NEWS STAFF II (2)
Prereq: Broadcast 244, 343 and written permission. Participation on the news staff of the University radio station KUGS. Practicum in reporting, writing, production and announcing. A maximum of six credits may be earned. A maximum combined total of six credits from Broadcast 244 and Broadcast 344 may be applied to a major in broadcast communication.
- 441 PRODUCING AND DIRECTING THE BROADCAST PROGRAM (4)
Prereq: Broadcast 341, 342. Production and direction for radio and closed circuit instructional television: preparation and execution of scripts; studio practice with radio and television equipment. Normally offered in alternate years.
- 442 TELEVISION NEWS PRODUCTION (2)
Prereq: Broadcast 342, 343 and written permission of instructor. Development of broadcast communication skills. Practice in preparation and presentation of televised news. Repeatable for 6 credits. (Concurrent enrollment in Journ 431, 432 or 433, or Tech 442a,b,c recommended.)
- 443 T/V PRODUCTION II (3)
Prereq: Broadcast 342 and written permission of the broadcast adviser. Advanced theory and technique of television production. Laboratory experience utilizing instructional media facilities.

- 449 FIELD INTERNSHIP IN MASS COMMUNICATION (3-12)
Prereq: senior standing and written permission of instructor. Supervised work in mass communication for a broadcast station, educational institution, or other appropriate governmental agency or private enterprise. A paper on an approved topic related to the internship is required. S/U grading.

COURSES IN SPEECH

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 101 FUNDAMENTALS OF SPEECH (3)
Functional approach to effective communication; application of principles to practical problems in speech. Teacher education sophomores (or above) are advised to take Speech 302 unless Speech 101 is needed to satisfy their GUR requirements.
- 202 PARLIAMENTARY PROCEDURE (2)
Parliamentary principles and procedures. Theoretical and practical techniques of effective organizational leadership; agenda setting; developing consensus; informational methods; and committee processes. Also offered as Pol Sci 202.
- 203 VOICE AND ARTICULATION IMPROVEMENT (3)
Background in the speaking process; theory and practice designed to improve articulation, projection, and vocal quality. S/U grading.
- 204 SMALL GROUP PROCESSES (4)
Exploration of the dynamics of human interaction in small group settings. Group tasks include the development of problem-solving skills, utilizing topics of current interest.
- 205 EXPOSITION AND ARGUMENTATION (4)
Theory and practice of principles of reasoned discourse as applied to public discussion of controversial issues.
- 206 INTERCOLLEGIATE FORENSICS (1-3)
Debate, extemporaneous, and impromptu speaking, and interpretive reading and other phases of forensics. A maximum of 6 credits may be earned.
- 302 SPEECH FOR THE TEACHER (3)
Prereq: junior standing. Intended for teacher education students. Communication principles and applications to assist prospective teachers in the development of their individual speech skills and to prepare them to meet the communication needs of their students.

- 304 PUBLIC SPEAKING (3)
Prereq: Speech 101 or 302. Theory and practice in the art of public discourse.
- 307 INTERPERSONAL COMMUNICATION I (3)
Prereq: junior standing. Theory and practice of communication in dyad and small groups. Focus on competencies identified by interpersonal communication research; competencies include listening, conflict and negotiation, nonverbal behavior, relationship development.
- 309 HUMAN COMMUNICATION I (4)
Prereq: junior standing. Survey of human communication by levels: intrapersonal, interpersonal, small groups, public, mass media and intercultural. Normally offered in alternate years.
- 311 CONFLICT AND COMMUNICATION (3)
Prereq: junior standing. Verbal and non-verbal communication strategies and behaviors that promote conflict in human interactions.
- 315 LANGUAGE AND COMMUNICATION (3)
Prereq: junior standing. Language as an instrument of communication. The effects of language misuse and malpractice on our perception and behavior.
- 404 SMALL GROUP LEADERSHIP (4)
Prereq: Speech 204. Open only to departmental majors. Exploration of concepts of leadership of small groups in both formal and informal settings. Development of leadership skills.
- 405 PERSUASION (4)
Prereq: Speech 205. Open only to departmental majors. Study of principles that influence attitudes and opinions in persuasive situations.
- 406 ADVANCED FORENSICS AND DEBATE (1-3)
Prereq: 6 credits in Speech 205 and/or Speech 206. Emphasis on intercollegiate debate with opportunity for experience in extempore, impromptu, and persuasive speaking. A maximum of six credits may be earned in Speech 406; a combined total of six credits from Speech 206 and Speech 406 may be applied to a major.
- 407 INTERPERSONAL COMMUNICATION II (4)
Prereq: junior standing. Experiences and skill training in small group settings to promote interpersonal relationships and to overcome communication barriers.
- 407w WORKSHOP IN INTERPERSONAL COMMUNICATION (1-3)
Prereq: upper-division standing or equivalent experience. For individuals engaged in the helping professions who wish to enhance their self understanding, self expression, and to improve communication and relationship skills relevant to all human interaction. Variable credit depending on the amount of contact hours. S/U grading.
- 409 HUMAN COMMUNICATION II (4)
Prereq: junior standing. Open only to departmental majors. Special topics in human communication including systems theory, information theory, theories of signs, and theories of meaning and thinking.
- 414 SPEECH WRITING (3)
Prereq: Speech 304 senior standing and written permission of instructor. Theory and application of speech writing. Extensive work in creating, revising, and criticizing speech manuscripts.
- 416 ADVANCED FORENSICS: ANALYSIS OF PUBLIC POLICY ISSUES (4)
Prereq: experience debating a recent national resolution or as a high school or college debate teacher. Application of models from argumentation theory and field or fields pertaining to the national resolution. Presentation of research papers, seminars and public presentations involving guest faculty from appropriate disciplines.
- 484 SPEECH FOR THE ELEMENTARY TEACHER (3)
Prereq: junior standing. Methods of utilization of the speech arts in the elementary classroom. Normally offered alternate years.
- 485 TEACHING SPEECH IN THE SENIOR HIGH SCHOOL (3)
Prereq: 15 credits in Speech. Exploration and critique of methods and materials used in teaching public address, interpersonal and small group communication, and extra-curricular speech activities. Normally offered alternate years.
- 486 DIRECTING THE FORENSICS PROGRAM (4)
Prereq: Speech 205 or 206 (taken for 4 credits). Conducting tournaments, criticizing debates and individual events, budgeting. Normally offered alternate years.

Speech/Broadcast

- 486s HIGH SCHOOL DEBATE COACH WORKSHOP (2)**
Prereq: one year teaching experience or graduate student status. An intensive lecture, seminar and workshop program in pedagogy related to teaching of argumentation, debate and forensics. Purpose is improvement of instruction. (Summer only.)
- 488 BUSINESS AND ORGANIZATIONAL COMMUNICATION (3)**
Prereq: junior standing. Recommended for non-speech majors. Theory and practice in job interview, small group problem solving discussion, public discussion and public speaking.
- 489 ORGANIZATIONAL COMMUNICATION (3)**
Prereq: open only to departmental majors; one of the following: Speech 307, 309 or 409. Emphasizes the role of communication as central in human organizing. Describes the relationships among communication theories and other theories of organizational behavior. Applies theories to varied organizational settings.
- 490 SURVEY OF RHETORICAL THEORIES (4)**
Prereq: open to departmental majors; junior standing. Survey of major rhetorical theories from ancient Greece to the 20th century.
- 492 THE RHETORIC OF SOCIAL MOVEMENTS (4)**
Prereq: junior standing. Analysis of contemporary social movements from a rhetorical perspective. Critical methodologies developed by contemporary theorists applied to persuasive activities of specific movements. The subject of each individual class will be announced in the class schedule. Repeatable to 8 credits.
- 499 FIELD INTERNSHIP IN SPEECH COMMUNICATION (3-12)**
Prereq: senior standing. Supervised work in speech communication for an educational institution, public agency or private enterprise. A paper on an approved topic related to the internship is required. S/U grading.
- 502 BEHAVIORAL RESEARCH IN SPEECH (4)**
Introduction to empirical research: basic methodology applied to current research in communication and speech.
- 506 SEMINAR IN ARGUMENTATION (3)**
Study of current issues, practices and trends in the field of argumentation, including argumentation theory, educational debate, debate in real world settings and pedagogical issues in argumentation.
- 585 INTERNSHIP IN THE TEACHING OF COLLEGE SPEECH (3)**
Prereq: permission of instructor. Supervised teaching of the basic speech course.
- 586 HIGH SCHOOL DEBATE COACH SEMINAR (2-3)**
Prereq: one year teaching experience or graduate status and permission of instructor. An intensive lecture, seminar and workshop program in pedagogy related to teaching of argumentation, debate and forensics. Purpose is improvement of instruction.
- 588 SPEECH COMMUNICATION FOR EDUCATIONAL ADMINISTRATORS (3)**
Application of the principles of effective communication to educational settings. Experience in conducting meetings, interviewing, speaking in public and similar activities.
- 593 INTERNSHIP IN SPEECH COMMUNICATIONS (3)**
Prereq: permission of instructor. Supervised teaching of courses and/or units within courses in the area of speech communication and, where appropriate, assistance in the co-curricular programs of this area. A field project report will be required of those taking the course to fulfill the M.A. Option II requirement.
- 595 SEMINAR IN RHETORICAL CRITICISM (4)**
Prereq: Speech 501. Literature of rhetorical criticism and the application of rhetorical theory so gleaned in the criticism of significant speeches.

690a THESIS (6-9)

690b WRITING SEMINAR: THE RESEARCH MONOGRAPH IN SPEECH (3)

Prereq: Speech 501 or 502 and written permission of instructor. Writing a scholarly article based on research and suitable in subject, content and style for a communication journal.

Graduate Courses in Speech

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Special permission required.

- 501 THEORY CONSTRUCTION AND RESEARCH IN SPEECH (4)**
Detailed application of research and approaches to theory construction in communication.

Speech Pathology & Audiology

THE DISCIPLINE

Speech/language pathology and audiology are disciplines which have developed out of a concern for people with communication disorders. Preparation leading to a degree in speech/language pathology and/or audiology includes a wide range of coursework and a variety of clinical practicum opportunities working with the infant through geriatric populations.

Students intending to enter this profession, whether in a public school, clinical rehabilitation or hospital setting, are advised that clinical certification (CCC) by the American Speech-Language-Hearing Association requires the completion of the master's degree program or its equivalent. Students who plan to practice in the public schools should follow the certification program for the Communication Disorders Specialist (CDS) through Western's "Program Unit."

The speech/language pathology and audiology major provides the student engaged in another discipline pertinent information in the areas of speech and language development, communication disorders and hearing impairments. Students outside of the major frequently take coursework in the speech/language pathology and audiology program and in some instances select speech/language pathology/audiology as a minor.

DEGREE PROGRAMS

The Department of Speech Pathology and Audiology offers two different academic degrees: the Bachelor of Arts and the Master of Arts. The Bachelor of Arts is considered to be a pre-professional degree, qualifying the student for advanced preparation at the graduate or M.A. equivalent

level. The Master of Arts degree is a professional degree and facilitates certification at both the state and national level. Also, an equivalency program is available for those not seeking the advanced degree.

A minor area of study of 25 credits or more is required for completion of the degree. The minor area of study must be approved by the student's academic adviser. Suggested areas include: biology, psychology, sociology and business; refer to catalog for course listings of minors in these areas. Individually designed minors are permissible with faculty approval.

Due to the clinical requirements of the program, enrollment in the undergraduate and graduate major may be limited.

ACCREDITATION

The Department of Speech Pathology and Audiology holds ESB accreditation in both speech pathology and audiology from the American Speech-Language Hearing Association.

CERTIFICATION IN SPEECH PATHOLOGY/AUDIOLOGY

Two types of professional certification are available: state certification, which is mandatory for public school employment in Washington State, and national certification, which is necessary for employment in hospitals and clinics. The program leading to certification as a speech/language pathologist and/or audiologist in the public schools has been formulated by a "Program Unit" consisting of Western Washington University, the Washington Speech and Hearing Association and a participating school district. For details regarding academic, clinical and externship requirements, please consult the

Speech Pathology/Audiology

"*Western Washington University Handbook for Speech Pathology and Audiology Majors.*"

The American Speech-Language-Hearing Association's recommendation for certification of speech/language pathologists or audiologists includes a minimum of 50 quarter hours of academic preparation as well as the successful completion of 300 required supervised clinical hours. Such preparation would extend into an equivalency or graduate degree program. Consult the departmental *Handbook* and graduate program adviser for details.

ACADEMIC AND CLINICAL COMPETENCY

All required academic and clinical courses in the SPA undergraduate major must be completed with the grade of "C" or better.

Not everyone is suited to work with clients in the clinical fields of speech-language pathology and in audiology even though they may maintain a satisfactory academic record. The faculty and staff of the Department of Speech Pathology and Audiology thus reserve the right to counsel students with this in mind and to recommend a change of academic focus for any students who appear to have personality traits that would prevent them from being successful in the discipline.

For further information, contact the department chair at (206) 676-3885.

SPEECH PATHOLOGY AND AUDIOLOGY FACULTY

MICHAEL T. SEILO (1970) Chair
Professor. BS, Northern Michigan University; MA, University of Arizona; PhD, Ohio University (Audiology/Aural Rehabilitation/Experimental Phonetics).

CAROL C. McRANDLE (1975) Associate Professor. BS, University of Minnesota, Duluth; MS, PhD, Purdue University (Audiology/Aural Rehabilitation/Hearing Science).

SAMUEL B. POLEN (1972) Professor. BS, Kent State University; MA, PhD, Ohio University (Speech/Language Pathology/Speech Science).

JAMES A. SPEIRS (1978) Assistant Professor. BA, Los Angeles State College; MA, PhD, University of Southern California (Speech/Language Pathology).

LOREN L. WEBB (1965) Professor. BS, University of California, Berkeley; MA, University of Redlands; PhD, University of Washington (Audiology/Aural Rehabilitation).

LINA ZEINE (1983) Assistant Professor. BA, American University of Beirut, Lebanon; MA, University of Colorado; PhD, University of Kansas (Speech/Language Pathology).

Speech Pathology and Audiology Clinic Staff

CANDACE K. GANZ (1982) Director, Speech-Language Clinic. BA, MA, University of Kansas (Speech/Language Pathology/Infant Behavior and Development).

DONNA HUNTER (1985) Audiology Clinic Supervisor. BA, University of Saskatchewan; MS, Minot State College, North Dakota (Audiology).

JILL K. HUNT-THOMPSON (1977) Speech-Language Pathology Clinic Supervisor. BA, MA, Western Washington State College (Speech/Language Pathology).

KAYLE SHULENBERGER (1985) Speech-Language Pathology Clinic Supervisor. BA, MA, Western Washington State College (Speech-Language Pathology).

BARBARA J. WELLS-WEEKLY (1979) Director, Externship Program. BS, MS, East Carolina University (Speech/Language Pathology).

BACHELOR OF ARTS

Major — Speech Pathology and Audiology 60 credits

- SPA 201, 351, 352, 353, 354, 356, 361
- SPA 373, 452, 454, 456, 457, 458, 459, 461, 462, 463
- Electives under departmental advisement

Minor — Speech Pathology and Audiology 25 credits

(A minimum of 25 credits. More than 25 are recommended.)

- SPA 351, 354, 356, 361, 461
- Electives under departmental advisement

The speech pathology and audiology minor cannot be used by education majors to satisfy the official minor requirement.

GRADUATE STUDY

For concentrations in speech/language pathology and audiology leading to the Master of Arts degree, see Graduate section of catalog.

COURSES IN SPEECH PATHOLOGY AND AUDIOLOGY

Courses numbered X37: X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 201 **ORIENTATION TO SPEECH-LANGUAGE-HEARING DISORDERS (2)**
Orientation lectures and video viewing on selected subjects in speech-language therapy and audiology. Also, students will observe aural rehabilitation, audiological testing, and most areas of speech and language pathology treatment.
- 351 **INTRODUCTION TO COMMUNICATION DISORDERS (3)**
Survey of speech, language and hearing disorders, an introduction to speech and language therapy as a discipline.
- 352 **ANATOMY AND PHYSIOLOGY OF SPEECH MECHANISMS (5)**
Structure and function of organs concerned with audition, cerebration, respiration, phonation, resonance, articulation.
- 353 **SPEECH SCIENCE (4)**
Required for speech pathology and audiology majors. Acoustic properties of the speech signal and their relation to speech production and perception.
- 354 **SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN (3)**
Normal speech and language acquisition, its impact on the developing child; origins and growth of symbolic processes, developmental norms; factors influencing learning of language and speech.
- 356 **ARTICULATION DISORDERS AND THERAPY (3)**
Prereq SPA 351, 352. Symptomatology, etiology, and therapy for articulation disorders
- 361 **LANGUAGE LEARNING DISABILITIES IN CHILDREN (3)**
Prereq: SPA 351, 354. Etiologies of language learning disabilities in children; diagnosis and treatment procedures
- 373 **PHONETICS (3)**
Training in recognition and production of sounds of spoken English through use of the International Phonetic Alphabet. Lab required.
- 452 **DIAGNOSTIC METHODS IN SPEECH/LANGUAGE PATHOLOGY (4)**
Prereq: SPA 351, 352, 353, 354, 356, 373 or written permission of instructor. Methods, procedures, techniques and instruments; observation and lab required.
- 454 **INTRODUCTION TO STUTTERING THEORY AND THERAPY (3)**
Prereq: SPA 351. Characteristics of stuttering behavior; current theories of etiology of stuttering; principles and practices of therapy, cluttering as a related disorder
- 455 **SPEECH/LANGUAGE THERAPY IN THE PUBLIC SCHOOLS (3)**
Prereq: SPA 351 or permission of instructor. Role of the clinician in organizing and directing a speech therapy program in the public school setting.
- 456 **ORGANIC SPEECH/LANGUAGE DISORDERS (3)**
Prereq: SPA 457. Symptomatology, etiology and therapy for cerebral palsy, cleft palate, aphasia, dysarthria and laryngectomy.
- 457 **METHODS IN SPEECH/LANGUAGE THERAPY (5)**
Prereq: SPA 356. Directed observation and evaluation of the methods, materials and techniques used in treating a variety of communication disorders.
- 458 **BEGINNING CLINICAL PRACTICE IN SPEECH/LANGUAGE THERAPY (3)**
Prereq: SPA 351, 352, 353, 354, 356, 373, 457 or written permission of instructor. Clinical observation, assistant clinician experience, procedures in therapy planning and implementation.
- 459, 460 **CLINICAL PRACTICE IN SPEECH/LANGUAGE THERAPY (3 ea)**
Prereq: written permission of instructor. Continuation of SPA 458.
- 461 **INTRODUCTION TO AUDIOLOGY (5)**
Introduction to the acoustic properties of simple and complex sounds; the structure and function of the auditory mechanism; the nature and causes of hearing impairment and a general survey of audiology as a discipline.

Speech Pathology/Audiology

- 462 **AUDIOMETRIC TESTING (4)**
Prereq: SPA 461 or permission of instructor. Introduction to the theory and application of pure tone, impedance and speech audiometry to assessment of hearing function; implications for rehabilitation covered.
- 463 **AURAL REHABILITATION (4)**
Prereq: SPA 461; SPA 467a may be taken concurrently. Auditory training, speech reading and language training for the aurally handicapped.
- 465 **SIGN LANGUAGE OF THE DEAF (3)**
Prereq: SPA 354 or permission of instructor. Theory and practice in use of the manual language methods for communication with the deaf.
- 465a **INTERMEDIATE SIGNING (2)**
Prereq: SPA 465. An introduction to the philosophy of total communication and the basic idea of Ameslan (sign language used by deaf people).
- 466 **MEDICAL AUDIOLOGY (3)**
Prereq: SPA 461. The medical pathologies of the hearing mechanism and their auditory manifestations. Problems of diagnosis, referral and report writing.
- 467a,b,c **CLINICAL PRACTICE IN AURAL REHABILITATION (2 ea)**
Prereq: SPA 463 or permission of instructor. Supervised practice in the rehabilitation of the hard of hearing.
- 468 **CLINICAL PRACTICUM IN AUDIOLOGY (2)**
Prereq: SPA 461, 462. Supervised clinical practice in audiological evaluation.
- 469, 470 **CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)**
Prereq: SPA 468. Supervised clinical practice in audiological evaluation.
- 499a,b **UNDERGRADUATE EXTERNSHIP IN SPEECH/LANGUAGE PATHOLOGY AND AUDIOLOGY (8 ea)**
Prereq: completion of the undergraduate major requirements and permission of department. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of children with communication disorders. S/U grading.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 502 **BEHAVIORAL RESEARCH IN SPEECH (4)**
Introduction to empirical research; basic methodology applied to current research in communication and speech.
- 506 **FUNCTIONAL NEUROANATOMY FOR SPEECH PATHOLOGY AND AUDIOLOGY (3)**
Prereq: SPA 352, 456 or permission of instructor. Normal and abnormal structures and functions of the human nervous system. Particular emphasis on sensory and motor pathways, cerebral development, localization and lateralization. Discussion of the neurological examination.
- 510 **SEMINAR IN ORGANIC DISORDERS (3)**
Prereq: graduate status, SPA 459 or equivalent, or permission of instructor. A survey of speech disorders; identification, classification and fundamentals of therapy for cerebral palsied and cleft palate individuals.
- 550 **VOICE DISORDERS AND THERAPY (3)**
Prereq: SPA 351, 352 or their equivalent. Pathological and psychological states affecting voice production. Functional psychogenic and organic problems of pitch, quality, loudness. Experience in diagnosis and evaluation of voice disorders. Developing techniques and methods for treatment and therapy.
- 551 **ADVANCED SPEECH PATHOLOGY (3)**
Prereq: permission of instructor. Analysis and evaluation of recent concepts, issues, techniques and methods applicable to speech disorders.
- 552 **ADVANCED DIAGNOSTIC METHODS IN SPEECH AND LANGUAGE PATHOLOGY (5)**
Prereq: SPA 452, 558 or written permission of instructor. Specialized methods, tests and instruments used in diagnosis of more complex morphological and neuropathological disorders; supervised practice; discussion of current diagnostic literature.
- 553 **SEMINAR: LANGUAGE DISORDERS (3)**
Prereq: SPA 354, 361, or written permission of instructor. Atypical speech and language acquisition with special focus on current research findings and management techniques.

- 554 SEMINAR: STUTTERING (3)
Prereq: SPA 454 or equivalent. Critical analysis of recent research findings relating to stuttering and cluttering disorders; chief rationale for therapy and evaluation of therapy procedures and results.
- 555 ADVANCED STUDIES IN LANGUAGE DEVELOPMENT IN CHILDREN (3)
Experimental findings and theoretical interpretations of normal speech and language acquisition with an emphasis on studies in phonology, syntax, semantics and pragmatics; origins and growth of cognitive and social processes; factors influencing learning of speech and language.
- 556 SEMINAR IN APHASIA (3)
Prereq: SPA 456 or equivalent. Diagnosis and treatment of language-impaired adults with specific brain injury patterns: aphasia, apraxia, dysarthria.
- 558 ADVANCED CLINICAL PRACTICE IN SPEECH/LANGUAGE THERAPY (1-3)
Prereq: SPA 458, 459 or written permission. Supervised clinical practicum. Must be completed with a grade of "C" or better. Repeatable to 9 credits.
- 559, 560 ADVANCED CLINICAL PRACTICE IN SPEECH/LANGUAGE THERAPY (3)
Prereq: SPA 558 or written permission of instructor. Continuation of 558. Must be completed with a grade of "C" or better.
- 561 SEMINAR IN AUDIOLOGY (3)
Prereq: SPA 461 or permission of instructor. Study of basic auditory correlates and audiometric procedures.
- 562 ADVANCED AUDIOMETRY (3)
Prereq: SPA 462 Theory and application of advanced diagnostic audiometric procedures.
- 563 SEMINAR IN AURAL REHABILITATION (3)
Prereq: SPA 463 or permission of instructor Issues related to the hearing handicapped.
- 564 ADVANCED CLINICAL PRACTICE IN AURAL REHABILITATION (2)
Prereq: SPA 458, 463, 467 or permission of instructor. Supervised practice in rehabilitation of the hard of hearing. Must be completed with a grade of "B" or better. The class may be repeated for credit.
- 565 PSYCHOACOUSTICS (3)
Prereq: SPA 561 or permission of instructor. Application of standard psychophysical techniques and theory of signal detection to audiologic research.
- 566 BIOACOUSTICS (3)
Prereq: SPA 561 or permission of instructor. The ear as a transducer and analyzer; electro, physiological and mechanical properties of the ear.
- 567 INDUSTRIAL AUDIOLOGY (3)
Prereq: SPA 461. Problems in noise pollution; federal and state regulations regarding noise; noise-induced hearing loss and the role of audiology in prevention and control.
- 568a,b,c ADVANCED CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)
Prereq: SPA 461, 462 or permission of instructor; to be taken in sequence. Clinical practicum designed to advance skills in audiology. Must be completed with a grade of "C" or better.
- 570 THE HEARING-IMPAIRED CHILD IN THE CLASSROOM (3)
Prereq: permission of instructor. This course is designed to acquaint the classroom teacher with the unique problems of the hearing-impaired child being mainstreamed and to give the teacher some practical methods of dealing with the children.
- 571 HEARING AIDS (4)
Prereq: SPA 462 or permission of instructor. History, development and description of hearing aids. Research into the electroacoustic characteristics of hearing aids. Evaluation procedures and fitting techniques of hearing instruments. Auditory training techniques. Lab required.
- 572 SEMINAR IN ELECTROPHYSIOLOGICAL TESTING (3)
Prereq: SPA 561, 566, 568a or permission of instructor. Current topics and issues in specialized areas of averaged electroencephalic audiometry to be discussed. Major research problems and trends will be identified. Laboratory and clinical experiences will be offered.
- 574 EXPERIMENTAL PHONETICS (3)
Prereq: SPA 353. Study of laboratory investigations of phonetic problems; analysis and measurement of variables in speech production.
- 575 THE PARENT INTERVIEW (3)
A graduate seminar in interviewing parents having children with speech, hearing and/or other behavior problems. The readings, discussions and class activities are focused on the skill, understanding and experience in establishing helping relationships.



575a CLINICAL PRACTICUM IN PARENT INTERVIEWING (2)

Prereq: SPA 575 and permission of instructor. A laboratory or supervised interviewing practice with parents whose children attend the clinic or other community agencies.

577 PEDIATRIC AUDIOLOGY (3)

Prereq: SPA 461, 462, 568a or permission of instructor. Developmental milestones of auditory function, implications of childhood hearing loss and supervised testing of pediatric patients utilizing basic and advanced testing techniques

599a,b,c GRADUATE EXTERNSHIP IN SPEECH/LANGUAGE PATHOLOGY AND AUDIOLOGY (8 ea)

Prereq: completion of the graduate major course requirements, permission of department, demonstrated proficiency in clinical skills and a minimum of 200 supervised clinical clock hours. Each course prerequisite to the next. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of communication disorders. (None of the credits for SPA 599c may be applied toward the M.A. degree.) (Only 3 + 3 credits of SPA 599a,b, respectively, are applicable toward the M.A. degree.) S/U grading.

690 THESIS (6-9)

691 WRITING SEMINAR (3)

Prereq: SPA 502 and permission of instructor. Writing based on research or clinical projects. This report to be used to help satisfy the non-thesis requirement

692 INTERNSHIP IN ADMINISTRATION OF SPEECH AND HEARING PROGRAMS (3)

Students enrolling must be within two quarters of program termination. Analysis of program funding; administrative structures within schools, hospitals and clinics. A project report will be required in this course. This report may be used to help satisfy the non-thesis requirement.

696 INTERNSHIP IN SUPERVISION OF SPEECH/ LANGUAGE PATHOLOGY AND/OR AUDIOLOGY (3)

Prereq: permission of instructor. Implementation of current practices in clinical supervision. Directing and evaluating clinicians. Study of current trends and research in the supervisory process.

Technology

The Department of Technology encompasses engineering technology, graphic communications technology, industrial design and technology, and teacher education. An emphasis on breadth, basic knowledge, and analytic and laboratory skills pervades all levels of these fields. The department has enjoyed one of the highest placement records of any program at Western, and the demand for technology graduates continues to be high.

Located in the department are the Vehicle Research Institute (VRI) and the Industrial Design Center (IDC). The VRI was formed in 1976 as an on-going program of research in vehicle design, construction and engineering. The VRI has gained international recognition in the areas of fuel economy, aerodynamic design, engine development and auto safety. The direct result of the VRI has been the design and development of the Viking automobiles. Students receive academic credit for their involvement with VRI projects. The IDC provides students with realistic design problems which are drawn from the actual needs of the surrounding community. The IDC is in constant correspondence with various governmental, charitable and non-profit agencies in order to seek out design problems which can be structured into assignments for the design students of technology. These assignments, then, become on-the-job situations and involve students in actual work with design clients.

It is strongly recommended that students who intend to major in technology programs be prepared by attaining basic knowledge of algebra, trigonometry, chemistry and physics. This experience may be provided in high school programs and in foundation college courses. Early advisement is essential for effective planning of your curriculum.

TECHNOLOGY FACULTY

- PAUL E. RAINEY (1983) Director.
Associate Professor. BSME, BSMSE, Purdue University; MS, Massachusetts Institute of Technology; PhD, Texas A & M University. Registered Professional Engineer, Texas
- ELSI M. VASSDAL ELLIS (1977) Associate Professor. BS, MEd, Western Washington State College; PhD, University of Washington.
- ROBERT D. EMBREY (1971) Professor. BA, MA, MFA, University of Oregon.
- DIANA FAIRBANKS (1986) Assistant Professor. BA, BFA, Fort Wright College; MEd, EdD, University of Washington.
- RICHARD J. FOWLER (1965) Professor. BA, MS, Washington State University, EdD, Texas A & M University.
- THOMAS GRADY (1986) Associate Professor. BA, BS, MSEE, University of Colorado.
- CLYDE M. HACKLER (1974) Associate Professor. BS, Eastern Kentucky University; MEd, University of Illinois; EdD, University of Maryland.
- CLAUDE E. HILL (1967) Associate Professor. BA, MEd, University of Washington.
- STEVE MOSKOWITZ (1984) Associate Professor. BEE, MEE Rensselaer Polytechnic Institute
- FRED A. OLSEN (1961) Professor. BS, University of Washington; MS, Stout State University; PhD, The Ohio State University.
- SAM R. PORTER (1962) Professor. BA, Iowa State Teachers College; MA, Teachers College, Columbia University; EdD, University of Missouri.
- RAY A. SCHWALM (1949) Professor. BS, Millersville State College; MS, EdD, Oregon State University
- MICHAEL SEAL (1968) Professor. BEd, University of British Columbia; MEd, Western Washington State College; EdD, Texas A & M University.
- MARVIN A. SOUTHCOTT (1969) Associate Professor. BA, University of Washington. MFA, Maryland Institute.
- RICHARD F. VOGEL (1971) Associate Professor. BA, MAT, Washington State University, EdD, Texas A & M University.
- DAVID WERSTLER (1986) Assistant Professor. BSME, Purdue University; MSME, Colorado School of Mines; MBA, Xavier University

COMPUTER COMPETENCY

Since technology courses stress application of computers, a course in

Technology

computer programming and math is an early requirement for all majors in technology.

DECLARATION OF MAJOR

Once each quarter the Technology Department holds a general meeting for prospective majors to provide them with information about the various programs within the department. Math, computer science, communications and other specific department/program/course requirements will be explained. This meeting is held in the evening during the second full week of classes. Prospective majors must contact the Technology Department secretary for the exact day, time and location. Attendance by prospective majors is required. At this meeting, students may complete an advisee folder, submit a declaration of major and schedule an appointment with their appropriate program adviser.

It is important for the prospective major to know that the catalog in effect when he/she is admitted *into a major* is the applicable one, not an earlier catalog.

PROGRAMS LEADING TO BACHELOR OF SCIENCE

Six undergraduate programs are administered by the department, i.e., electronic engineering technology, industrial design, industrial technology, manufacturing engineering technology, technology education, and visual communication (a seventh undergraduate program in plastics engineering technology is being proposed). All of these programs lead to the Bachelor of Science degree.

ELECTRONIC ENGINEERING TECHNOLOGY

The Electronic engineering technology program prepares engineering technologists who understand and

can apply established scientific and engineering knowledge and methods in combination with technical skills of modern technology to support engineering activities. Students are provided with a strong concentration of both classroom instruction and practical "hands-on" laboratory design and testing experiences. Graduates should be qualified for application positions in electronic systems analysis and design, product design and development, technical sales and service, and field engineering, operations and maintenance.

Western presently offers two Bachelor of Science degree programs in electronic engineering technology: a daytime program on campus in Bellingham and an evening program off campus in North Seattle. Both are upper-division (junior/senior year) programs in which students complete a structured sequence of courses averaging 16-17 credits in each of six quarters on campus or 8-9 credits in each of 12 quarters off campus. Certain community colleges within the state have established two-year associate degree transfer programs with Western that satisfy all of the prerequisites for the junior year. Students transferring to Western from one of these programs or students having obtained equivalent backgrounds elsewhere may normally expect to be able to complete the requirements for graduation from the on-campus program in two additional academic years or from the off-campus program in three additional calendar years.

Students desiring to begin studies in electronic engineering technology must first be accepted as majors by having their backgrounds evaluated by the Technology Department at Western Washington University. Admission to the University does not guarantee acceptance into either of the two programs. A fixed number of students will be selected as majors in each program at specific times during the year. Detailed information about the programs, preliminary

consultations and advising, policies for acceptance as a major, and procedures and dates for applying are available in the Technology Office and will be mailed to prospective students upon request.

Major — Electronic Engineering Technology

149 credits

Electronics Core: 93 credits

- Tech 110, 271, 272, 273, 274, 323, 371, 372, 373, 374, 375, 376, 378, 379, 455, 457, technical electives

Supporting Courses 56 credits

- Mathematics — 23 credits: Math 103, 104, 105, 124, 125, 321
- Physics — 15 credits: Phys 131, 132, 133 or 241, 242, 341, 351
- Communications — 9 (+ 4 = 13) credits: Eng 402, Speech 101, communications elective (plus four additional communication credits in Eng 101 which is a required GUR)
- Computer Science — 5 credits: CS 110 or 210, 216
- Business — 4 credits: FMDS 348

INDUSTRIAL DESIGN

The Bachelor of Science degree in industrial design provides an interdisciplinary course of studies that develops graduates for professional activities as designers, planners, managers, illustrators, or specialists in the areas of industrial production, design education or marketing.

Advisement

Early consultation with the adviser of the industrial design program, Mr. Marvin A. Southcott, director of the Industrial Design Center, Department of Technology, is essential.

A concentration in vehicle design can be elected for an additional 9 credits. Approval of the program director is required.

Industrial design majors must com-

plete the usual General University Requirements (GUR). Some of the required courses for the major also satisfy this obligation.

It is possible to complete this degree in four years, but some students take longer. Majors are advised to plan carefully to meet the requirements for graduation.

To graduate, each major must fulfill the GUR, acquire 60 upper-division credits (the major includes approximately 63 upper-division credits depending on options elected) and accumulate a minimum of 180 credits.

Plan Ahead: Industrial design majors should aim to satisfy prerequisites pertinent to the following course options: Art 202, 320; Math 105; FMDS 330; Physics 131; Tech 309, 311, 323, 333a. Background course work should include trigonometry.

Professional Series Certification

Arranged by the director of the program, a professional review board will determine certification of readiness.

To certify, the final six quarters prior to graduation have special needs. Certification for entry into the Professional Series (Tech 314a,b,c and Tech 414a,b,c) involves the following: (1) present an approvable portfolio of progressive accomplishment; (2) maintain a GPA of 3.0 or better in courses required for this program (in particular); (3) have no more than 90 credits left to complete for graduation; and (4) present a course plan for each of these final six quarters in which a manageable load does not exceed 15 credit hours per quarter.

Note: An approvable portfolio will display acquired drawing techniques, design competence and imaginative exploration, and knowledge of materials and production processes.

Technology

Major — Industrial Design

107 credits

- Basic Core: Industrial Design/Technology — 34 credits: Tech 210b, 211, 216, 223, 309, 311, 323, 333a
- Sophomore Portfolio Review for Junior Professional Practice Series — 15 credits: Tech 314a, 314b, 314c
- Junior Portfolio Review for Senior Professional Practice Series — 15 credits: Tech 414a, 414b, 414c
- Tech/Art Electives — 9 credits
- Supporting Courses — 34 credits: Art 120, 130, 201, 202, 230, 250, 320, 370, 378, 379, FMDS 330

INDUSTRIAL TECHNOLOGY

Industrial technology prepares graduates to enter supervisory and management levels of technical industries. The major provides a general understanding of tools, materials and processes used in industry, a fundamental supporting background in business and/or economics and depth in some technical area or industry. Positions taken by recent graduates include tool and production planning, material control and tool illustrator.

Major — Industrial

Technology 110 credits

- Core Courses — 69 credits (required of all IT majors): Tech 210, 220, 223, 333, CS 110, Math 104, 105, 156, Chem 115, Physics 131, 132, Econ 203, Acctg 241, Mgmt 271, 311, 322
- Specialization — 41 credits (complete one of the following specializations):
 - Industrial Graphics: Tech 211, 214, 240, 309, 310, 311, 312, 313, 323, 340, 400(1)
 - Industrial Supervision: Tech 240, 322, 323, 327, 328, 423, FMDS 255, 330, 348, 432, Eng 402

—Plastics Technology: Tech 320, 322, 323, 334, 335, 336, 337, 423, 433, 434, 435, Chem 308

—Vehicle Design: Tech 280, 281, 311, 334, 380, 381, 382, 400(1), 480, 484, 486

Minor — Industrial

Technology 25 credits

Courses to be selected under departmental advisement.

MANUFACTURING ENGINEERING TECHNOLOGY

Manufacturing engineering technology prepares engineering technologists who understand and can apply established scientific and engineering knowledge and methods in combination with technical skills of modern technology to support engineering activities. Career fields of the manufacturing engineering technologists include development and testing of new products, computer-aided manufacturing, robotics, cost analysis, production supervision and management, marketing and technical support, production process control, manufacturing support, and technical sales and service.

Prospective students are encouraged to include physics, chemistry and mathematics in their high school preparation. University-level physics, computer science, precalculus and calculus I must be taken during the first two years to ensure that junior-level course prerequisites are completed.

Certain community colleges offer the first two years as direct transfer. Therefore, it is necessary for interested students to seek early advisement.

Since the manufacturing engineering technology major requires a total of 200 credit hours, students should anticipate that they will require more

than four years to complete this program or need to carry an average of 16-17 credits per quarter for four years in a prescribed sequence of courses.

Major — Manufacturing Engineering Technology

151 credits

- **Manufacturing Core:** 90 credits
Tech 110, 111, 220, 221, 222, 223, 224, 251, 321, 322, 323, 324, 326, 328, 333, 352, 354, 420, 421, 422, 423, 424, technical electives
- **Supporting Courses:** 61 credits
 - Mathematics 20 credits: Math 104, 105, 124, 125, 341
 - Computer Science 4 credits: CS 210
 - Physics 15 credits: Physics 241, 242, 341, 351
 - Business 8 credits: FMDS 348, Mgmt 463
 - Chemistry 5 credits: Chem 121
 - Communication 9 (+ 4 = 13) credits: Speech 101, Eng 402, elective (plus 4 additional communication credits in Eng 101 which is a required GUR)

Careful selection of elective courses may qualify the manufacturing engineering technology graduate for entry into the Master's in Business Administration degree program. Consult with adviser.

TECHNOLOGY EDUCATION (INDUSTRIAL ARTS)

The teacher preparation program has been offered for over 80 years and is a traditional strength at Western. The program prepares teachers of technical subjects for the junior and senior high schools and has been approved by the Office of the Superintendent of Public Instruction. Most graduates also meet the academic requirements for Industrial Arts Vocationally Approved Certification.

Major — Technology

Education 78-82 credit minimum plus supporting courses

- **Breadth Requirement:** 31-32 credits as follows: Tech 210, 213, and five of the following courses — Tech 231, 223, 240, 270, 280, 333a
- **Depth Requirement:** 15 credits in Technology, of which 10 must be at 300-400 level
- **Professional Block:** 15 credits — Tech 391, 488, 491, 493, 494, 496
- **Supporting Courses:** 17-20 credits — one approved course from each of the following: physics, chemistry, computer science, college trigonometry, college algebra (Math 105 recommended)

Note: To expand teaching eligibility, technology education majors should seek additional certification endorsement. Some of the courses for additional certification may be included in the GUR and the technology education major or may be taken after graduation.

The professional block courses are to be taken simultaneously in the spring quarter just prior to the student internship. The courses are taught on a competency-based model, with pedagogical, technical, managerial and professional competencies listed for achievement by candidates. Through problem-solving activities in a school industrial arts laboratory setting, students demonstrate competency to an acceptable level and will not receive credit for course work until such competence is clearly shown. Technology education majors do their internship only in the fall quarter.

VISUAL COMMUNICATION

The Bachelor of Science degree program in visual communication is designed to prepare graduates to enter industry as production, super-

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visory, or management personnel in the field of visual communication, and to prepare prospective teachers in the academic background necessary for curriculum development and instruction in secondary schools which are planning on carrying forward programs in visual communication education. Early consultation with the director of visual communication is essential.

Admission

The visual communication program is experiencing significant enrollment pressures which have made the implementation of selective admission procedures necessary. For admission to the program, a student must have completed Tech 240, 260 and 340 with a minimum GPA in each course of 2.7; present a portfolio of visual communication-related work; and submit a letter of intent. Applications for admission must be made directly to the director of the visual communication program.

Major — Visual Communication 110 credits

- Art 101; Art 120 or Tech 214
- Eng 201 or 202 or 301 or 302 or 401 or Journ 104
- Broadcast 340
- Tech 210b, 240, 260, 340, 341, 440, 441, 444, 447, 448
- Take 25 credits from two of the following areas (minimum of 10 credits from one area):
 - Industrial Graphics (technology)
 - Graphic Arts (technology)
 - Photography (technology)
 - Graphic Design (art and technology)
 - Professional Writing (English and journalism)
 - Television (broadcast and technology)
 - Multi-Media (technology)
 - Computer Graphics (art, technology, computer science)

- Chem 208 and 209
- Acctg 241; FMDS 330
- CS 101 or 110 or 210 or Math 124 or 240
- Psych 320
- Take 11 credits selected from art, economics, business administration, accounting, sociology, anthropology, mathematics, physics, chemistry, psychology, computer science, and/or teacher certification

See departmental sections of the catalog for descriptions of these courses.

Teacher Education Program

Students enrolling in the visual communication program for teacher certification must complete the requirements for the Bachelor of Science program described above, satisfy the professional education requirements, and complete Tech 391, 488, 491, 493, 494 and 496 prior to student teaching. This program might require three or more additional quarters to complete.

Direct Transfer

Technical "block" transfer agreements can be approved between Western Washington University and a community college for most of the technology programs. The agreement will accept transfer of 90 credits* for students who have completed an associate degree in technical arts or applied sciences. Many technical block transfer agreements will require the student to take more than 90 credits at Western Washington University to complete the degree.

To be eligible for a block transfer agreement, the community college degree program must include:

1. Mathematics through an intro-

*Excluding sub-college and/or remedial courses.

- duction to calculus (to be counted toward WWU General University Requirement).
2. One course in physics (to be counted toward WWU General University Requirement).
 3. At least 50 credits with a GPA of 2.5 in an appropriate technical specialization.
 4. An approved agreement between the community college and WWU.

COURSES IN TECHNOLOGY*

Courses numbered X37: X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 110 ENGINEERING GRAPHICS I (3)
Prereq: declared major in engineering technology option. Introductory level engineering drawing. First of two courses. Includes orthographic projection, pictorial drawing and sketching, scales, dimensions, sections and auxiliary views. Introduction to computer-aided drafting.
- 111 ENGINEERING GRAPHICS II (4)
Prereq: Tech 110 or equivalent, declared major in engineering technology. Second course in engineering graphics preparation for engineering technology majors. Includes engineering tolerance specifications, working drawings, assemblies, piping, welding, bills of material, print interpretation and reproduction methods.
- 210 INDUSTRIAL GRAPHICS I (5)
Introduction to basic concepts of technical communication in industry through freehand sketching and instrument drawing of three-dimensional objects. Introduction to team dynamics through creative problem solving.
- 210b INDUSTRIAL GRAPHICS (3)
Prereq: enrollment limited to visual communication majors. Introduction to basic concepts of technical communication in industry through freehand sketching and instrument drawing of three-dimensional objects.
- 211 INDUSTRIAL GRAPHICS II (4)
Prereq: Tech 210 or equivalent. Preparation of working and assembly drawings of machine parts with emphasis on individual creative problem solving through tolerance and positional dimensioning, auxiliary views, sections and use of product catalogs to select and size components.
- 213 DESIGN DEVELOPMENT FOR TECHNOLOGY EDUCATION (3)
Prereq: technology education teacher education major, or permission of the instructor. Basic design fundamentals applied to technology education teaching. Development of creativity with application to school projects and design problems.
- 214 FUNDAMENTALS OF PRODUCT DESIGN (5)
Basis aesthetics of form, color and space in variety of media, includes two- and three-dimensional design along with historical expression. Considered preliminary to design courses with graphic media, material sciences and industrial design.
- 215 EVOLUTION IN INDUSTRIAL DESIGN (3)
Interrelationship with the arts, sciences, and society, designers, their philosophies and resultant impact on culture.
- 216 FUNDAMENTALS OF PRODUCT ARCHITECTURE (5)
Prereq: Art 120 and 130, or permission; Tech 210 or equal experience. Idea generation techniques include exploration in aesthetic judgment, fabrication of models, basic mechanics, geodesics, color for production and product history. Projects are designed to stimulate imagination and creatively coordinate with production requirements.
- 220 MATERIALS TECHNOLOGY (5)
Prereq: Math 104 and 105, Physics 131, and Chem 115 or 121. The structure and properties of industrial materials. While emphasizing metals, non-metals are studied. Laboratory.
- 221 WELDING (3)
Prereq: Tech 220. Basic concepts in welding to include shielded metal arc welding, oxy-acetylene welding, welding symbols, heat treatment, soldering and brazing, survey of processes.
- 222 PATTERN MAKING AND FOUNDRY (3)
Tools, materials and techniques used to produce foundry patterns and principles and practices employed in the contemporary metal-casting industry.

**Most technology courses with a laboratory have a materials fee.*

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- 223 **MACHINE METAL PROCESSES (5)**
Prereq: Tech 110 or 210, Math 105. Basic concepts and skills in machine metal processes, shaping metal by machine tools, chipless machining, automation of machine tools and cold forming processes.
- 224 **APPLIED STATICS (4)**
Prereq: Physics 131, Math 104 or 105. Elementary statics, analysis of forces and movements in trusses, frames and other rigid bodies.
- 231 **MANUFACTURING AND PRODUCTION: WOODWORKING (4)**
Prereq: Tech 210 recommended. Technology education majors are given priority enrollment. Major components and systems of industrial manufacturing, using wood as example material and processes.
- 240 **VISUAL COMMUNICATION (5)**
Survey of the visual communication field including visual communication theory, information design, reproduction, presentation, and management; involves the print and non-print media.
- 250 **BASIC ELECTRICITY (4)**
Principles and concepts of electricity, laboratory experiences with electrical components, circuits and measurement equipment. May not be taken by EET or MET majors for credit.
- 251 **ELECTRICAL TECHNOLOGY I (4)**
Prereq: Physics 132 or 341; one course in calculus; IT, MET, PET major or written permission. Electrical concepts, elementary circuit analysis, introduction to electronic devices, introduction to AC and DC machines, applications of discrete electronic devices. Laboratory experiments stressing electrical and electronic measurements. (For non-EET majors.)
- 260 **GENERAL PHOTOGRAPHY (4)**
Fundamentals of film developing, enlarging, print finishing. Basic elements of black and white composition and visualization.
- 271 **CIRCUIT ANALYSIS I (4)**
Prereq: Math 104, Pre- or co-req: Math 105, EET major or written permission. Fundamental properties of electrical components and their use in DC and AC circuits. Use of basic laws and theorems in circuit analysis and design. Laboratory experiments with electrical components and circuits.
- 272 **ELECTRONIC DEVICES AND CIRCUITS (4)**
Prereq: Tech 271, EET major or written permission. A first course in electronic devices and circuits. Fundamental properties of semiconductor devices and their behavior in electronic circuits. Laboratory experiments in construction, testing, investigation and trouble-shooting.
- 273 **DIGITAL ELECTRONICS (4)**
Prereq: Tech 271, EET major or written permission. Introductory digital electronics with emphasis on basic digital concepts, Boolean algebra, digital integrated circuit devices and the major functional units from "building block" approach. Laboratory with applications, constructing, testing and troubleshooting of digital circuits.
- 274 **FUNDAMENTALS OF MICROPROCESSORS (5)**
Prereq: Tech 273, EET major or written permission. Introduction to microprocessors and programming concepts. Study of structured programming, instruction sets, hardware and interfacing techniques. Laboratory experiments with popular units.
- 280 **POWER MECHANICS (5)**
Design principles of major power sources, techniques of torque and power measurement. Chassis dynamometer testing and port air flow testing.
- 281 **POWER TRANSMISSION (5)**
Principles and practices of mechanical and fluid transmission of power. Theory and practice of over-running clutches and rolling drag reducer testing.
- 301 **CRAFTS (3)**
Design and construction in a variety of craft materials.
- 303 **FINISH PRINCIPLES AND PRACTICE (3)**
Introduction to modern finishing materials and processes.
- 309 **ENGINEERING DESCRIPTIVE GEOMETRY (4)**
Prereq: Tech 210 and/or 211. Practical applications of concepts and principles of engineering descriptive geometry. Application of creative problem solving through term project.
- 310 **TECHNICAL ILLUSTRATION (3)**
Prereq: Tech 210 or equivalent. Preparation of three-dimensional pictorial drawings including an introduction to rendering techniques.

311 APPLIED PERSPECTIVE AND RENDERING (4)

Prereq: Tech 210, recommended Tech 214 and 310. The techniques and skills in rendering of buildings, interiors, and products in perspective. Projects include a comprehensive study of perspective systems and shadow construction in various media. Intended to develop the student's ability to sketch informally and present formally ideas pertaining to the expression of architectural subjects, interiors, and products of industrial design.

312 ADVANCED DRAFTING (3)

Prereq: Tech 211 Problems in machine drawing and linkage. Visitations to observe current drafting practices in industry.

313 ARCHITECTURAL CONCEPTS AND RESIDENTIAL PLANNING (5)

Prereq: Tech 210. Historical development; considerations of design; analysis of needs, utilization of sites, preparation of plans.

314a JUNIOR INDUSTRIAL DESIGN I (5)

Prereq: Tech 210, 211, 309, 311. Recommend all major requirements at the 200 level. Design as a process of problem solving; problem recognition, definition, resolution and presentation; analysis of market and motivational research techniques.

314b JUNIOR INDUSTRIAL DESIGN II (5)

Prereq: Tech 314a and approval of adviser. Application of multi-view projections, pictorials, mock-ups and prototypes to the resolution of human factors design problems.

314c JUNIOR INDUSTRIAL DESIGN III (5)

Prereq: Tech 314b. Professional product architecture projects in preparation for assembling a portfolio of imaginative product innovations for mass production in the future market place.

320 ADVANCED MACHINE METAL PROCESSES (4)

Prereq: Tech 223, Tech 222 recommended. Advanced theory and skill development in machine metalworking. Includes product and process design, special tooling and machine tool operation.

321 INDUSTRIAL ROBOTICS (4)

Prereq: Tech 322, 326, 354. Procedures for selecting the applications for industrial robots, for designing the workplace for industrial robots, and for programming and modifying existing industrial robots for these applications and workplaces

322 NUMERICAL CONTROL OPERATIONS (3)

Prereq: Tech 223 and one course in computer programming. This course provides students with the opportunity to actually program parts for NC manufacture and to set up and operate NC equipment using their own programs.

323 COMPUTER-AIDED DRAFTING (4)

Prereq: Tech 110 or 210 and a course in computer programming. Current applications of computer graphics to produce graphs, orthographic views and pictorials. Use of digitizer boards, CRTs and plotters in conjunction with microcomputers and large computers. Applications of computer languages to computer graphics.

324 STRENGTH OF MATERIALS (3)

Prereq: Tech 224 and Math 125. Internal response of structural members to forces; principal stresses and strains; and combined stresses.

325 INDUSTRIAL METALLURGY (4)

Prereq: Tech 220. Production of the common metals from their ores, industrial processing, heat treatments and alloying, corrosion, failure analysis; properties of metals as related to manufacturing operations. Laboratory.

326 FLUID POWER (4)

Prereq: Math 125, Physics 132, Tech 224 and 352. Fluid properties, basic principles of pneumatic and hydraulic power components and systems, control techniques, and fluid system analysis and design

327 WORK METHODS AND MEASUREMENT (3)

Prereq: Tech 210, 221, 222, 223, or 333. Stresses working knowledge of sound time and motion study practices and procedures including application of principles of motion economy, use of flow process charts and diagrams, man-machine charts, micro-motion analysis, simo-charts, time formulas, work sampling, rating, leveling standard data systems and use of equipment related to this work.

328 OCCUPATIONAL HEALTH AND SAFETY (3)

A basic study of industrial accident prevention considering the nature and extent of the accident problem. The role management must play in industrial safety and the information it must have to ensure an efficient, well-managed safety program. Includes an introduction to federal, state and local safety codes applying to materials, material handling, and equipment. Codes from Occupational Safety and Health Act (OSHA), National Fire Protective Association (NFPA), and Department of Transportation (DOT) will be used.

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- 331 **ADVANCED WOODS (4)**
Prereq: Tech 231 Skill and development in the more complex woodworking processes with related information on the woodworking industry
- 332 **WOOD TECHNOLOGY (4)**
Prereq: Chem 115 or 121. Basic introduction to the physical and mechanical characteristics of wood, its structure, composition and identification. New developments in the wood products field receive particular attention.
- 333 **PLASTICS (5)**
Prereq: Tech 110 or 210, Tech 220 (includes Physics 131 and Chem 115 or 121 as prerequisite) Polymer science and analysis of basic plastics materials; experience in product design, tooling, and processing of thermoplastic and thermosetting materials.
- 333a **PLASTICS (5)**
Prereq: general education chemistry; Tech 210, TE or ID major or written permission. Polymer science and analysis of basic plastics; experience in product design, tooling and processing of thermoplastics and thermosetting materials (For TE and ID programs only.)
- 334 **REINFORCED PLASTICS/ COMPOSITES (5)**
Prereq: Tech 333. Polymer and reinforcement systems; material testing; mold design and development; laboratory involvement in reinforced plastics production processes.
- 335 **TOOLING FOR PLASTICS PROCESSING (3)**
Prereq: Tech 333. Design and construction of various types of production molds that are used for processing plastics in final shape. Product design in relationship to molding techniques and various techniques and materials used to construct the molds will be the major units of study.
- 336 **PLASTICS PRODUCT DESIGN (3)**
Prereq: Tech 333, 335. Design principles related to design of plastics products. Analysis of functional requirements, structural properties, aesthetic qualities and cost relationships. Experience in product design and material evaluation.
- 337 **INDUSTRIAL FINISHING (3)**
Prereq: Tech 333 Introduction to industrial finishing materials and processes.
- 340 **IMAGING REPRODUCTIONS I (3)**
Prereq: Tech 240. Graphic arts technology as related to reproduction of graphic design techniques, with specific application to offset and screen printing processes.
- 341 **IMAGING REPRODUCTIONS II (5)**
Prereq: Tech 340 Techniques, processes and products of the graphic arts industry, designing, reproducing, presenting and managing graphic materials.
- 344 **FILM ANIMATION (3)**
Prereq: Tech 240, 260 and permission of instructor. The theory and application of animation techniques in Super 8mm film or 16mm film.
- 352 **ELECTRICAL TECHNOLOGY II (4)**
Prereq: Tech 251; MET, IT, or PET major; or written permission. Introduction to digital electronics combinatorial and sequential logic, electrical transducers and instrumentation, industrial applications of analog and digital electronics. Laboratory experiments stressing applications of digital and analog integrated circuits. (For non-EET majors.)
- 354 **BASIC MICROPROCESSOR CONTROL (5)**
Prereq: Tech 352, IT, MET, PET major; or written permission. Third in a three-course sequence designed for MET and IT majors. Study of the microprocessor and its use as the central element in control applications. Primary emphasis on programming of popular units. Laboratory experiences with control devices provided. May not be used for credit in EET program.
- 360 **ADVANCED PHOTOGRAPHY (4)**
Prereq: Tech 260 Stresses photographic visualization and the development of personal style through concentrated studies of light and design, filters, the zone system, view camera, specialized materials and processes, archival processing.
- 363 **COLOR PHOTOGRAPHY (4)**
Prereq: Tech 360. Fundamentals of color theory, techniques of producing color transparencies and prints.
- 371 **CIRCUIT ANALYSIS II (5)**
Prereq: Tech 271, Math 105. EET major or written permission. A second course in DC and AC circuits with increased emphasis on mathematical techniques used in electrical circuit analysis and design. Use of network theorems, vector analysis techniques, polyphase circuits and additional topics. Structured laboratory with emphasis on measurement, theory and applications, test equipment, verification of circuit laws, data analysis and formal report preparation.

- 372 ELECTRONIC ANALYSIS AND DESIGN (5)**
Prereq: Tech 272, 371, EET major written permission. A second course in electronic devices and circuits with increased emphasis on mathematical modeling and techniques used in analysis and design. Study of semi-conductor theory and devices, small and large signal amplifier configurations, hybrid- π models, frequency response and multistage circuits. Laboratory with emphasis on practical design, construction, testing and evaluation. Formal report preparation.
- 373 DIGITAL SYSTEMS (5)**
Prereq: Tech 273, 372, EET major or written permission. An upper-division course in digital analysis and design ranging from a study of digital signal propagation to special techniques used in large system design. Laboratory projects with formal reports.
- 374 MICROPROCESSOR APPLICATIONS (5)**
Prereq: Tech 274, 373, EET major or written permission. Upper division study of microprocessors, support devices, and peripheral equipment and their integration into microcomputer systems. Study of various hardware configurations and interfacing techniques. Application-oriented laboratory experiments and design problems.
- 375 ELECTRONIC SYSTEMS (5)**
Pre- or coreq: Tech 372, EET major or written permission. Designed to acquaint the student with the operation of complex electronic systems. Primary emphasis in the communications area including resonance, coupled circuits, RF amplifiers and oscillators, AM and FM transmitter and receiver principles, basic stereophonic and television system principles. Structured laboratory with emphasis on experimental verification of communication principles, use of specialized equipment, data analysis and formal report presentation.
- 376 ELECTRICAL POWER AND MACHINERY (5)**
Prereq: Tech 372, EET major or written permission. A study of DC and AC motors and generators, transformers, power distribution systems and instrumentation. Laboratory investigation of characteristics of above components and systems.
- 378 NETWORK ANALYSIS (4)**
Prereq: Tech 371, Pre- or co-req: Math 321, EET major or written permission. General analysis of linear networks using classical methods, Laplace transforms and computer-aided methods. Topics include single element transients, first- and second-order circuits, transfer function analysis and Bode plots.
- 379 ACTIVE LINEAR AND NON-LINEAR CIRCUITS (5)**
Prereq: Tech 372, 378, EET major or written permission. Upper-division treatment of active linear and non-linear circuits. Analysis, design, testing and evaluation of electronic circuits and subsystems with primary emphasis on the application of integrated circuit components and modules. Computer modeling of complex electronic circuits with frequency response, sensitivity and worst-case analysis. Laboratory projects with formal report preparation.
- 380 ADVANCED POWER MECHANICS (3)**
Prereq: Tech 280. Efficiency determinants, power measurement, development of concepts introduced in Tech 280.
- 381 ADVANCED POWER TRANSMISSION (3)**
Prereq: Tech 281. Practical application of hydraulic and mechanical theory as applied to automatic transmissions.
- 382 AUTOMOTIVE ELECTRICITY (2)**
Prereq: Tech 270 or 280. Basic principles of electrical components and systems of the automobile and other engines.
- 383 HYDRAULICS AND PNEUMATICS (4)**
Prereq: Math 125, Physics 132, Tech 224, 474. A course in the transfer, amplification and control of mechanical power in fluid systems.
- 391 TECHNOLOGY AND HUMAN VALUES (3)**
Via films, lectures and discussion, various aspects of technology are examined for their impact upon the values of the individual and society.
- 402 COOPERATIVE WORK/STUDY (1-15)**
Prereq: junior standing; approval of adviser. Supervised study of technical problems associated with production and/or management in business and industry. Credit varies according to individual employment circumstances, the degree requirements of the applicant and the extent to which employment is related to major.
- 403 PRODUCT DESIGN FOR TEACHERS (4)**
Prereq: teaching major. Product design fundamentals taught and analyzed, then translated to establish usable curriculum. Summers only.
- 411 CAD PERSPECTIVE AND RENDERING (2)**
Prereq: knowledge of orthographic views or Tech 210 and Tech 311 or perspective drawing experience. Computer perspective using the potential of CAD productivity and speed along with rendering.

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- 413 ARCHITECTURAL PROBLEMS (3)
Prereq: Tech 313. Advanced residential planning, cost estimating; FHA standards, building codes; individual and group research.
- 414a SENIOR INDUSTRIAL DESIGN I (5)
Prereq: Tech 314c and approval of adviser. Preparation of a portfolio of research sketches, working drawings and renderings in the creation of a mock-up or prototype of an original or modified product.
- 414b SENIOR INDUSTRIAL DESIGN II (5)
Prereq: Tech 414a and approval of adviser. Tectonic principles applied to consumer products, problems related to functional and emotional factors of environmental design involving space, structure, furniture and lighting and geodesics.
- 414c SENIOR INDUSTRIAL DESIGN III (5)
Prereq: successful completion of Tech 414a and 414b. Senior professional practice in preparation for design applications within industrial communities. Portfolio development for employment opportunities.
- 418 DESIGN CENTER RESEARCH PROJECT (1-3)
Prereq: Tech 214 or Home Econ 101. Directed research in design under the auspices of the Western Design Center. May be taken three times.
- 419 DIRECTED RESEARCH IN DRAFTING/DESIGN (1-3)
Prereq: Tech 211. Research problem in drafting or design conducted under supervision. May be taken three times.
- 420 PLANT LAYOUT AND MATERIAL HANDLING (4)
Prereq: Tech 322, 323, Mgmt 463. Project course in which, for specified product made according to given sales schedule, student selects equipment, emphasizes automation whenever possible, analyzes and designs plant, constructs layout models, and evaluates the layout.
- 421 COMPUTER-INTEGRATED MANUFACTURING (3)
Prereq: Tech 322, 323, corequisite with Tech 231. Computer-integrated manufacturing, numerical control part programming with emphasis on APT and automation.
- 422 MANUFACTURING PROJECT DEFINITION (1)
Prereq: Tech 420; senior standing in MET. Selection, definition and analysis of a problem suitable for senior project, team approach, prior to actual project development. Includes consideration of project parameters and implications, proposal of alternative solutions, and justification of selected solution, including manufacturer and vendor contracts and recommendations. Culminates in writing of formal senior project proposal.
- 423 INDUSTRIAL QUALITY ASSURANCE (4)
Prereq: CS 210 or equivalent, Math 341 or equivalent. Quality assurance as applied to industrial manufacturing operations. One-fourth of this course is used to enhance and expand or applied statistics.
- 424 MANUFACTURING IMPLEMENTATION (3)
Prereq: Tech 422. Follow-up to Tech 422. Project team will tool-up and manufacture a product or design an industrial process and develop related management and marketing studies. Project will be completed, evaluated and fully documented with performance specifications, functional description, schematics, cost analysis, parts list, photographs, diagrams and charts.
- 426 COMMUNICATIONS FOR INDUSTRIAL PERSONNEL (1)
Prereq: senior classification in manufacturing engineering technology. Need, methods and practical application of effective communication techniques used by industrial and technical personnel.
- 428 DIRECTED RESEARCH IN MATERIAL SCIENCE (1-3)
Prereq: permission of instructor. Research under supervision in an area of material science. May be taken three times.
- 429 DIRECTED RESEARCH IN METALS (1-3)
Research under supervision within one of the areas of metals technology. May be taken three times.
- 433 ADVANCED PLASTICS (3)
Prereq: Tech 333. Concepts of polymer science; study of structure, properties and applications of plastics materials; design and development of plastics tooling; analysis and experiences in thermoplastics molding and forming processes.
- 434 ADVANCED COMPOSITES (3)
Prereq: Tech 333 and 334. Advanced polymer matrix and reinforcement systems, structural design and analysis; advanced composites processes and automated production systems.

- 435 **INJECTION MOLDING (3)**
Prereq: Tech 333 and 433. Theory and practice of injection molding. Analysis of machine functions, processing parameters, production tooling, process control systems, quality assurance, automation. Extensive laboratory experience.
- 436 **POLYMER FORMULATION AND ANALYSIS (4)**
Prereq: Tech 333, 433, Chem 308. Principles of polymer formulation and modification. Additives and modifying agents. Laboratory experiences in polymer reactions and compounding. Mechanical, thermal and chemical analysis of polymer structures.
- 438 **DIRECTED RESEARCH IN PLASTICS (1-3)**
Prereq: Tech 333, 433 or 434 or 335. Selection, development and research, under supervision, within one of the areas of plastics engineering technology. Repeatable.
- 439 **DIRECTED RESEARCH IN WOODS (1-3)**
Prereq: Tech 231, 331. Selection, development and research, under supervision, within one of the areas of wood technology. May be taken three times.
- 440 **DESIGN PRODUCTION (5)**
Prereq: Tech 260 and 341. Principles and application of effective visual communication, design, and reproduction.
- 441 **VISUAL COMMUNICATION SERVICES MANAGEMENT (5)**
Prereq: Tech 341. Estimating and pricing, simplified cost accounting; organization and administration of visual communication services; production, quality and color control instruments and techniques.
- 442 **ELECTRONIC NEWS GATHERING (2 ea)**
Prereq: Broadcast 342 and permission of instructor. Shooting on-location news stories and mini-documentaries. Stories to be aired as part of the "Western View" television newscast. Repeatable to maximum of 6 credits.
- 443 **MULTI-MEDIA PROGRAMMING (5)**
Prereq: Tech 240, 260, 340, 341, 440. Concept development and production techniques for multi-media presentations for educational and professional purposes.
- 444 **COMPUTER PHOTOCOMPOSITION (3)**
Prereq: Tech 240, 340, 341 and Computer Science 110 and permission of instructor. The theory and practical applications of computer-operated photocomposition equipment.
- 445 **VISUAL COMMUNICATION INTERNSHIP (1-12)**
Prereq: Tech 341, junior or senior status, and written approval of adviser. Supervised field work in appropriate professional situations in the visual communication industry (printing plants, TV studios, design agencies, film studios, type houses, publication houses, etc.). Credit varies according to individual employment circumstances; during summer session.
- 446 **ADVANCED PHOTOCOMPOSITION AND ITS APPLICATIONS (5)**
Prereq: Computer Science 110 or 210, Art 371 or Tech 440, 444 and permission. Current problems and advances in the typesetting industry with advanced applications of computer-operated photocomposition and typography.
- 447 **PUBLICATIONS PRODUCTION (3)**
Prereq: concurrent enrollment in Tech 448. Experiences in design, layout, and production of publications through printed media, film, television, or other means.
- 448 **VISUAL COMMUNICATION (5)**
Prereq: completion of the visual communication sequence. Synthesis of basic concepts, models, and theories, the perceptual, social, cultural, and technological determinants of visual form, style and content.
- 449 **DIRECTED RESEARCH IN VISUAL COMMUNICATION (1-9)**
Prereq: Tech 240, 340, 341. Selected problems in visual communication. Repeatable to a maximum of 9 credits.
- 455 **COMMUNICATION SYSTEMS (4)**
Prereq: Tech 378, EET major or written permission; Tech 375 recommended. Upper-division study of modern communications concepts from a systems point of view. Fourier transforms, spectral analysis, analog modulation and detection methods, transmission line theory, radiation and propagation, antennas, and microwave concepts. Structured laboratory with emphasis on measurement theory and applications, test equipment, data analysis and formal report preparation.
- 457 **AUTOMATIC CONTROL SYSTEMS (4)**
Prereq: Tech 376, Math 321, EET major or written permission. A study of analog control systems and techniques using operational mathematics, Laplace transforms, servo components, transfer functions, signal flow graphs, second-order systems, frequency response analysis, stability criteria and compensation. Laboratory investigation of control components and systems and computer modeling of control systems.



469 DIRECTED RESEARCH IN PHOTOGRAPHY (1-3)

Prereq: Tech 260. Research problems in photography chosen and conducted under supervision. May be taken three times.

474 MICROCOMPUTER-BASED DESIGN (4)

Prereq: Tech 374, EET major or written permission. Analysis and design of "smart" microcomputer-based instrument and control systems. Design and implementation of a microcomputer-based system.

475 DIGITAL DATA COMMUNICATIONS (4)

Prereq: Tech 374, 455, EET major or written permission. Upper-division study of modern digital communications concepts and techniques. Sampling, pulse and dig-

ital modulation and detection methods, time-division and frequency-division multiplexing, serial data transmission and reception, modems, handshaking protocols, interface buses, and synthetic speech and recognition. Laboratory projects with formal report preparation.

477 PROCESS CONTROL TECHNOLOGY (5)

Prereq: Tech 373, 376, EET major or written permission. Study of elements, operations, and applications of process control. Emphasis on digital techniques of control. Analog signal conditioning, instrumentation circuits, A/D and D/A conversions, transducers, control elements, controller modes, computer supervisory control, stability, process loop tuning as well as cascade, ratio and other interactive concepts. Laboratory experiments on above.

- 478 **AUTOMATED SYSTEMS DESIGN (5)**
Prereq: Tech 374, Tech 477, EET major or written permission. Tech 457 recommended. Investigation of techniques utilized in automated inspection, automated test and measurement, automated manufacturing and robotics, and environmental control systems. Study of developments in robot vision systems and other current areas. Use of distributed data acquisition, host computer and control equipment in automated system design. Design and implementation of an automated system.
- 479 **DIRECTED RESEARCH IN ELECTRONIC TECHNOLOGY (1-3)**
Advanced study in problems chosen and conducted under supervision. May be taken three times.
- 480 **ADVANCED EMISSION CONTROL (3)**
Prereq: Tech 280 and 380. Experimental research in emission control on operating laboratory engines. Topics center around temperature control on NOx, new methods of optimizing stoichiometric combustion, and thermal and catalytic exhaust treatment.
- 484 **VEHICLE DESIGN (5)**
Prereq: Tech 280, 380 or permission of instructor. Suspension design; chassis design; spring rates, tire design parameters; automobile aerodynamics; brake system.
- 486 **ADVANCED VEHICLE DESIGN (5)**
Prereq: Tech 484. Advanced body design, ergonomics, aerodynamics, climate control, aesthetic design of automobile interiors and exteriors. Practical work will include wind tunnel model construction and testing.
- 488 **TECHNOLOGY EDUCATION: SAFETY PRINCIPLES AND PRACTICES (2)**
Basic course in safety practices for technology education teachers in grades 1-12 and for vocational teachers who must meet state certification requirements.
- 489 **DIRECTED RESEARCH IN POWER MECHANICS (1-3)**
Prereq: Tech 280, 381. Advanced study in problems chosen and conducted under supervision. May be taken three times.
- 491 **HISTORY AND PHILOSOPHY OF VOCATIONAL EDUCATION (3)**
Evolving issues, objectives, programs and legislation in vocational education.
- 492 **OCCUPATIONAL VERSATILITY (3)**
A class designed for teachers wishing to incorporate the student management and direction system of the "Occupational Versatility" program.
- 493 **TECHNOLOGY EDUCATION (INDUSTRIAL ARTS): METHODS (3)**
Prereq: admission to technology education professional block. Competency-based approach to principles, practices and problems in teaching technology education (industrial arts) and vocational laboratory courses.
- 494 **TECHNOLOGY EDUCATION: CURRICULAR APPROACHES (3)**
Prereq: admission to technology education professional block. An examination of the rationales, content and formats of the new technology education curricula, with strategies for change from traditional industrial arts.
- 496 **COMMUNITY AND INDUSTRIAL RESOURCES (1-3)**
A study of those resources available in the community and how they can be used to enhance the educational experience of students engaged in formal schooling.
- 499 **SENIOR PROJECT (1)**
Prereq: junior or senior standing; technology major. The demonstration of competence in the major through a culminating project which presents a written, pictorial and photographic summary of work done in the major or of a comprehensive senior-level project.

Graduate Course

- 592 **CURRICULUM DEVELOPMENT IN INDUSTRIAL ARTS (3 ea)**
Prereq: public school teaching experience in the area of concern. Development of content, laboratory experiments, projects and teaching aids useful in updating specific industrial arts curriculum areas to include recent and current industrial developments in that curriculum area.
- 592a Electronics
592b Drafting/Design
592c Metals
592d Plastics
592e Power Mechanics
592f Woods
592g Visual Communication
592h Photography
592j Man/Technology
592k Manufacturing
592m Construction

Interdisciplinary Programs

American Cultural Studies

American cultural studies allows students to concentrate on the American character, American cultural institutions and/or American cultural values, particularly as these shape our concepts and choices of vocation.

The program in American cultural studies serves those students and faculty who are interested in the study of such questions but find that important aspects of cultural institutions, cultural artifacts, and cultural values are not fully revealed by the course of study within a single department or college. The program also allows students the opportunity to study the issues growing out of the cultural diversity in American society. Whenever possible, the program takes advantage of the rich curricular offerings of the various departments and colleges of the University.

Students who want a liberal arts education of breadth as well as depth will find that, because of its flexibility, the program adapts well to their needs. It offers suitable undergraduate background for advanced study in law, public service, government service or education, and for graduate work in American studies or other disciplines in the humanities and social sciences. It also offers unique ways to combine the study of the humanities and social sciences.

Further information and advisement about the program are available from Dr. J. Hiraoka (Humanities Building 233) and Dr. M. Lewis (Humanities Building 303), co-directors of the program.

BACHELOR OF ARTS

Major — American Cultural Studies 70 credits

General Requirements

32-37 credits

- Two courses from the social sciences, selected under advisement from Anth 201; Soc 202; Pol Sci 101 or 250; Hist 360; Geog 201; or AmSt 205
- Hist 367
- Two courses from Eng 317, 318, 319
- Art Hist 360 or 460 (plus prerequisites); or Mus c 202; or Eng 264
- AmSt 301 and 302

Individualized Program of Study

33-38 credits

A program formulated by the student, a member of the faculty, and the director of the program and approved by the American Studies faculty advisory committee. No program of study may substantially duplicate an existing departmental or college program. Ordinarily, the final approval of the student's course of study must come before the student reaches senior status.

The student may propose a broad, general program in American cultural studies, or focus on one major aspect of national cultural as, for example ethnic studies, myth and folklore or Pacific Northwest studies. In any case, the proposed program must include substantial upper-division work in at least two curricular units of the University. These may include Fairhaven or Huxley colleges.

The faculty recommends that students use a minor to develop special career interests (see, for example, the teaching endorsement), or to develop additional depth in one of the tradi-

tional academic disciplines or programs of the University.

Minor — American Cultural Studies 25 credits

Required Courses 20-21 credits

- AmSt 205 or 301
- AmSt 302
- Eng 318, 319
- Hist 367

Related Courses 4-5 credits

- Additional credits to complete the minor, to be selected under advisement.

Teaching Endorsement

Completion of the major in American cultural studies together with the program requirements for social studies education, secondary, as outlined in the catalog under the Arts and Sciences Interdisciplinary Programs section, can lead to endorsement in social studies at the secondary level.

Students considering this option should first confer with one of the directors of the program.

COURSES IN AMERICAN CULTURAL STUDIES

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 205 THE ASIAN-AMERICAN EXPERIENCE (3)
The history of Asians in the United States, the development of communities and the effects of the encounter between Asian cultures and the developing American cultural context.
- 301 COMPARATIVE CULTURAL STUDIES (4)
Prereq: introductory level course in history, sociology, anthropology or equivalent. The interaction of immigrant and indigenous cultures with the developing American cultural patterns. Emphasis upon models and concepts of interaction, especially related to Blacks, native Americans, Asians and Latinos.

- 302 MODERN AMERICAN CULTURE (4)
Prereq: introductory level course in history, literature, anthropology, sociology or AmSt 301. Events, myths, structures, rituals, issues and values that have shaped modern American culture.

- 334 STUDIES IN MULTI-ETHNIC LITERATURE (4)
Prereq: course in literature or AmSt 301 or 302. The role and nature of American ethnic literature. Emphasis upon the uses and the styles of literature within the American cultural context.

- 499 SPECIAL PROBLEMS (4)
Prereq: AmSt 301 and 302 and senior status. A research or field project designed to demonstrate the student's competence in working with the tools of the discipline. An approved AmSt 417 seminar may substitute for AmSt 499.

Canadian-American Studies Program

The Canadian-American Studies major and minor are designed to expand the knowledge of Canada and the knowledge of Canadian-American relations and problems.

The major and minor are designed to accomplish several things. The body of information and understanding of Canada and our relations with Canada is desired by firms, agencies and individuals who do business in Canada or with Canadians, and as such is a great asset when combined with another major. Examples include the combination with business administration, marketing, purchasing, transportation, geography and other specialties for employment in firms doing business in Canada or with Canadians. Political scientists, sociologists, biologists, and others in the employ of government agencies at the state, federal and local level will find the programs of substantial value, especially in the border states and counties. The major is also designed for the individual who

Interdisciplinary

wishes to be truly knowledgeable about Canada and things Canadian. It is a valid area of academic study with a strong interdisciplinary orientation.

Program advisement is available from R. L. Monahan, director (676-3728 or 676-3284), Canada House or AH 226.

BACHELOR OF ARTS

Canadian-American Studies

Major 50 credits

- Core Courses: Canadian-American Studies 200, 400, 401; Eng 334; French 101, 102, 103 (or equivalent), 280; Geog 313; Hist 277; Pol Sci 406
- Select additional credits from the following to complete the major: Anth 361, 411, 461, 462; EdAF 414; French 450 (French-Canadian literature); Geog 310, 345 (regional historical geography—Canada); Hist 477; Pol Sci 301, 418g

Minor 30 credits

The minor is applicable to either the Bachelor of Arts or the Bachelor of Arts in Education degree.

- Canadian-American Studies 200; Geog 313; Hist 277; Pol Sci 406
- 12 additional credits under advisement from Canadian-American Studies 400, 401; Eng 334, French 101; Geog 345 (regional historical geography—Canada); Hist 477; Pol Sci 418g

COURSES IN CANADIAN-AMERICAN STUDIES

Courses numbered X37: X97: 300, 400, 417; 445 are described on page 38 of this catalog.

200 INTRODUCTION TO CANADIAN STUDIES (5)

A basic interdisciplinary course of studies covering the major physical, historical and socio-political aspects of Canada.

401 RESEARCH AND PAPER WITH TWO INSTRUCTORS (5)

Prereq: Canadian-American Studies 200 and 15 credits from the core courses. Directed interdisciplinary research on a problem or in an area of interest. At least two instructors from two disciplines must be involved with this course.

East Asian Studies

East Asia plays a vital role in present-day global affairs. Half of humankind lives in this region, which is becoming increasingly important in world economics and politics. The Center for East Asian Studies provides a focal point for interaction with East Asia and for studies of the region.

The program in East Asian studies stresses the interdisciplinary study of the region and is designed to attain three objectives. First, it offers students an opportunity to acquire accurate, detailed and comprehensive knowledge of a region that has traditionally been slighted in American education. Second, it prepares students who are attracted by the growing job opportunities related to East Asia in business and government or who wish to teach courses on East Asia in community colleges and high schools. Third, it provides solid undergraduate training for students who plan to enter East Asian graduate studies at Western or elsewhere.

Students interested in majoring in East Asian studies must develop a student-faculty designed interdisciplinary major in consultation with the Center for East Asian Studies program adviser. The minor in East Asian studies can be taken independently without consultation.

ADVISEMENT

For information and advisement, consult Dr. Robert C. Marshall (phone (206) 676-3613) adviser, or

one of the other Center for East Asian Studies faculty members:

- Paul D. Buell. China, Mongolia, traditional Chinese medicine.
- George F. Drake. Center director.
- Michael H. Fisher. Origins of Buddhism, South Asia, historical interaction between Europeans and Asians.
- Paul C. Glenn. Asian art and religion.
- Edward H. Kaplan. Chinese economic history and language.
- Robert H. Kim. Education, Korea.
- Linda Amy Kimball. Anthropology, Southeast Asia, linguistics, traditional Chinese medicine, Tibet.
- John C. McClendon. Modern politics in Japan and China.
- Ulrich Mammitsch. Esoteric Buddhism, mandalas, Japan, China, Sanskrit.
- Robert C. Marshall. Anthropology, Japan, business, economy and politics of Japan.
- Debnath Mookherjee. Cultural geography, urbanism, East and South Asian Geography.
- Henry G. Schwarz. Mongolian and modern Chinese history, the minorities of Northern China.
- Linda Smeins. Art history, Asian art.
- Michiko Yusa. History of religion, Japanese language and culture.

Core courses (required by all students):

- One year of Chinese, Japanese, Korean or Mongolian language (15 cr)
- One of the following options:
 - East Asian 201 and 202
 - Hist 280 or 281 plus one of the following: Anth 362, Lbrl 272, 273, 274
- Additional credits distributed according to one of the following options (only Options I and II are recommended for those contemplating graduate work in East Asian studies)

Option I

- Second and third year of Chinese, Japanese, or Korean (up to 30 cr)

- Remainder of credits distributed under advisement among those courses listed below as approved by the Center. Most of these credits should be in courses dealing with the country whose language the student is learning

Option II

- Second year of Chinese, Japanese, or Korean (15 cr)
- Remainder of credits should be distributed under advisement among the courses listed below as approved by the Center. Most of these credits should be in courses dealing with the country whose language the student is learning

Option III

- Courses on China, Japan, Korea, and Mongolia from the approved list distributed as follows: four courses on one country; three courses on a second country; two courses on a third and fourth country
- Electives from the approved list to bring total credits (core plus Option III) to 60 credits

Minor — East Asian Studies 30 credits

The following minor is applicable to either the Bachelor of Arts or Bachelor of Arts in Education degree. It may be combined with a major in history or in political science for a major concentration, or may be elected as a minor by majors in other fields. For description of courses, see the sections of cooperating departments.

- At least one of the following: East Asian 201, 202; Hist 280, 281; Anth 362
- Remaining credits to be selected from the following list of courses in East Asian Studies and courses from other parts of the University approved by the center faculty.

COURSES IN EAST ASIAN STUDIES

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 201 THE CULTURES OF EAST ASIA: POLITICAL-MATERIAL ASPECTS (5)
The political, economic and social aspects of the evolution of civilization in China, Japan, Korea and Mongolia from earliest times to the present.
- 202 THE CULTURES OF EAST ASIA: RELIGIO-PHILOSOPHIC AND LITERARY ASPECTS (5)
The religions, secular intellectual and literary aspects of the cultures of China, Japan, Korea and Mongolia, and the influence of these aspects of culture on political life from earliest times to the present
- 210 INTRODUCTION TO NOMADIC CIVILIZATIONS (4)
An introductory survey of the art, architecture, languages, literature, music, peoples and religions of Northern and Central Asia.
- 311 TRADITIONAL KOREA (4)
Prereq: Hist 280 or 281 or East Asian 201 or 202 sequence. A general survey of Korean history before 1876.
- 312 CONTEMPORARY KOREA KOREA AFTER WESTERN CONTACT (4)
Prereq: Hist 280 or 281 or East Asian 201 or 202 sequence. A general survey of contemporary history of the Korean people since 1876.
- 313 EARLY MONGOLIA (4)
Prereq: East Asian 210. The history, society and culture from the early steppe confederations to the Mongol world empire.
- 314 POST-EMPIRE MONGOLIA (4)
Prereq: East Asian 210. History, society and culture since the end of the Mongol world empire.
- 367 THE LITERATURES OF EAST ASIA IN TRANSLATION (5)
Selected readings in Chinese, Japanese, Korean and Mongolian literary masterpieces from earliest times to early modern times.
- 368 THE LITERATURES OF EAST ASIA IN TRANSLATION (5)
Selected readings in Chinese, Japanese, Korean and Mongolian literary masterpieces from early modern times to the present.

400 DIRECTED INDEPENDENT STUDY (1-5 cr)

Courses from other parts of the University approved for inclusion in the East Asian studies major or minor are:

- Anth 362, 424, 425, 464
- Art Hist 270, 370, 470, 471
- Chinese 101, 102, 201, 202, 203, 300, 301, 302, 303
- East Asian 201, 202, 210, 311, 312, 313, 314, 367, 368, 400
- Ethnic Studies 205
- Fairhaven 251, 313
- Geog 315
- Hist 280, 281, 370, 371, 390 (relevant topics), 480, 481, 482, 483, 484, 485, 499 (relevant topics)
- Japanese 101, 102, 103, 201, 202, 203, 300, 301, 302, 303
- Korean 101, 102, 103
- Libr 272, 273, 274, 275, 370, 371

The Center for East Asian Studies also offers tutorials in advanced Chinese, advanced Japanese and advanced Korean. Intermediate Mongolian (15 credits) is taught summers at Inner Mongolia University.

East Asian studies students may also spend up to one year at Asia University, Tokyo; Tsuda College, Tokyo; or Inner Mongolia University, Hohhot.

General Science

For information consult the adviser, Dr. John A. Miller, Department of Chemistry and director of science education.

BACHELOR OF ARTS IN EDUCATION

Major — Elementary 45 credits

- Physics 131; Astron 103 and/or Geog 331
- Chem 115 or 121; Geol 211, 212
- Biol 121
- Electives under advisement

Major Concentration —
Secondary 4-12 92-95 credits

The degree in general science now gives the new endorsement titled science (4-12) on the prescribed list

of new state certificate endorsement titles. For certification a minimum grade point average of 2.75 in science courses is normally required.

- Physics — 15 credits: Physics 131, 132, 133 (or Physics 241, 242, 341, 351 and Math 124, 125)
- Chemistry — 15 credits: Chem 115 or 121, 251, and 122 or 371
- Biology — 17-18 credits: Biol 121, 123 and two courses from 122, 210, 211, 212 under advisement
- Earth Science — 12-14 credits: Geol 211, 212, 214, or 340 or 414
- Astronomy 315
- Sci Ed 491, 492
- Sci Ed 410 or equivalent
- Minimum of 15 additional credits in upper-division courses in one science discipline under advisement.

Industrial Design

The industrial design program provides students with a means of expressing creative ideas. It helps each individual develop the expression of attitudes, function and humanitarian aesthetics in terms of product design, industrial techniques, operations and processes.

The design program provides each graduate with a foundation for understanding creative problem solving, for appreciating interrelationships of humanitarian philosophy, technological capabilities, and human factors, and aesthetic expression. The course arrangement prepares professional graduates to enter the industrial culture as designers, planners, managers, illustrators or specialists in industrial production or marketing. A more complete description of the program and major is offered in the College of Arts and Sciences Technology Department section.

Latin American Studies

This program is offered so that students interested in the area of Latin America may be able to concentrate a portion of their academic work in this area free of the stricture of departmental programs and to make more viable the relationships among the separate courses in this area offered by the departments of this University. The following minor is applicable to either the Bachelor of Arts or the Bachelor of Arts in Education degree. A major in Latin American Area Studies is available through the student-faculty designed majors program (see Liberal Studies section of this catalog).

Minor — Latin American Studies 30 credits

- 15 credits in Spanish 100 and 200 level courses, or demonstration of proficiency
- 15 credits in courses relating to Latin America

For advisement, consult Dr. Harley E. Hiller, Department of History.

Linguistics

Linguistics describes language from different structural perspectives and is useful to students preparing careers in anthropology, psychology, speech, education and language teaching. It can also be useful to those interested in the nature and implications of language.

Minors

These concentrations in general and applied linguistics may be taken by candidates for the Bachelor of Arts or the Bachelor of Arts in Education

Interdisciplinary

degrees. Minors are available in the departments of anthropology, English, foreign languages and speech.

Basic Courses

- Linguistics 201, 301, 302, 303, 314

Additional work according to department chosen:

- English (Arts and Sciences) — add English 370, 471
- English (Teacher Education) — see English minor with Linguistics Emphasis
- Foreign Languages (either degree) — add a minimum of six credits in a foreign language, selected under departmental advisement
- Anthropology (Arts and Sciences) — add Anth 448 and 5 additional credits selected under departmental advisement
- Speech 373 (for other courses consult the director)

For advisement and/or a minor in linguistics, consult Mr. Vladimir Milicic (Humanities Building 219), director of Interdisciplinary Program in Linguistics.

COURSES IN LINGUISTICS

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 201 INTRODUCTION TO LINGUISTICS SCIENCE (5)
Survey of linguistic method and theory.
- 202 COMPARATIVE LINGUISTICS (3)
Prereq: Ling 201. Principles of language, typology, linguistic geography, comparative methods, and historical reconstruction.
- 204 SOCIOLINGUISTICS (3)
Examines the relationship between society and language, concentrating on the following areas: address forms, variation theory, language use, sociolinguistics and education, multilingualism, language policy and language attitudes.
- 301 PHONOLOGY (5)
Prereq: Ling 201. Theory, methods and problems of phonological analysis and description.

- 302 MORPHOLOGY (3)
Prereq: Ling 201. Theory, methods and problems of morphemic analysis and description.
- 303 SYNTAX (3)
Prereq: Ling 201. Comparative survey of modern theories of grammar with special reference to syntax.
- 314 PHONETICS (5)
Prereq: Ling 201 or any applicable course in one of the following departments: speech, anthropology, foreign languages or English (see instructor for applicability). An introduction to phonetics as a science, its history and contributions. Emphasis is on the function of the mechanism and the production, perception and transcription of speech sounds used in various languages.
- 340 INTRODUCTION TO SEMIOTICS (3)
Prereq: 60 undergraduate credits. Definition, modes, function, meaning and study of signs in society and nature.
- 350 STORY STRUCTURE (3)
Prereq: 60 undergraduate credits. Study and analysis of story-structure of various types, from folk to individually written ones. Generating stories by computer.
- 402 READINGS IN LINGUISTICS (3)
Prereq: permission of instructor. Directed research on topic selected by student; may not be repeated.
- 404 LINGUISTICS AND LITERATURE (3)
Prereq: Ling 201 or Foreign Languages 410. Importance of linguistic contributions to literary analysis; linguistics and theory of literature; common problems.

Science Education

Students planning to major in a science for elementary or junior high teaching, see majors in general science or earth science. Students planning a major in science for high school teaching should consult with appropriate science education advisers within departments.

Questions relating to these courses should be directed to John A. Miller, Department of Chemistry, the director of science education.

GRADUATE STUDY

For concentration leading to a Master of Education degree, see Graduate section of catalog.

COURSES IN SCIENCE EDUCATION

Courses numbered X37, X97: 300, 400, 417, 445 are described on page 38 of this catalog.

- 381 SCIENCE FOR THE ELEMENTARY SCHOOL (3)
Prereq: Sci Ed 380 Classroom-laboratory study of curricula; observation and participation in public schools. Intended for students preparing to teach at the elementary level.
- 390 SCIENCE METHODS AND CURRICULUM FOR THE ELEMENTARY SCHOOL (3)
Prereq: General University Requirements in science and mathematics; EdCI 320. Classroom/laboratory study of theory, curriculum, science content and processes with activities appropriate for the elementary classroom.
- 391 LABORATORY/FIELD EXPERIENCE IN ELEMENTARY SCIENCE (2)
Prereq: Sci Ed 390. Emphasis is on an experience in which students teach science to elementary students for an extensive portion of the quarter. To be taken in quarter following completion of Sci Ed 390.
- 410 HISTORY AND PHILOSOPHY OF SCIENCE (5)
Prereq: permission of instructor or 17 credits in biology, plus 12-15 credits in each of two science disciplines, earth science, physics or chemistry. The nature, methods and development of science and the role of science in society relevant to teaching science.
- 430 ENVIRONMENTAL EDUCATION (2-5)
Prereq: Sci Ed 380 or Sci Ed 492; teaching experience or permission of instructor. Methods of teaching environmental science in selected content areas with related examination of environmental problems.
- 480 SPECIAL PROJECTS IN SCIENCE FOR THE ELEMENTARY GRADES (2-5)
Prereq: one course from Sci Ed 381, 382, 383 or 384; permission of instructor. Projects involving science instructional materials and curriculum. Repeatable for credit.

- 490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)
Prereq: Sci Ed 492 or equivalent; permission of instructor. Projects involving science instructional materials and curriculum. Repeatable for credit.
- 491 METHODS IN SECONDARY EDUCATION FOR SCIENCE TEACHERS (5)
Prereq: admission to the secondary teaching program and a major or concentration in natural sciences. Study of literature, curriculum and teaching strategies in life, earth and physical sciences for grades 4-12, plus peer teaching and school observations. To be taken in fall quarter of year student does student teaching.
- 492 TEACHING SCIENCE FOR THE SECONDARY SCHOOL (4)
Prereq: Sci Ed 491. Preparation and performance of the TIC during first 3 to 4 weeks of winter quarter prior to entering EdCI 492.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 ADVANCED STUDIES IN SCIENCE EDUCATION (4)
Prereq: teaching experience or permission of instructor. A critical study of research and developments related to science education.
- 511 INTERNSHIP IN SCIENCE EDUCATION (3)
Prereq: permission of instructor. Assisting with the teaching of an on-campus science methods course for preservice elementary school teachers.
- 512 IN-SERVICE WORKSHOPS IN SCIENCE EDUCATION (3)
Prereq: permission of instructor. Planning and implementing a series of not less than three in-service workshops in elementary school science. May be repeated for elective credit.
- 513 SCIENCE CURRICULUM GRADES K-12 (3)
Prereq: teaching experience or permission of instructor. Examination of science curricula for grades K-12 with major emphasis on the elementary grades as a basis for development of a science curriculum and teacher's guide for use in local school systems.

Interdisciplinary

- 514 SEMINAR IN ELEMENTARY SCIENCE EDUCATION (1-3)
Prereq: permission of instructor.
- 580 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE ELEMENTARY SCHOOL (2-5)
Prereq: teaching experience or permission of instructor. Problems related to science instruction and curriculum. Repeatable for credit
- 582 SPECIAL TOPICS IN THE PHYSICAL SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)
Prereq: Sci Ed 380, 381 or equivalent. In-depth study of topics in the physical sciences most appropriate for instruction in the elementary school.
- 583 SPECIAL TOPICS IN THE BIOLOGICAL SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)
Prereq: Sci Ed 380 and 381 or 383 or equivalent. In-depth study of topics in the biological sciences most appropriate for instruction in elementary school.
- 584 SPECIAL TOPICS IN THE EARTH SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)
Prereq: Sci Ed 380 and 381 or 384 or equivalent. In-depth study of topics in earth sciences most appropriate for instruction in the elementary school.
- 590 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)
Prereq: teaching experience or permission of instructor. Problems related to science instruction and curriculum. Repeatable for credit.
- 592 SPECIAL TOPICS IN THE PHYSICAL SCIENCES (4)
Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in chemistry and physics of special interest to secondary teachers. Repeatable
- 593 SPECIAL TOPICS IN THE BIOLOGICAL SCIENCES (4)
Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in biology of special interest to the secondary teacher. Repeatable.

- 594 SPECIAL TOPICS IN THE EARTH SCIENCES (4)
Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in geology and related fields of special interest to secondary teachers. Repeatable
- 598 RESEARCH PROJECT (6)
Prereq: admission to M.Ed. natural sciences program, and completion of 15 credits of 500-level courses including one of Sci Ed 590, 592, 593 or 594. Research in fields of biology, chemistry, earth science, general science, physical science, physics or education for non-thesis option
- 690 RESEARCH (6)
Prereq: admission to program, permission of instructor. Restricted to thesis-related research; not more than six credits allowed toward the minimum of 45 credit hours.

Social Studies Education

Social studies education is an interdisciplinary history and social science program for elementary and secondary education students. Social studies education courses and curriculum are directed by the Social Studies Program Committee. Questions relating to social studies classes and certification programs should be directed to Dr. Peter J. Hovenier, chair, and to individual advisers listed below.

Secondary Education

In order to be certified as a secondary social studies teacher, students must complete the following:

- An approved academic degree program* in:
 - Anthropology — Adviser: Dr. Robert C. Marshall
 - Economics — Adviser: Dr. David Nelson
 - Geography — Adviser: Dr. Thomas A. Terich

*See appropriate catalog sections and/or advisers for approved degree programs.

History — Advisers: Dr. Harry Jackson; Dr. Harley E. Hiller
 Political Science — Adviser: Dr. Ralph E. Miner
 Psychology — Adviser: Dr. Laurence P. Miller
 Sociology — Adviser: Dr. John G. Richardson
 Social Studies** — Adviser: Dr. Peter J. Hovenier

- Certification requirements as required by the Educational Curriculum and Instruction Department
- Soc St 426 and Hist 391
- The Social Studies Minor
- Grade point average of all social science courses needed for certification must be at least 2.75

Completion of this major/minor program leads to a teaching endorsement in the major field and in social studies.

Elementary Education

The elementary social studies major is designed for students who plan to be certified K-8th grade. A 2.75 GPA is required for all courses taken to satisfy this major.

Major — Social Studies

45 credits

Adviser: Dr. Peter J. Hovenier

- Anth 201
- Econ 203 or 446
- Geog 201, 311
- Hist 103, 104
- Pol Sci 250
- 12 credits *under advisement* in one social science, 10 of which must be upper-division

Social Studies 425 is required in addition to the above. History 391 is recommended.

**Social studies majors are interdisciplinary student-designed majors that have been approved by the Social Studies Program Committee. Students in the American cultural studies program also must select this option.

Minor 32 credits

Adviser: Dr. Peter J. Hovenier

Required Courses:

- Hist 103, 104
- Geog 201
- Pol Sci 250
- Econ 203 or 446
- Electives *under advisement* to complete total unit requirement

Elementary students will usually be required to take Hist 391.

Secondary students who major in history, economics, geography or political science may count up to 8 credits of their major toward the completion of the social studies minor.

COURSES IN SOCIAL STUDIES EDUCATION

Courses numbered X37; X97: 300, 400, 417, 445 are described on page 36 of this catalog.

- 425 SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL (4)
 Prereq: EdCI 320. Social studies methods, resources, curriculum, objectives, planning and exposure to contributions of social sciences. For elementary certification.
- 426 SOCIAL STUDIES FOR THE SECONDARY SCHOOL (4)
 Prereq: EdCI 471. Social studies methods, resources, curriculum, objectives, planning. For secondary certification.
- 435 USING COMMUNITY RESOURCES IN SOCIAL STUDIES (3)
 Prereq: junior standing. Course explores community resources and the incorporation of the resources in the curriculum.
- 446 LAW FOCUSED TEACHING AND CURRICULUM (1-5)
 Prereq: permission of instructor. Course to enable teachers to teach about criminal justice system, police, juvenile justice, consumer law, due process, etc. Course will provide teachers with tested classroom procedures, substantive law and field experience with justice agencies.
- 490 SOCIAL STUDIES PRACTICUM (2-5)
 Prereq: Soc St 425 or 426 and permission of instructor. Micro teaching of students in learning laboratories or arranged social studies assignments in classrooms. S:U grading.

Student/Faculty Designed Interdisciplinary Major

Students whose educational objectives are best served by combining courses from several academic or professional areas may, in consultation with appropriate faculty members, design an individualized major. This major may include appropriate courses from any department, program or college at Western that are open to the student and for which the student is qualified. The student/faculty-designed interdisciplinary major leads to a degree of Bachelor of Arts or Bachelor of Science in the College of Arts and Sciences. For information about this program, contact the Department of Liberal Studies or the Academic Advising Center.

Terrestrial Ecology

See Biology Department section of the catalog.

Women Studies

The Women Studies Program offers students an interdisciplinary approach to the particularly female dimensions of human experience and thought. It provides: (1) electives for those with a general interest in learning more about women, (2) preparation for those whose career choices involve working with or for women, and (3) undergraduate training for those who intend to pursue women's issues in their graduate or professional programs.

The minor includes four core courses

and 14 hours of electives to be selected according to the individual needs of each student from relevant courses in the various departments.

Students may design an interdisciplinary major through the College of Arts and Sciences or Fairhaven College.

Close advisement is recommended, as new courses may apply to this minor.

Dr. Kathryn Anderson, Fairhaven College, is the adviser for this program.

Minor 30 credits

Core: 16 credits.

- WS 111: Introduction to Women Studies (4)
- Anth 353: Sex Roles in Culture (4)
- Eng 338: Women and Literature (4)
- Psych 219: Psychology of Sex Roles (4)
- Electives: 14 credits from Anth 453; Eng 314, 321, 341; Fair 347, 411, 414; Health Ed 152; Hist 390; Pol Sci 345; Psych 217; Soc 455; WS 311, 313, 315.

COURSES IN WOMEN STUDIES

Courses numbered X37, X97: 300, 400, 417, 445 are described on page 38 of this catalog.

111 INTRODUCTION TO WOMEN STUDIES (4)

Introduction to the issues, questions, conceptual frame-works and methods basic to a study of human societies, their institutions and cultural artifacts from a perspective that comprehends women's experience.

311 AMERICAN WOMEN STUDIES: 1620-1850 (5)

Prereq: Hist 103 or 104 or Eng 216 or another WS course. Women's role in American society from colonial times to the mid-nineteenth century, with attention to differences of race and class. Emphasis on changing sex roles for both women and men as a result of changes in the structure of the family, immigration, urbanization, expansion of the frontier, education, religion, development of the nation, and industrialization, including a focus on white and non-white women.

213 AMERICAN WOMEN STUDIES: 1850 - Present (5)

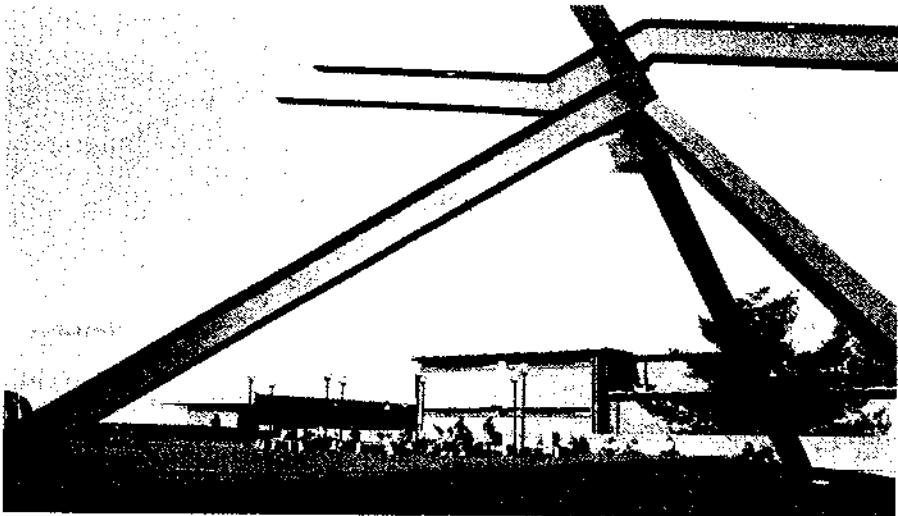
Prereq: Hist 103 or 104 or Eng 216 or another WS course. Factors influencing the female gender role as it changed in the last century and a half from the "Cult of True Womanhood" to the "New Woman" to the "Feminine Mystique" to the "Liberated Woman." Emphasis on the impact of changing modes of American capitalism; women's efforts for equal rights and social reform; changing patterns of fertility; women's increased participation in the work force; changes in women's role in the domestic sphere.

315 ISSUES OF THE WOMEN'S MOVEMENT (3)

Prereq: Pol Sci 101, Soc 202 or permission of instructor. Psychological, social, political and economic issues promoted by the women's movement; sex stereotyping in the family, education, politics and economy; past efforts to overcome sex discrimination; contemporary legal and public policy issues related to women; women's life experiences in other countries; theories of women's liberation.

Visual Communication

Growing out of an earlier graphic arts program, the Ford Foundation funded an innovative and interdisciplinary pilot program called Visual Communication Education (VI-COED). This program seeks to develop communicators who understand the processes of communication and who can select and use the appropriate elements (graphic arts, television, film, technical illustrations, photography, etc.). Graduates of this program have been placed in a variety of media-related positions in industry, government, and education. Increasingly, schools, colleges, and universities have sought Visual Communication graduates as media specialists in instructional technology. It should be noted that the Visual Communication program is carefully structured and extensive in nature; it is advantageous, therefore, for interested students to seek advisement and enrollment in Visual Communication early in their university careers. A complete description of the program is offered in the College of Arts and Sciences Technology Department section.



COLLEGE OF BUSINESS AND ECONOMICS

Dr. Dennis R. Murphy, Dean

Objective of the College

It is the function of the College of Business and Economics to prepare men and women for positions of leadership and stewardship in the management and administration of complex organizations. The College develops managerial skills, analytic economic skills, and interpersonal sensitivities, as well as quantitative and accounting skills. In addition, the College prepares teachers for high schools and community colleges in the business disciplines.

It is the College's objective that essentially all students in the College will receive sufficient computer instruction, both in specific courses and in the general curriculum, to become computer literate.

The program is primarily upper-division, based upon a broad liberal-arts education in the first two years. Individual skills are developed sufficiently to achieve entry-level employment in many fields, but the College tries to motivate and orient the student for a lifelong learning experience. The College develops sensitivity to environmental aspects of business enterprise, promotes a commitment to ethical behavior, and provides a strong emphasis upon forward-looking, goal-setting behavior in the business world while encouraging an active role of leadership in the community.

The College of Business and Economics is organized into four departments: Accounting; Economics; Finance, Marketing and Decision Sciences; and Management. These departments are interdependent and their programs draw upon the whole College.

Department Chairs

Ronald N. Savey Accounting
Dr. K. Peter Harder Economics
Dr. Robert C. Meier Finance,
Marketing & Decision Sciences
Dr. Bruce D. Wonder Management

Directors

Dr. Earl D. Benson MBA Program
TBA Small Business Institute
Fred C. Lewis Small Business
Development Program
Dr. Robert C. Meier Professional
Development Program
Dr. David E. Merrifield Center for
Economic and Business
Research
Dr. David M. Nelson Center for
Economic Education
Dr. Hubert N. Thoreson Office
Administration/Business
Education Programs

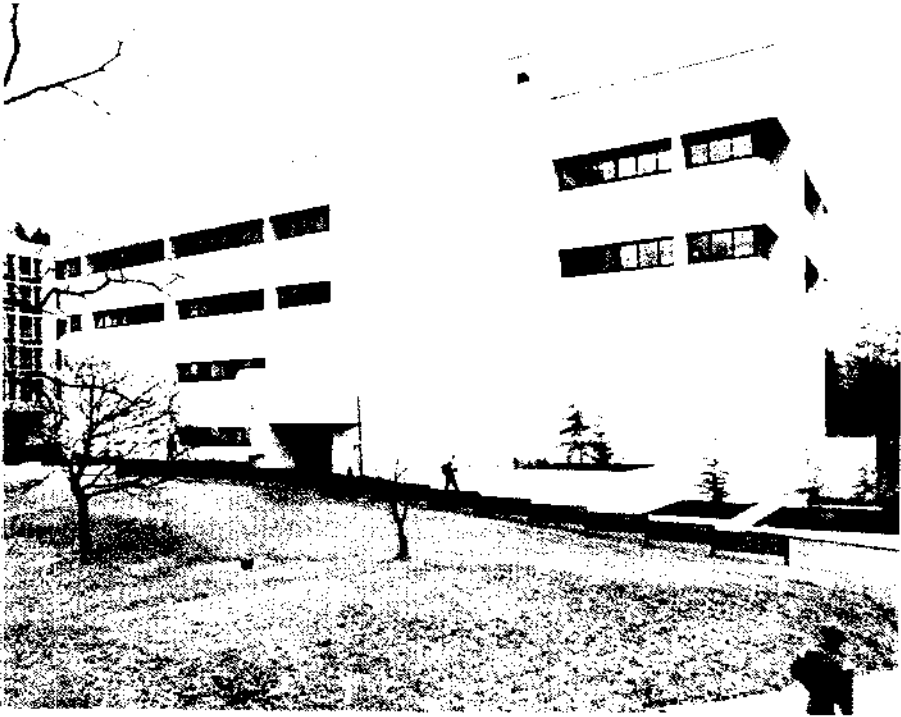
Academic Programs Leading to Undergraduate and Graduate Degrees

Accounting BA
Business Administration BA
Economics BA
Business Education BA/Ed, M/Ed*
Office Administration BS
Master of Business
Administration MBA*

Combined Majors

Interdepartmental majors are given in Accounting-Computer Science, Accounting-Economics, Business Administration-Computer Science,

**Consult the Graduate School for further details.*



Economics-Mathematics and Economics-Political Science. See Departments for details.

Admissions and Major Declaration

Admission to programs in the College of Business and Economics (CBE) is selective and based upon prior academic performance. A student must have earned at least 75 quarter hours of college credit and have met specific academic standards prior to applying for admission to one of the majors offered in CBE. Students who wish to major in business administration or accounting must have earned at least a 2.75 GPA in the equivalent of the following courses: Acctg 241, 242, 243; Econ 203, 204; Math 156; Mgmt/FMDS 255; Mgmt 271. Prerequisites for the economics program are listed in the departmental section. Prospective majors should consult the individual department sections of this catalog

for departmental admissions criteria.

Priority for enrolling in most upper-division courses (300 and above) is given to students who have been officially admitted to the College. Therefore, it is very important that students contact the appropriate department as early as possible. Applications for admission are made directly to the appropriate department. Academic advisement is provided by the faculty.

Students may enroll in lower-division courses without formal admission into the College of Business and Economics.

See the Admissions section of this catalog for policies and procedures relevant to admission to Western Washington University.

Retention

Majors in any College program who have received an academic warning from the University or who have been placed on academic probation must have written permission from the

College of Business & Economics

appropriate department to register for upper-division courses.

Requirements for Bachelor's Degree

- Besides the general requirement for graduation from the University, explained elsewhere in this catalog, the College of Business and Economics has the following specific requirements:
- Electives: electives may be selected as needed to ensure the required 180 quarter hours total credit, *except* that majors in Accounting and Business Administration must complete a minimum of 72 credits in areas other than Accounting, Business Administration and Economics.
- Petitioning procedure: any student who seeks either a variation from the strict application of the rules, regulations, or requirements of the College, or a student-designed major from among the departments of the College, may petition the Dean.

Minor

In addition to the majors provided by the four departments, a minor makes an excellent addition to a specialized program in other areas of the University. This gives relevant, realistic, and applicable qualities to those valuable skills developed in other more abstract and theoretic departments. The combination of a minor with a major in speech, English, journalism, visual communications, home economics, foreign languages, or other liberal arts majors, provides an additional strength and resource to the individual's skills and educational development. See departments for details on minors.

Special Programs

Small Business Development Center (SBDC). The SBDC provides individual counseling to small business

firms, conducts research into general small business problems, and develops and offers educational programs geared to the needs of persons operating small businesses. Any small business firm, community group or individual may request assistance. There is no charge for the management and technical assistance services of SBDC counselors.

Center for Economic Education. The Center for Economic Education, coordinated by the Economics Department, is involved in providing economic knowledge, data, and teaching aids to the grade schools and high schools throughout the state. Affiliated with the Washington State Council on Economic Education, this center assists in raising the standards of economic literacy of the state.

Center for Economic and Business Research (CEBR). This center undertakes research activities related to developing a better understanding of the economic and business climate of the Pacific Northwest. The Center is developing and maintaining an economic data base for the area, has developed a regional model that will assist in forecasting certain economic variables for the region, and responds to specific research request from local public and private entities.

Professional Development Program. This is the outreach arm of the College, providing programs and seminars of interest to our constituency.

Small Business Institute (SBI). The Small Business Institute provides free advice to small businesses. Students can become involved and earn College credit while studying actual enterprises and helping local businesses solve problems.

Internships are available through individual departments. These can provide College credit for on-the-job work experience.

Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be

offered during the period of this catalog. For an exact scheduling of courses at Western, students should consult the annual timetable of classes, the Summer Catalog and the University Extension bulletins.



Accounting

Accounting is an important tool of management, with economic organizations using accounting information to plan, control and report their financial activity. A thorough knowledge of accounting is, therefore, necessary to understand the operation and financial condition of any complex business or governmental agency.

The Accounting Department offers a broad program of courses in accounting which, coupled with required and elective courses in economics and business administration, provides the graduate with a sound educational foundation for an accounting career or post-graduate studies.

The accounting graduate can expect to find employment in a number of areas including private business, public accounting or governmental service. An accountant in private business will typically work in such positions as cost accountant, tax accountant, treasurer, auditor, budget officer, business manager or controller. The certified public accountant offers services as a professional person to the general public for the purpose of installing accounting systems, providing tax counsel and compliance, and auditing accounting records. Governmental employment also offers varied opportunities analogous to those found in the private sector.

Students are urged to consider the variety and wealth of career opportunities available to the accounting graduate when they select their accounting elective courses.

Because accountants must communicate effectively and must be proficient in mathematics, we recommend that prospective accounting students take four years of English and at least three years of mathematics in high school.

MAJOR DECLARATION

To declare a major in accounting, a student (1) must have earned at least 75 credits and (2) must have completed the following foundation courses (or equivalents) with a grade point average at or above 2.75:

- Acctg 241, 242, 243
- Econ 203, 204
- FMDS 255
- Mgmt 271
- Math 156

The minimum grade standard may be adjusted each year; however, any change in standards will be published in the timetable of classes.

Accounting major status is required for enrollment in Accounting 441 and 461. An additional requirement for enrollment in these two courses is a cumulative 2.30 or better grade point average in Accounting 321, 341 and 342. **This grade point average is computed on grades initially received in those courses.**

A student may apply for acceptance as an accounting or combination accounting/computer science or accounting/economics major by obtaining forms and instructions from the departmental secretary.

ENROLLMENT PRIORITIES

Because of heavy demand for accounting courses, the department has found it necessary to give priority for enrollment in all of its courses to students who have not previously received a grade in the course including W or Z. The additional following priorities will be applied to all upper-division courses (except Accounting 441 and 461).

1. Students officially declared as majors in accounting, accounting/computer science, or

- accounting/economics.
- Students who are officially declared majors in other departments in the College of Business and Economics.
 - Other students who have completed Accounting 241, 242 and 243 (or equivalent at other institutions).

ACCOUNTING FACULTY

- RONALD N. SAVEY (1976) Chair.
Associate Professor. BA, Western State College (Colo.); MBA, University of Denver; CPA, States of Colorado and Washington.
- BRUCE E. BROWN (1982) Assistant Professor. BS, Iowa State University; MA, University of Iowa; CPA, State of California.
- CODY E. BRYAN (1977) Assistant Professor. BGE, University of Nebraska (Omaha); MBA, University of Puget Sound; CPA, State of Washington
- JULIE A. LOCKHART (1982) Assistant Professor. BS, MS, University of Illinois; CPA, State of Illinois
- LARRY L. LOOKABILL (1985) Associate Professor. BS, Portland State University; MBA, University of Washington; PhD, Stanford University; CPA, State of Oregon
- WILLIAM M. SAILORS (1974) Associate Professor. MBA, MS Engr., University of Southern California; BSME, University of Illinois; CPA, States of Washington and California.
- STEPHEN V. SENGE (1985) Assistant Professor. BA, California Western University; MPA, Denver University; MA, DBA, Kent State University; CMA.
- WILLIAM R. SINGLETON (1976) Associate Professor. BBA, Memphis State University; MBA, University of Portland, PhD, University of Hawaii; CPA, State Washington.

BACHELOR OF ARTS

Major 108 credits

- Acctg 241, 242, 243, 321, 331, 341, 342, 343, 370, 375, 441, 461
- 12 upper-division accounting credits under advisement
- FMDS/Mgmt 255, 482, 495
- FMDS 330, 341
- Mgmt 271, 311, 360
- Econ 203, 204, 409
- Math 156

*Combined Major —
Accounting/Computer
Science* 108 credits

- Acctg 241, 242, 243, 341, 342, 441, 461
- 6 upper-division credits under departmental approval
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471
- Mgmt 271, 311, 360
- FMDS 330, 341
- FMDS 482, 495
- Econ 203, 204
- Math 156, 240*

An interdepartmental major in Accounting/Economics is also offered. See Economics section of Catalog for details.

Minor 26 credits

- Acctg 241, 242, 243, 341, 342
- Additional credits in accounting under advisement

COURSES IN ACCOUNTING

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 241 PRINCIPLES OF FINANCIAL ACCOUNTING (4)
Introduction to the theory and practice of accounting, including financial statements.
- 242 PRINCIPLES OF FINANCIAL ACCOUNTING (4)
Prereq: Acctg 241. Emphasis on partnership and corporation accounting.
- 243 PRINCIPLES OF MANAGERIAL ACCOUNTING (4)
Prereq: Acctg 242. Introduction to the procedures and techniques with which managers use accounting information to make decisions and to achieve control in business organizations

*May substitute FMDS/Mgmt 255 for Math 240.

Accounting

321 ACCOUNTING INFORMATION SYSTEMS I (4)

Prereq: Acctg 243. Overview of the analysis, design and implementation of both manual and computerized information systems. A review of the current state of the art of applications, software and systems available for accounting and managerial functions.

322 COMPUTER SPREADSHEETS (1)

Prereq: Acctg 243. Classroom instruction in computer spreadsheet skills is combined with financial and managerial accounting problems worked in a supervised IBM micro computer laboratory. S/U grading



- 331 **MANAGERIAL COST ACCOUNTING (4)**
Prereq: Acctg 243. Procedures used for classifying, recording, summarizing, and allocating current and estimated costs for planning, controlling, and reporting purposes.
- 341 **INTERMEDIATE ACCOUNTING THEORY AND PRACTICE I (4)**
Prereq: Acctg 243. An in-depth study of accounting theory and practice for students who require more than introductory coverage. Both conceptual and application topics are studied.
- 342 **INTERMEDIATE ACCOUNTING THEORY AND PRACTICE II (4)**
Prereq: Acctg 341. Accounting principles related to stockholders' equity matters, investments, revenue recognition, deferred taxes, pension plans, leases, and preparation and analysis of financial statements.
- 343 **INTERMEDIATE ACCOUNTING THEORY (4)**
Prereq: Acctg 342. A study of the accounting theory underlying current practice. Existing and emerging issues in accounting are also examined.
- 370 **LAW OF COMMERCIAL TRANSACTIONS I (4)**
Prereq: Mgmt 271. Legal principles underlying the law of contracts, sales, secured transactions, real property security, bankruptcy, and suretyship.
- 371 **LAW OF COMMERCIAL TRANSACTIONS II (4)**
Prereq: Mgmt 271. Legal principles underlying the law of agency, commercial paper and documents of title, corporations, partnerships, antitrust, insurance, estates and trusts and employment.
- 375 **INCOME TAXATION I (4)**
Prereq: Acctg 242. General income requirements with an emphasis on taxation of individual taxpayers. Also, introduction to tax research.
- 377 **ACCOUNTING IN NOT-FOR-PROFIT ORGANIZATIONS (3)**
Prereq: Acctg 242. Fund and budgetary accounting as applied to governmental units and other not-for-profit entities.
- 421 **ACCOUNTING INFORMATION SYSTEMS II (3)**
Prereq: Acctg 321. Both current and prospective applications of computer-based information systems as applied to accounting data bases will be studied. Utilizes case studies, selected readings for group discussion and guest lecturers with specialized expertise. Will not involve conventional procedural computer programming.
- 431 **ADVANCED MANAGERIAL COST ACCOUNTING (3)**
Prereq: Acctg 331. Managerial uses of accounting information for planning and control in complex organizations.
- 441 **ADVANCED ACCOUNTING THEORY AND PRACTICE (4)**
Prereq: approval of department. An introduction to business combinations, partnerships, reorganizations, interim reports, estates and trusts, SEC reporting and other topics.
- 442 **ADVANCED ACCOUNTING THEORY (3)**
Prereq: Acctg 343. An advanced seminar in financial accounting. The course will cover contemporary topics in financial accounting. Specific topics will vary by quarter.
- 444 **MULTI-ENTITY ACCOUNTING AND RELATED ISSUES (3)**
Prereq: Acctg 342. An in-depth look at accounting for business combinations and consolidated financial statements. Valuation and other issues attendant to mergers, acquisitions and closely held corporations.
- 451 **INTERNATIONAL ACCOUNTING (3)**
Prereq: Acctg 343. Analysis of accounting for multinationals: area studies of accounting and financial reporting standards; and an evaluation of the international accounting harmonization effort.
- 461 **AUDITING THEORY AND PRACTICE (4)**
Prereq: approval of department. Theory and practice related to the auditing environment, including general audit technology, programmatic applications and reporting obligations.
- 462 **ADVANCED AUDITING (3)**
Prereq: Acctg 461. For the student intending a career as a professional auditor. Readings in current issues, case simulations and presentations by professional experts.
- 475 **INCOME TAXATION II (3)**
Prereq: Acctg 375. Taxation of corporations and partnerships.
- 476 **ADVANCED TAXATION (3)**
Prereq: Acctg 475. Emphasis on gift, estate and trust taxation. In addition, advanced research and planning topics and contemporaneous issues in taxation are covered.

See the Graduate School section in front of this catalog for a description of the MBA program.

Economics

In a world without scarcity, economics as a field of study would be unnecessary. The most challenging task of economics is the study of how to best use resources in the satisfaction of human wants. Today, more than ever, the problems agitating society are predominantly economic. The problems of inequality, discrimination, pollution, energy, growth and stagnation are heavily economic, as are their solutions. Whether as intelligent citizens or as professional economists, we need the perspective and analysis of economics to understand and deal with the realities of life in the late twentieth century.

With appropriate preparation, particularly in the areas of economic theory, statistical methods and computer-assisted data analysis, the career opportunities for young economists are diverse. Economists are most typically employed as researchers and teachers in the educational system, at all levels of government, in the nation's banking and financial institutions, other business firms, and labor organizations. One of the most dynamic career areas for economists has been in business. Business economists are typically involved in planning, forecasting, production and market analysis, pricing, and government policy analysis. While various employment opportunities are available to the university graduate with a baccalaureate degree, the person who wishes to pursue a high-powered career as a professional economist should plan to do some graduate study.

The economics program at Western provides several options under the Bachelor of Arts degree.

The standard economics major requires a foundation in economic theory and quantitative skills and provides opportunity for additional depth in one of several designated

areas of emphasis in economics or an outside minor. The outside minor provision is ideally suited for individuals wishing to incorporate skills and knowledge from another department into their major and is therefore frequently pursued by students with a strong interest in the liberal arts.

In addition, the department offers combined majors in Economics/Accounting, Economics/Mathematics and Economics/Political Science.

Students must consult with an adviser prior to the selection of a major option or area of emphasis, or the selection of elective credits in other departments of the College of Business and Economics to be included as part of the economics major.

MAJOR DECLARATION

To declare a major in economics, a student must have completed 75 credit hours; completed a course in college algebra (equivalent of Math 103) and Econ 203 and 204 with a grade of "C" or better; and carry a cumulative grade point average of 2.75 or have earned at least a 3.0 grade point in all economics courses taken (a minimum of three courses). Further information and major declaration forms are obtained from the department in Parks Hall 315. The department will provide advisement prior to major declaration.

ECONOMICS FACULTY

The economics faculty is distinguished by a high degree of professional dedication. All faculty on ongoing appointment hold the Ph.D. degree and are engaged in research and consulting activities of consequence at the local, state, national

and even international level. In addition, faculty members have a high commitment to quality teaching, personalized student contact and student advisement.

- K PETER HARDER (1970) Chair, Professor. BA, University of Puget Sound; MA, PhD, University of Nebraska
- DAVID T. GRIFFITHS (1986) Lecturer. BA, Stirling University; MA, PhD, Simon Fraser University.
- STEVEN E. HENSON (1985) Assistant Professor. BA, California State University; MS, PhD, University of Oregon.
- ERWIN S. MAYER (1953) Professor. AB, Hunter College; PhD, University of Washington.
- DAVID E. MERRIFIELD (1983) Associate Professor. BS, Willamette University; MA, PhD, Claremont Graduate School.
- MICHAEL K. MISCHAIKOW (1964) Professor. BA, School of Commerce and Finance, Bulgaria; MBA, Hochschule für Welthandel, Austria; MA, PhD, Indiana University
- DENNIS R. MURPHY (1979) Professor and Dean of the College of Business and Economics. BA, MA, Western Washington State College; PhD, Indiana University.
- DAVID M. NELSON (1977) Associate Professor. BA, Whitworth College; MA, PhD, University of Oregon.
- ALLAN G. SLEEMAN (1977) Associate Professor. BSc (Econ), London School of Economics; PhD, Simon Fraser University.
- PAMELA S. WHALLEY (1985) Assistant Professor. BA, ABD, Indiana University.

Transfer students should contact the department about their major prior to registering to assure that they enter the sequence correctly and to receive departmental evaluation of coursework completed at other institutions.

BACHELOR OF ARTS

Major — Economics 80 credits

- Econ 203, 204, 271, 301, 302, 303, 311
- FMDS/Mgmt 255
- A minimum of 12 credits from the following main field courses: Econ 325 or 425; Econ 381 or 385; Econ 410 or 415; Econ 462 or 463; Econ 480 or 482
- (a) An area of emphasis, consisting of a minimum of 12 and a maximum of 20 credits, selected under depart-

mental advisement (at least half of these credits must be in economics);

or

- (b) a minor to be selected by the student under departmental advisement, up to a maximum of 25 credits
- Electives in the College of Business and Economics, under departmental advisement, to complete the required 80 credits of the major
- A minimum of 50 of the 80 credits must be in economics

Minor 24-25 credits

- Econ 203, 204
- Additional courses selected under departmental advisement; at least 10 credits must be at upper-division level

Combined Major — Economics/Mathematics

100 credits

This major is for students who wish considerable depth in both areas, and is particularly suitable as preparation for graduate study in economics.

- Econ 203, 204, 301, 302, 303, 311
- 14 additional credits in upper-division courses in economics, under departmental advisement
- Acctg 241, 242, 243
- Math 124, 125, 126, 205, 224
- Math/Comp Sci 335
- Math 341, 342; or Math 441, 442, 443
- Comp Sci 210
- 10 additional credits in upper-division mathematics or computer science, under advisement from the departments of Economics and Mathematics.

Combined Major — Economics/Accounting

104 credits

This major is designed for students wishing to combine a strong interest

Economics

in economics and accounting, and who intend to go into careers in business or finance.

- Econ 203, 204, 271, 301, 302 or 409, 303, 311
- 8 additional credits in upper-division economics courses, under departmental advisement
- Acctg 241, 242, 243, 321, 341, 342, 343
- 8 additional credits in upper-division accounting courses, under departmental advisement
- FMDS/Mgmt 255
- FMDS 330, 341
- Mgmt 271, 311, 360
- FMDS/Mgmt 482, 495

Combined Major — Economics/Political Science

100 credits

This major is available for students who have a strong interest in both of these disciplines and whose career interests might be furthered by this integration; for example, in economic careers in government and the legal profession. This major is also available to political science students and is cross-listed in that part of this catalog devoted to the political science curriculum.

- Econ 203, 204, 301, 302, 303, 311
- Econ 271 or Math 341 or FMDS/Mgmt 255
- Econ 410 or 415
- Econ 442 or 485
- 12 additional credits in upper-division economics courses, under departmental advisement
- Pol Sci 250, 270 or 291, 360, 365, 427
- Econ/Pol Sci 491
- A minimum of one course from three of these areas: Pol Sci 320; Pol Sci 345 or 346; Pol Sci 420 or 467; Pol Sci 425 or 426; Pol Sci 463 or 465; Pol Sci 470; Pol Sci 490

- 8-13 additional credits in upper-division political science electives, to complete the total required 100 credits of this program

BACHELOR OF ARTS IN EDUCATION — Elementary or Secondary Education

Major 50 credits

Adviser: Dr. David M. Nelson

- Econ 203, 204, 271, 301, 302, 303, 311
- FMDS/Mgmt 255
- A minimum of 12 credits from the following main field courses: Econ 325 or 425; Econ 381 or 385; Econ 410 or 415; Econ 462 or 463; Econ 480 or 482
- Electives in economics under departmental advisement, to complete the required 50 credits of the major

Students in elementary education must also complete the elementary professional sequence described elsewhere in this catalog.

Students in secondary education must also complete the specific program requirements for social studies education, including the social studies minor, as outlined in the College of Arts and Sciences Interdisciplinary Program section. Completion of this major/minor program leads to a teaching endorsement in economics and in social studies for grades 4-12.

PREREQUISITES

Prerequisites for a particular course indicate its level of analysis and tool requirements. The exceptional student who has already acquired these skills elsewhere, or can readily acquire them, must secure special permission for enrolment from the instructor.

COURSES IN ECONOMICS

Courses numbered X37; X97; 300, 400, 417; 445 are described on page 38 of this catalog.

- 203 **INTRODUCTION TO MICRO-ECONOMICS (4)**
An overview of the modern market economy as a system for dealing with the problem of scarcity. Operation and decision-making of economic units, various competitive conditions; supply, demand, resource allocation, shortages, controls, social costs and social benefits.
- 204 **INTRODUCTION TO MACRO-ECONOMICS (4)**
Prereq: Econ 203. An overview of the modern market economy as a system for dealing with the problem of scarcity. The analysis of relationships among such variables as national income, employment, inflation, consumer expenditure and the quantity of money. The roles of government expenditure, taxation and monetary policy.
- 205 **ISSUES IN ECONOMICS (4)**
Prereq: Econ 203 and 204 or permission of instructor. Tools and concepts of micro- and macro-economics applied to some of the major policy issues of today.
- 271 **QUANTITATIVE METHODS (4)**
Prereq: Econ 203 and 204, Math 103 or equivalent. Enrollment restricted to economics majors, or with permission of instructor. Introduction to selected basic mathematical techniques necessary for the study of economics. The emphasis is conceptual and applications oriented. Topics covered will include single variable and multivariate calculus, differentials and elements of matrix algebra as used in economic analysis.
- 301 **INTERMEDIATE MACRO-ECONOMICS (4)**
Prereq: Econ 204 and 311. Examination of the factors that determine the level of income, employment, output and prices in an economic system. Review and analysis of recent U.S. economic policy and performance.
- 302 **INTERMEDIATE MICRO-ECONOMICS (4)**
Prereq: Econ 203 and 271. An analytical approach to the consumer and the firm, the development of market demand and supply schedules; the theory of pricing under conditions of perfect and imperfect market structure; the theory of factor markets.
- 303 **THE HISTORY OF ECONOMIC THOUGHT (4)**
Prereq: Econ 203 and 204. Development of economic thought from the Greek philosophers to the present. Emphasis is on the micro, macro and critical traditions in economics following Adam Smith.
- 311 **MONEY AND BANKING (4)**
Prereq: Econ 204. The nature and functions of money and the role of commercial and central banks in affecting the supply of money and credit in the U.S. Considers the changing U.S. financial environment and the influence of monetary policy on interest rates, prices and the overall level of economic activity.
- 325 **ECONOMICS OF LABOR (5)**
Prereq: Econ 203, 204. Economics of the labor market: development and functioning of labor unions and collective bargaining.
- 381 **AMERICAN ECONOMIC HISTORY (5)**
Prereq: Econ 203 and 204. American economic development from 17th century to present. Emphasis on resource endowment, social and economic conditions and institutions, growth and development processes, and the role of government.
- 383 **ENVIRONMENTAL ECONOMICS (4)**
Prereq: Econ 203. Open only to majors in economics and Huxley College, or with permission of instructor. Economic analysis of environmental quality as a public good. Theory of economic efficiency, the "optimal amount" of pollution; welfare criteria for resource allocation. Implications of the no-growth economy.
- 385 **THE ECONOMIC HISTORY OF EUROPE: 800-1800 (4)**
Prereq: Econ 203 or 204. Development of European economies and their economic institutions. Emphasis on the evolution of the major market economies and their most characteristic features.
- 386 **COMPARATIVE INDUSTRIALIZATION: 19th CENTURY (4)**
Prereq: Econ 203 or 204. Analysis of the forces, patterns and repercussions of industrialization in several major Western economies.
- 387 **THE ECONOMICS OF ENERGY (4)**
Prereq: Econ 203. The role of energy in the modern economy and the key aspects of energy supply and demand. Of special interest are the areas of energy shortages substitutes, price shifts, and their implications for domestic economic policy, living standards and international trade and finance.

Economics

- 401 **ADVANCED MACRO-ECONOMICS (4)**
Prereq: Econ 301; FMDS/Mgmt 255 or Math 341 recommended. Examination of current issues in macro-economic theory and policy. Emphasis on recent U.S. experience, with particular attention given to inflation, unemployment and the balance of payments. Includes selective reading in current professional journals.
- 402 **ADVANCED MICRO-ECONOMICS (4)**
Prereq: Econ 302 and 271 or equivalent, FMDS/Mgmt 255 or Math 341 and/or Econ 475 recommended. Application of quantitative and theoretical tools in key areas of microeconomics, with emphasis on quantitative models of the consumer, cost and production analysis of the firm, and market analysis. Special topics may include welfare economics and the theory of interest, capital and natural resources.
- 406 **ECONOMIC RESEARCH (3)**
Prereq: Econ 301, 302 or 409, and Math 341, Econ 475 recommended. Research methods and methodology with emphasis on those tools needed to develop and complete research projects. S/U grading.
- 407 **SENIOR RESEARCH SEMINAR (4)**
Prereq: Econ 406. Research and presentation of an extended paper on an individually chosen topic with guidance given by instructor.
- 409 **MANAGERIAL ECONOMICS (4)**
Prereq: Econ 203, Acctg 243; and FMDS/Mgmt 255, or Econ 271 and Math 341. Application of economic principles to the decision-making process. Demand, costs and market structure and their relation to pricing, product choice, capacity and profit level decision making.
- 410 **PUBLIC FINANCE (4)**
Prereq: Econ 204. The efficiency, equity and stabilization impacts of public expenditure and revenue programs; emphasis on problems and institutions at the national level.
- 412 **BUSINESS FLUCTUATIONS AND FORECASTING (4)**
Prereq: Econ 301, and Math 341 or FMDS/Mgmt 255. Characteristics and major explanations of the prosperity-depression cycle in business, with major emphasis on forecasting. Offered irregularly.
- 415 **STATE AND LOCAL PUBLIC FINANCE PROBLEMS (4)**
Prereq: Econ 204. Exploration of the economic role of state and local government in a market economy and consideration of current issues in state and local government finance. Financial management techniques for state and local government are presented.
- 425 **LABOR MOVEMENTS IN THE UNITED STATES (3)**
Prereq: Econ 203 or 204. Development of labor movements in the United States from 1800.
- 442 **INDUSTRIAL ORGANIZATION AND PUBLIC POLICY (4)**
Prereq: Econ 302 or 409. The relation of market structure to performance. Particular attention paid to monopoly, oligopoly, workable competition, and public policy, including anti-trust policy and the costs and benefits of regulation. Offered irregularly.
- 446 **ECONOMICS FOR THE TEACHER (3)**
Prereq: teaching experience or current enrollment in teacher education program. Presentation of basic economic concepts and information on the operation of the American economy, and methods of economic education in grades K-12. Emphasis on selection, evaluation and use of audiovisual materials, games, simulations and other teaching aids.
- 447 **METHODS FOR TEACHING ABOUT THE NATIONAL ECONOMY IN THE PUBLIC SCHOOLS (3)**
Prereq: Econ 203 or 446, plus teaching experience or current enrollment in a teacher education program. Forces affecting the overall levels of output, employment and prices in the U.S. economy. The economic effects of government policies involving taxes, spending and the money supply. Special consideration is given to the development of classroom teaching strategies involving the use of games, simulations and audiovisual aids.
- 462 **INTERNATIONAL TRADE (4)**
Prereq: Econ 302 or 409. Theory of international trade and its implications for economic growth and development. Analysis of commercial policies between nations, involving the movement of commodities and factors of production. Included are issues of protectionism, economic integration and the proposals for a New International Economic Order.

463 INTERNATIONAL FINANCE (4)

Prereq: Econ 311; Econ 301 recommended. Balance of payments, adjustment mechanisms and the international monetary system. Other topics include foreign-exchange markets, international capital markets, foreign-exchange exposure and management of foreign-exchange risk



475 ECONOMETRICS (4)

Prereq: Econ 203, 204, Math 341 or FMDS/Mgmt 255. Simple and multiple regression analysis, methods and problems of single equation and simultaneous equation estimation.

480 URBAN ECONOMICS (4)

Prereq: Econ 203. Economic forces behind urbanization. Economic analysis of urban problems, including land use, transportation and environment. Urban public finance; welfare economics and efficient resource allocation.

482 REGIONAL ECONOMICS (4)

Prereq: Econ 203 or 204. Problems, resource endowment, and principal policy issues related to economic growth of a region.

483 RESOURCE ECONOMICS (4)

Prereq: Econ 203, Econ 271 or Math 124. Open only to majors in economics and Huxley College, or permission of instructor. Theories for the efficient allocation of natural resources over time. Benefit-cost analysis as a criterion for public choice. Effects of property rights; distributional considerations, social cost.

485 COMPARATIVE ECONOMIC SYSTEMS (4)

Prereq: Econ 203 or 204. A comparative analysis of the major economic systems; a critical appraisal of underlying philosophies, structures and individual performance.

486 ECONOMIC DEVELOPMENT (4)

Prereq: Econ 203 or 204. Causes and conditions characterizing the process of economic development. An evaluation of alternative approaches toward development policies.

490 INTERNSHIP IN ECONOMICS (4-10)

Prereq: eligibility outlined in departmental internship policy statement. S/U grading.

491 ISSUES IN POLITICAL ECONOMY (4)

Prereq: senior standing in the economics/political science combined major, or an economics major and political science minor, or permission of instructor. Discussion and analysis of selected issues of significant economic and political content. Also offered as Pol Sci 491.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog. These courses are offered irregularly in conjunction with the MBA Program. See the Graduate School section in front of this catalog for a description of the MBA program.

510 SEMINAR IN PUBLIC ECONOMICS (4)

Prereq: written permission of instructor. An analysis of the behavior of the public sector and the incidence of its attempts to achieve allocation, distribution and stabilization goals.

511 SEMINAR IN FINANCIAL INSTITUTIONS AND MONEY (4)

Prereq: written permission of instructor. The monetary and financial system. Relation of economic theory to monetary policy and economic activity.

525 SEMINAR IN LABOR ECONOMICS (4)

Prereq: written permission of instructor. Selected topics in the economics of labor markets and the process of collective bargaining.

561 SEMINAR IN INTERNATIONAL ECONOMICS (4)

Prereq: written permission of instructor. Detailed analysis of the pure and monetary theories of international trade and their relevance to the modern world.

582 SEMINAR IN REGIONAL ECONOMICS (4)

Prereq: written permission of instructor. Case studies in regional social accounting, growth and stability, intra- and interregional relations, concepts and criteria of regional planning.

Finance, Marketing and Decision Sciences

Principal fields of academic study represented in the department are those of finance, marketing, and management information and decision support systems. The department also provides course work in business policy, business and society, international business, real estate, insurance and quantitative methods.

PROGRAM

Development of the department's curriculum has been guided by the standards of the American Assembly of Collegiate Schools of Business. The department provides instruction in academic disciplines which are part of the common body of knowledge in business administration. In addition to offering required foundation and core courses, the department offers electives in upper-division courses which permit students to concentrate in finance, marketing, management information/decision support systems and international business. The department also actively supports professional development programs which meet the educational needs of the regional business and professional community.

THE CURRICULUM

Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements and the business administration major foundation courses. Several foundation courses may also satisfy General University Requirements, and careful planning may save time for additional elective coursework. Electives which emphasize oral and written communication skills are particularly recom-

mended. The junior and senior years are primarily devoted to business administration core requirements and concentrations.

STUDENT ADVISING

For answers to routine questions students should consult this catalog and the department's "Planning Guide." Upon acceptance as a declared major, a faculty adviser will be assigned.

FINANCE, MARKETING AND DECISION SCIENCES FACULTY

- ROBERT C. MEIER (1978) Chair.
Professor. BS, Indiana University; MA, PhD, University of Minnesota.
- EARL D. BENSON (1980) Professor. BS, University of Idaho; MA, Pennsylvania State University; PhD, University of Oregon.
- WENDY J. BRYCE (1986) Assistant Professor. BA in Psychology, Tufts University; MBA, Cornell University.
- DAVID R. FEWINGS (1985) Associate Professor. BSc, University of Manitoba; MBA PhD, University of Toronto.
- L. FLOYD LEWIS (1983) Assistant Professor. BA, California State University, Sacramento; MS, San Jose State University; PhD, University of Louisville.
- JOHN S. MOORE (1970) Associate Professor. BS, University of North Dakota; MSBus, JDLaw, University of Colorado; CPA, State of Colorado; PhD, University of Washington.
- THOMAS J. OLNEY (1986) Assistant Professor. AB in Economics, Cornell University; MBA Columbia University.
- ROBIN E. RIECK (1981) Assistant Professor. BA, MBA, PhD, University of Washington.
- DAVID S. RYSTROM (1983) Assistant Professor. BS, UCLA; MS, California State University, Northridge; PhD, University of Oregon.
- FARROKH SAFAVI (1969) Professor. BA in Journalism, BS in Economics, MBA, University of Teheran; MEA, DBA, University of Southern California.

DECLARATION OF MAJOR

To be eligible to declare a major in business administration, a student (1) must have earned at least 75 credits and (2) must have completed the following foundation courses (or equivalent courses) with a grade point average at or above 2.75.

- Acctg 241, 242, 243
- Econ 203, 204
- FMDS or Mgmt 255
- Mgmt 271
- Math 156

Declaration should be accomplished as early as possible since acceptance as a major provides priority access to upper-division classes. Applications may be submitted during a "declaration period" each quarter. Transfer students may be considered for admission prior to enrollment at WWU.

ENROLLMENT PRIORITIES

Because of high student demand for business administration program courses, the department must give enrollment priority to students for whom those courses are requirements rather than elective. Priority is given to majors in the College of Business and Economics and other declared majors for whom the classes are required.

BACHELOR OF ARTS

Major — Business Administration, Finance, Marketing and Decision Sciences 90 credits

- Foundation Courses (32 credits): Math 156; Acctg 241, 242, 243; Econ 203, 204; Mgmt/FMDS 255; Mgmt 271
- Core Courses (40 credits): Econ 409; Mgmt 311, 312, 360; FMDS

308, 330, 341, 357; Mgmt/FMDS 482, 495*

- Concentration Courses (18 credits): Students must select one of the concentrations listed below:
 - Finance: FMDS 441, 442, 444, 448 or 449, plus 2 credits under advisement
 - Marketing: FMDS 433; three courses from FMDS 430, 431, 432, 434, 435; plus 2 credits under advisement
 - Management Information Systems/Decision Support Systems: FMDS 409, 410, 414, plus 6 credits under advisement
 - International Business: FMDS 480, 483; Econ 462 or 463; plus 7 credits under advisement
 - General: 18 credits under advisement

Combined Major — Business Administration/Computer Science 94 credits

- Acctg 241, 242, 243
- Mgmt 271, 311, 312, 360
- FMDS 330, 341
- Mgmt/FMDS 255, 482, 495*
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471
- Econ 203, 204, 409
- Math 156

Minor — Business Administration 40 credits

- Acctg 241, 242
- Mgmt/FMDS 255
- Mgmt 271, 311
- FMDS 330, 341
- Econ 203, 204
- Math 156

*May substitute Mgmt 491 and 492 in lieu of Mgmt/FMDS 495.

COURSES IN FINANCE, MARKETING AND DECISION SCIENCES

Courses numbered X37, X97: 300, 400, 417; 445 are described on page 38 of this catalog.

- 215 **PERSONAL FINANCE (3)**
Sources of personal income, saving and consumer spending patterns. Development of techniques for planning and budgeting consumption expenditures and saving, with special emphasis on the use of saving allocations to achieve personal goals: real property, insurance, financial investment, retirement, estate and tax planning.
- 216 **PERSONAL INVESTMENTS (3)**
(Not open to CBE majors.) Description of securities markets and trading of stocks and bonds. Characteristics of other investments including options, convertible securities, mutual funds and tangible investments. Investment risk and portfolio management.
- 255 **BUSINESS STATISTICS (4)**
Prereq: Math 156 or equivalent. Statistical methods used in business research, analysis and decision-making; preparation and presentation of data, frequency distributions, measures of central tendency and dispersion, statistical inference, regression and correlation. (Also offered as Mgmt 255.)
- 308 **MANAGEMENT INFORMATION SYSTEMS (4)**
Structure of management information systems. Application of computers to management information systems in private and public organizations.
- 330 **PRINCIPLES OF MARKETING (4)**
Prereq: Mgmt 271, Econ 203. Institutions, functions, problems and policies in the distribution of industrial and consumer goods: pricing, costs and governmental regulations.
- 341 **PRINCIPLES OF FINANCE (4)**
Prereq: Acctg 242, Mgmt/FMDS 255. Structure and operation of financial management: problems of internal financial analysis, planning and control, capital structure and investment decisions, valuation, dividend policy, mergers, acquisitions.
- 346 **RISK AND INSURANCE (3)**
Personal and organizational risk and the means by which such risk may be minimized, transferred or otherwise managed to avoid serious financial loss.
- 348 **ENGINEERING ECONOMY (4)**
Prereq: junior standing in engineering technology. (Not open to CBE majors.) Methods for evaluating benefits from proposed engineering ventures in relation to costs associated with the undertaking. Problems, such as the economic selection of equipment and economic justification of projects.
- 357 **APPLIED BUSINESS STATISTICS (4)**
Prereq: Mgmt/FMDS 255. Applications of business statistics to research, analysis, and decision making in business. Regression, correlation, analysis of variance, and non-parametric tests with emphasis on the use of business-oriented computer statistical packages.
- 409 **ADVANCED MANAGEMENT INFORMATION SYSTEMS (4)**
Prereq: FMDS 308. Analysis and design of management information systems and decision support systems. Relationship of MIS to the functional subsystems of the firm. Case studies and group projects will be emphasized.
- 410 **EXPERT SYSTEMS IN BUSINESS (4)**
Prereq: FMDS 308. Use of artificial intelligence concepts in the development of systems for expert decision making with application to business problems. Review and use of selected commercial expert systems software packages.
- 413 **TOPICS IN MANAGEMENT INFORMATION SYSTEMS (2-4)**
Prereq: FMDS 308. Varying topics in management information systems such as use of commercial information utilities, data communications systems, business graphics, and office automation. May be repeated with different topics to a maximum of 12 credits.
- 414 **APPLIED DECISION SCIENCE (4)**
Prereq: FMDS 308. Application of quantitative techniques to the solution of decision problems in organizations. Emphasis on the use of computer tools such as spread-sheet programs and linear programming.
- 430 **MARKETING RESEARCH (4)**
Prereq: FMDS 330, 357. Marketing problems posed by executive decision; techniques applicable to product selection, advertising and motivation research; research methodology; research design and decision models in marketing; individual research projects.

431 ADVERTISING AND PROMOTION (4)

Prereq: FMDS 330. Promotional objectives and strategies of the firm; organization of advertising function; media selection and evaluation; psychological aspects; new developments such as use of computer and mathematical models.

432 SALES MANAGEMENT (4)

Prereq: FMDS 330. Nature of personal selling with emphasis on industrial sales effort and management of sales personnel.

433 MARKETING MANAGEMENT (4)

Prereq: FMDS 330. (FMDS 430 recommended). Objectives, strategies and organization of marketing departments in large and medium-sized firms. Emphasis upon operating, control and evaluation.

434 MANAGEMENT OF DISTRIBUTION SYSTEMS (4)

Prereq: FMDS 330. Analysis of organizational structure, operations and management of wholesale, retail and other intermediaries in the channels of distribution.



Finance, Marketing & Decision Sciences

- 435 **CONSUMER BEHAVIOR (4)**
Prereq: FMDS 330. (FMDS 430 recommended). Relevance of customer behavior in household and organizational markets for marketing management planning and analysis; the consumer decision-making process and its implications for marketing mix variables.
- 441 **INTERMEDIATE FINANCIAL MANAGEMENT (4)**
Prereq: FMDS 341. An integrated approach to financial management including study of intermediate-level financial theory and its application to financial decision making under uncertainty.
- 442 **INVESTMENTS (4)**
Prereq: FMDS 341. Operation of securities markets and investment risk and return. Analysis of security characteristics and the issues of portfolio selection and management.
- 444 **FINANCIAL INSTITUTIONS AND MARKETS (4)**
Prereq: FMDS 341 or Econ 311. Structure and functions of the money and capital markets; the saving investment process and financial intermediaries; supply and demand for loanable funds and the level and structure of interest rates.
- 446 **OPTIONS AND FUTURES MARKETS (4)**
Prereq: FMDS 442. Advanced study of option strategies, option pricing models and efficiency of options markets. Description of futures markets hedging theory and practice. Emphasis on role of options and futures in management of risk.
- 448 **INVESTMENT ANALYSIS AND MANAGEMENT (4)**
Prereq: FMDS 442. Advanced study of recent developments in financial theory and presentation of empirical evidence relative to the determination of investment value of financial assets. Emphasis on management of investment portfolios in efficient markets. Special topics of current interest.
- 449 **CASES IN FINANCIAL MANAGEMENT (4)**
Prereq: FMDS 441. Case studies are utilized to develop insight and provide experience in the application of financial theory and practice to such decision-making areas as working capital management, capital budgeting, capital structure determination and dividend policy.
- 480 **INTERNATIONAL BUSINESS (4)**
Prereq: FMDS 330, 341, or permission of instructor. Special problems and issues which arise in the conduct of international business.
- 482 **BUSINESS, GOVERNMENT AND SOCIETY (4)**
Prereq: Mgmt 271 and senior standing. A study of the business decision-making process as these decisions interact with the social, technological, political/legal and economic environments. The course will develop the causes and the effects of regulation of business. (Also offered as Mgmt 482.)
- 483 **INTERNATIONAL TRADE OPERATIONS (3)**
Prereq: FMDS 480, or permission of instructor. Operations of firms seeking to serve foreign markets from domestic sources. Emphasis on import/export activities and marketing, financial and organizational decisions to support these activities.
- 485 **REAL ESTATE (4)**
Prereq: Mgmt 271, 341. Real estate law; government regulation of real estate use; development, marketing and financing of commercial and residential real estate.
- 486 **COMMERCIAL REAL ESTATE INVESTMENT (4)**
Prereq: FMDS 485. Investment strategy, selection, financing, appraisal of income properties such as rentals, apartments, condos, office buildings, shopping centers and other secure purpose real estate.
- 490 **INTERNSHIP IN BUSINESS ADMINISTRATION (1-4)**
Prereq: business administration majors only. Practical application of skills and theories learned in the classroom through work or special project; experience in private or public organizations. May be repeated for a maximum of 12 credits. (Also offered as Mgmt 490.)
- 495 **BUSINESS POLICY (4)**
Prereq: Mgmt 311, 360, FMDS 308, 330, 341. Case study of policy making and administration from a general management point of view. Emphasis on problem analysis, the decision-making process, administration and control, and development of policies and objectives. (Also offered as Mgmt 495.)

Management

The curriculum of the Department of Management reflects the broad and dynamic nature of the field of management. Management is not a narrowly defined specialization but rather it is a pervasive body of knowledge essential to the effective and efficient operation of every organization. The field is still growing and changing in the total environment within which organizations must operate.

PROGRAM OBJECTIVES

The development of the curricula in the Department of Management has been guided by the standards of the American Assembly of Collegiate Schools of Business and those of the Academy of Management. These standards stress a broad education preparing students for managerial roles in business and leadership roles in society.

The department educational objectives are:

1. To develop competence in analysis, decision making and evaluation in both public and private organizations.
2. To develop and enrich interpersonal skills.
3. To create an understanding of the social, economic and civic environment within which organizations function.
4. To provide access to the technical skills necessary in each of the major functional areas of organizations with specific emphasis on the core elements of people and production.
5. To enhance educational opportunity through the theoretical and applied research and business consulting activities of its faculty and students.
6. To encourage intellectual inquiry into the lessons and skills of the past and present so as to

be able to select and direct the future.

NOTE: This catalog reflects the addition of the office administration major to the curricular offerings of the Department of Management.

THE CURRICULUM

Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements and foundation courses in the major. Several foundation courses may also satisfy General University Requirements, and careful planning may save time for additional elective coursework. Electives which emphasize oral and written communication skills are particularly recommended. The junior and senior years are primarily devoted to core requirements and elective coursework.

STUDENT ADVISING

For answers to routine questions, students should consult this catalog and the department's "Planning Guide." For non-routine questions, inquiry should be made in the departmental office for referral to an appropriate faculty member. Upon acceptance as a declared major, a faculty adviser will be assigned.

MANAGEMENT FACULTY

- BRUCE D. WONDER (1981) Chair.
Associate Professor. BS, University of California; MS, San Francisco State University; PhD, University of Washington.
- JOSEPH E. GARCIA (1985) Assistant Professor.
BA, State University of New York College at Corland; MA, Western Washington State College; PhD, University of Utah.

Management

PETER HAUG (1986) Assistant Professor. BA, State University of New York at Fredonia; MA, University of Maine; MBA, College of William & Mary; MPhil, University of Edinburgh; ABD, PhD, University of Washington.

KENNETH S. KELEMAN (1977) Associate Professor. BA, MA, San Diego State University; PhD, University of Utah.

EUGENE OWENS (1975) Professor. BA, University of Arizona; MS, Purdue University; MS, George Washington University; PhD, University of California, Los Angeles.

LOISE PETERSEN (1974) Associate Professor. BA, Wartburg College; MEd, Oregon State University; EdD, University of North Dakota.

E. LEROY PLUMLEE (1976) Professor. BBA, Texas Tech University; MS, Northern Illinois University; PhD, Texas Tech University.

HUBERT N. THORESON (1971) Associate Professor. BS, Valley City State College; MEd, EdD, University of North Dakota.

Note: Dr. Thoreson is the Director of the Business Education Program described elsewhere in the College of Business and Economics section of this catalog.

DECLARATION OF MAJOR

To be eligible to declare a major in business administration (management), a student (1) must have earned at least 75 credits, and (2) must have completed the following foundation courses (or equivalent courses) with a grade point average at or above 2.75.

- Acctg 241, 242, 243
- Econ 203, 204
- FMDS/Mgmt 255
- Mgmt 271
- Math 156

Declaration should be accomplished as early as possible since acceptance as a major provides priority access to upper-division classes. Applications may be submitted during a "declaration period" each quarter. Transfer students may be considered for admission prior to enrollment at WWU.

To be eligible to declare an office administration major, a student must have completed at least 75 credits and have met the departmental grade point requirement. Students who do

not yet satisfy requirements for acceptance as majors are urged to declare a pre-major and to seek early advisement from the program adviser.

ENROLLMENT PRIORITIES

Because of high student demand for management and office administration courses, the department must give enrollment priority to students for whom those courses are requirements rather than electives. Priority is given to majors in the College of Business and Economics and other declared majors for whom the classes are required.

BACHELOR OF ARTS

Major — Business

Administration (Management)

90 credits

- Foundation Courses (32 credits):
Acctg 241, 242, 243
Econ 203, 204
FMDS/Mgmt 255
Mgmt 271
Math 156
- Core Courses (42 credits):
Econ 409
FMDS 308, 330, 341
Mgmt 311, 312, 322, 360
Mgmt 356, Mgmt/FMDS 482, 495*
- Elective Courses (16 credits):
A minimum of 16 hours of approved upper-division elective courses are required to complete the major. A student may wish to concentrate these electives. Faculty recommended concentrations are listed below.

*Students may elect Mgmt 491 and 492 in lieu of Mgmt/FMDS 495.

Concentrations: Business Administration (Management)

General

- A combination of elective courses totaling a minimum of 16 credits selected by the student and approved by the faculty adviser to meet specific goals.

Production/Operations Management

- Mgmt 468; and three courses from Mgmt 365, 460, 463, 467, 469; and Acctg 331
- Elect one from Tech 327, 328, 420, 423 in lieu of Mgmt elective

Human Resources Management

- Select four courses from Mgmt 401, 423, 424, 425, 426, 427

Entrepreneurial Management

- Elect Mgmt 491 and 492 in lieu of Mgmt/FMDS 495
- Select four electives from Mgmt 365, 401, 425, 460; FMDS 431, 432, 485

Organization Development

- Mgmt 404, 405 and 406, and select two from Mgmt 401, 402, 407, 424

Minor — Business Administration (Management)

40 credits

- Acctg 241, 242
- Econ 203, 204
- FMDS 330, 341
- Mgmt 271, 311
- Mgmt/FMDS 255
- Math 156

BACHELOR OF SCIENCE

Major — Office Administration 104 credits

- Off Admin 215, 222, 224, 241, 242, 301, 310, 410, 412
- Acctg 241, 242, 243
- FMDS/Mgmt 255, 482

- Mgmt 271, 311, 312, 322
- Math 156
- Econ 203, 204, 409
- FMDS 308, 330, 341
- Electives: 8 credits under departmental advisement

The office administration program prepares students to assume responsible supervisory and management positions in offices in business, industry and government. A knowledge of the concepts of office organization, systems design and management and the changing trends in office operations as well as the qualifications for the requirements of office workers are included in the course work for this major.

Minor — Office Administration

25 credits

- Off Admin 215, 242
- Additional courses selected under departmental advisement

COURSES IN MANAGEMENT

Courses numbered X37; X97: 300, 400, 417: 445 are described on page 38 of this catalog.

- 201 INTRODUCTION TO BUSINESS (4)
A survey of the field particularly directed to the needs of students majoring in office administration and business education. Recommended for students not intending to specialize in the fields of business economics.
- 255 BUSINESS STATISTICS (4)
Prereq: Math 156 or equivalent. Statistical methods used in business research, analysis and decision-making; preparation and presentation of data, frequency distributions, measures of central tendency and dispersion, statistical inference, regression and correlation. Also offered as FMDS 255.
- 271 LAW AND THE BUSINESS ENVIRONMENT (4)
Historical development of legal institutions, the judicial process, and impact of the law upon individual and business decision making.

Management

- 285 REAL ESTATE I (4)
Prereq: Mgmt 271 or equivalent. Real estate law; government regulation of real estate use; development, marketing and financing of commercial and residential real estate.
- 311 INTRODUCTION TO MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (4)
Introduction to organization theory, behavior and interpersonal communication; concepts of power, authority and influence; the role of philosophy and values in organizations.
- 312 BEHAVIORAL PROCESSES FOR MANAGEMENT (4)
Prereq: Mgmt 311 and admission to major in the College of Business and Economics. Development of critical managerial skills at the individual, interpersonal and group levels.
- 322 HUMAN RESOURCE MANAGEMENT (4)
Prereq: Mgmt 271, 311. Recruitment, selection, utilization, and development of human resources, with emphasis on employee-management relations and relevant behavioral research.
- 356 QUANTITATIVE METHODS (2)
Prereq: Mgmt/FMDS 255. Quantitative methods used in research, analysis and decision making in business. Regression, anova, sampling, chi-square analysis and non-parametric statistics.
- 360 OPERATIONS MANAGEMENT (4)
Prereq: Mgmt/FMDS 255, Acctg 243. Fundamentals of operations management, including tools for analyzing, designing and controlling operating systems.
- 365 INDUSTRIAL PURCHASING (4)
Prereq: Mgmt 311, FMDS 330. The interaction of buyer and seller in the industrial environment. Problems met in purchasing by industrial organizations.
- 380 BUSINESS HISTORY OF THE UNITED STATES (4)
Prereq: Econ 203. Business history of the United States. Review and analysis of the organizational methods, performance, climate and entrepreneurship of American business from 1780 to the present.
- 401 ORGANIZATIONAL BEHAVIOR (4)
Prereq: Mgmt 311 and written permission of instructor. Individual and group behavior in organizations. Case problems and experiential learning exercises are utilized.
- 402 SEMINAR IN ORGANIZATIONAL THEORY (4)
Prereq: Mgmt 311. Current research: measuring organizational effectiveness, planning, leadership patterns, and current problems.
- 404 ORGANIZATIONAL DEVELOPMENT (4)
Prereq: Mgmt 311. Current research and application to planned organizational change and internal training techniques.
- 405 INTRODUCTION TO MANAGERIAL BEHAVIOR (2)
Prereq: Mgmt 311. Applied managerial techniques explored in a supervised environment.
- 406 ADVANCED MANAGERIAL BEHAVIOR (4)
Prereq: Mgmt 405. Under supervision, students will be responsible for design of and conduct of Mgmt 405 sessions. Comparison, analysis and critique of relative success of techniques explored.
- 407 ORGANIZATIONAL RESEARCH (4)
Prereq: Mgmt 322, 356. Organizational research related to management functions: evaluation models, measurement techniques, design, analysis and inference for management problems. The course involves problems cases and research projects with emphasis on human resource management.
- 408 GENDER RELATIONSHIPS IN ORGANIZATIONS (4)
Prereq: Mgmt 311. Expectations and conflicts of managers regarding the changing roles of men and women in organizations and management.
- 423 STAFFING (4)
Prereq: Mgmt 322. Recruiting and selection as related to organizational objectives. Legal requirements, selection models, validation, and topical issues of importance.
- 424 PERSONNEL TRAINING AND DEVELOPMENT (4)
Prereq: Mgmt 322. Training as related to organizational objectives. Training models, learning theory, evaluation methodologies, industrial instructional techniques and topics of special interest will be emphasized.

- 425 **INDUSTRIAL RELATIONS ADMINISTRATION (4)**
 Prereq: Mgmt 322. Cases, lectures, and collective bargaining simulation are used to develop administrative skill in dealing with union-management relations. Nature of unions, institutional forces conditioning collective bargaining practices, and administrative practices dealing with unions
- 426 **CURRENT ISSUES IN HUMAN RESOURCE MANAGEMENT (4)**
 Prereq: Mgmt 322. Current problems in policy and practice used in personnel and industrial relations administration.
- 427 **COMPENSATION ADMINISTRATION (4)**
 Prereq: Mgmt 311, 322. Examination of theories, models, and procedures required to develop compensation and reward systems in organizations. Economic, psychological and social elements of compensation. Determination of compensation structures and differentials, forms of compensation and reward, compensation levels
- 460 **OPERATIONS AND LOGISTICS SYSTEMS DESIGN (4)**
 Prereq: Mgmt 360, FMDS 308. Examination of the logistic systems and their integration in the design and capacity decisions of production systems. Detailed analysis of different manufacturing and service systems, project scheduling and quality control management.
- 463 **OPERATIONS PLANNING AND INVENTORY CONTROL SYSTEMS (4)**
 Prereq: Mgmt 360, FMDS 308. Study of the principles and techniques for forecasting, production planning, inventory management, material requirements planning (MRP), production activity scheduling and control, and capacity planning and control.
- 467 **BUSINESS SIMULATION (4)**
 Prereq: Mgmt 360. Introduction to simulation techniques as they apply to business and economics. Basic concepts, applications and problems associated with use of simulation.
- 468 **OPERATIONS POLICY AND STRATEGY (4)**
 Prereq: Mgmt 360, FMDS 308. Examination of current domestic and global topics in manufacturing and service operations and the analysis of case studies in production and operations management.
- 469 **FIELD STUDY IN OPERATIONS MANAGEMENT (4)**
 Prereq: Mgmt 360 and permission of instructor. Field-based study of theory applied to current operating problems.

- 482 **BUSINESS, GOVERNMENT AND SOCIETY (4)**
 Prereq: Mgmt 271 and senior standing. A study of the business decision-making process as these decisions interact with the social, technological, political/legal and economic environments. The course will develop the causes and the effects of regulation of business. Also offered as FMDS 482.
- 490 **INTERNSHIP IN BUSINESS ADMINISTRATION (1-4)**
 Prereq: business administration majors only. Practical application of skills and theories learned in the classroom through work or special project experience in private or public organizations. May be repeated for a maximum of 12 credits. Also offered as FMDS 490.
- 491 **SMALL BUSINESS ENTREPRENEURSHIP (4)**
 Prereq: Mgmt 311, 360, FMDS 308, 330, 341. Planning, marketing, financial, legal, control and human elements associated with the start up, acquisition and operation of a small business from the entrepreneurial point of view
- 492 **ENTREPRENEURIAL PROBLEMS (4)**
 Prereq: Mgmt 491 or concurrent with Mgmt 491. Field consulting work and study under faculty supervision with small business entrepreneurs in the local business community, directed towards solving varied real-life small business problems.
- 495 **BUSINESS POLICY (4)**
 Prereq: FMDS 308, 330, 341; Mgmt 311, 322, 360. Case study of policy making and administration from a general management point of view. Emphasis on problem analysis, the decision-making process, administration and control, and development of policies and objectives. Also offered as FMDS 495.

COURSES IN OFFICE ADMINISTRATION

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 215 **ADVANCED TYPEWRITING (4)**
 Prereq: Permission of instructor. Advanced keyboarding development with application to various communication tasks, such as rough drafts, tabulations, statistical reports, business and legal forms.

Management

222 ADVANCED SHORTHAND (4)

Prereq: Permission of instructor. Development of rapid, accurate writing and transcription abilities with emphasis on business vocabulary.

224 OFFICE PROCEDURES (3)

Prereq: Permission of instructor. Development of automated office concepts and procedures for performing administrative support functions.

241 BUSINESS MACHINES (3)

Development of proficiency in the operation of electronic business machines, with business mathematics applications

242 MACHINE TRANSCRIPTION (2)

Prereq: Permission of instructor. Development of nontranscription abilities for producing written communications from recorded media.

301 BUSINESS COMMUNICATIONS (4)

Prereq: Eng 101 or equivalent. Business writing principles applied to various types of communications and reports. Cases used, work must be submitted in acceptable business format.

310 RECORDS MANAGEMENT (4)

Organization and maintenance of records systems for hard copy, microimagery and electronic storage systems. Project approach is used.

410 INTEGRATED WORD PROCESSING SYSTEMS (4)

Prereq: keyboarding ability. Minimum of 35 wpm recommended. Study of word and information processing, applications, design and management of word/information processing systems. "Hands-on" experience on WP equipment. Lecture/lab format.

412 OFFICE ADMINISTRATION POLICY (4)

Prereq: Off Admin 310, Mgmt 311. Off Admin 224 and Mgmt 322 are recommended. General office administration including policy making and development of objectives. Use of cases for problem solving, decision making, planning and control of office functions.

490 INTERNSHIP IN OFFICE ADMINISTRATION (4-12)

Prereq: Off Admin 301, 310. Practical application in a field setting of theories learned in the classroom. Regularly scheduled seminars.



Master of Business Administration

PROGRAM PURPOSE

The Master of Business Administration (MBA) Program is a graduate business program that seeks to prepare students for responsible leadership positions in private, public and non-profit organizations. The purpose of the program is to provide broad training in the skills needed by the professional manager. The Western MBA Program is a rigorous, integrated program that focuses on quantitative, theoretical and analytical skills. It strives to provide a proper balance of theory and application essential for managerial excellence. The program is intended for both the active manager or technical supervisor as well as those looking for new opportunities at the mid-management level. Regardless of undergraduate education, the candidates will find a challenging program designed to meet their specific background and needs.

PROGRAM OF STUDY

Both a full-time and a part-time program of study are offered. The program is comprised of 15 to 18 four-credit courses. Students with a non-business/quantitative background are normally required to take all 18 courses. Students with an undergraduate record in business or economics may make application to waive certain foundation courses. The foundation consists of courses in accounting, management, quantitative skills, finance, economics and computer information systems. The balance of the program is comprised of advanced courses in some of the above areas and elective courses. All students are able to select at least four electives.

Classes are offered in the evening, and students attend four quarters a year. A new class is admitted for June

of each year. Some students may be able to have the first summer quarter classes waived and start the program in the fall. Part-time students take two courses per quarter and require nine consecutive quarters to complete the degree. Full-time students proceed at a pace of four courses per quarter and will normally complete their requirements in 14 months.

To apply for admission, send a completed official application form to the Graduate School along with an application fee, official transcripts, GMAT scores and a resume showing work experience. (Further information is provided in the Graduate School section of this catalog.)

PROGRAM REQUIREMENTS

- Knowledge Prerequisites: Normally an applicant to the program must have completed a college-level algebra and calculus course prior to entering the program. Well-developed communications skills are also important
- Foundation Courses (24 hours): MBA 501, 502, 504, 505, 506, 507
- Core Courses (28 hours): MBA 511, 531, 541, 551, 561, 581, 591
- Elective Courses (20 hours): One course from MBA 522, 523, 524. Four elective courses under advisement, selected from course work reserved exclusively for graduate students. No more than eight of these elective credit hours may be taken in a single field. (Additional electives will be required if more than three of the foundation courses are waived.)

A required comprehensive examination is given as part of MBA 591.

ACADEMIC PROBATION

The Graduate School requires that all graduate students maintain a 3.00 GPA (on a 4.0 scale) to be a candidate for a degree and to remain in good academic standing. Students in the MBA Program falling below this standard will automatically be placed on academic probation, and will be allowed a maximum of 16 quarter hours of course work to raise their cumulative GPA to 3.00 or better. If, after completing 16 additional quarter hours of credit, a student has failed to achieve good standing, that student will be excluded from the program.

In no case will a student be recommended for a master's degree without having achieved a 3.00 GPA or better.

MBA Courses

Admission to Graduate School or special permission required.

- 501 FINANCIAL ACCOUNTING AND REPORTING CONCEPTS (4)
Prereq: permission of the program director. Introduction to financial statements and the concepts, principles and theories of asset valuation and income determination underlying their preparation. Analysis and interpretation of financial statements in the perspective of the management decision-making process.
- 502 ECONOMIC ANALYSIS FOR BUSINESS (4)
Prereq: permission of program director. Examines the concepts of scarcity, opportunity cost, competitive market pricing, efficiency and the market system. In addition, the macroeconomic variables that constitute the environment of the firm such as the overall performance of the economy, money and the financial system, and monetary and fiscal policy operations will be discussed.
- 503 QUANTITATIVE METHODS I (4)
Prereq: permission of the program director. Provides students with an appreciation of the uses of quantitative methods in managerial decision-making. A heuristic approach to the essentials of linear algebra, linear programming, and the determination of minima and maxima as applied to appropriate profit, cost and production functions.
- 504 QUANTITATIVE METHODS II (4)
Prereq: permission of the graduate program director. Provides an understanding of some of the tools that enable a manager to analyze information, including data analysis, probability distributions, statistical inference and hypothesis testing, and multivariate regression analysis.
- 505 BUSINESS FINANCE (4)
Prereq: MBA 501, 502 and 504. Objectives, tools and techniques of finance from the viewpoint of the financial manager of a manufacturing firm. Focus is on corporate financial decisions encompassing investment, financing, dividends and working capital management, including an introduction to financial instruments and markets.
- 506 COMPUTER INFORMATION SYSTEMS (4)
Prereq: permission of the graduate program director. This class will present a review of the current state of computer-based information systems as they relate to the managerial functions. The emphasis in this class will be towards the computer user and computer applications for management purposes.
- 507 ORGANIZATIONAL BEHAVIOR (4)
Prereq: MBA 504. Techniques for the management of individual, group and intergroup behavior in organizations. Includes concepts and techniques for change, conflict resolutions and organizational development.
- 511 MANAGERIAL ACCOUNTING (4)
Prereq: MBA 501, 504. Conceptual approach to managerial accounting's role in an organization. Emphasis will be on the use of accounting information for management decision-making. Topics include accounting for planning and control purposes, behavioral implications associated with accounting informations, budgeting and various quantitative techniques available.
- 513 TAXATION AND MANAGEMENT DECISIONS (4)
Prereq: MBA 501, 511. Introduction to the various tax rules and regulations encountered by managers in operating a business. Cases and research problems are directed at emphasizing the importance of the role of taxation in management decisions.

515 SEMINAR IN MANAGERIAL ACCOUNTING AND CONTROL (4)

Prereq: MBA 511. Seminar/case study course. Focus on managerial accounting topics such as responsibility centers and transfer pricing; budgeting; and analysis of performance. Examines managerial accounting in international, service and not-for-profit entities.

522 PERSONNEL AND INDUSTRIAL RELATIONS (4)

Prereq: MBA 507. The determination, acquisition, development, utilization and maintenance of human resources by employment organizations. Covers employment planning, recruitment and selection, training and development, performance evaluation, and compensation administration, while giving special emphasis to labor-management relations.

523 LABOR/MANAGEMENT RELATIONS (4)

Prereq: MBA 507. Analysis of the managerial implications in collective bargaining, government regulation, arbitration/mediation between management and labor in the organization.

524 MANAGERIAL SKILLS (4)

Prereq: MBA 507. Interpersonal skill building in critical management areas including stress management, delegation, communication, power and influence, meetings and conflict management.

531 MARKETING MANAGEMENT (4)

Prereq: MBA 502, 504. Staffing, direction and coordination of organizational marketing activities. Development of new products and integration with current activities to meet evolving market needs includes sales and advertising in both national and international markets.

532 MARKETING STRATEGY (4)

Prereq: MBA 531. Integration of marketing principles with overall objectives of the organization. Concepts and analytical techniques facilitating marketing analysis and the development of strategic plans. Strategy formulation in product planning and development, distribution and promotion, marketing research, and consumer behavior.

538 INTERNATIONAL BUSINESS (4)

Prereq: MBA 502, 505, 531. Analysis of the special economic, marketing, financial and production considerations in the international marketplace.

541 MANAGERIAL FINANCE (4)

Prereq: MBA 502, 505. Theory and policy implications of financial decision-making. Emphasis on valuation, long-term financing and investment/merger decisions

542 EQUITY MARKETS AND PORTFOLIO ANALYSIS (4)

Prereq: MBA 505. An examination of investment risk and return, the operation of equity securities markets, equity valuation models, modern portfolio theory and portfolio management. Also, capital market efficiency, stock options and mutual funds are discussed.

544 FINANCIAL MARKET RATES AND INSTITUTIONS (4)

Prereq: MBA 505. Examination of financial institutions and the markets in which they operate. Emphasis on interest rate determinants, fixed income securities and the management of financial intermediaries. Current topics including financial futures and regulatory changes.

551 MANAGERIAL ECONOMICS (4)

Prereq: MBA 502, 504. Economic analysis provides the framework to consider the problems of resource allocations that confront managers in business, government and non-profit environments. Topics include consumer choice and demand for products, production and cost functions, alternative market structures and the profit criteria for long-run planning and investment decisions.

552 MACROECONOMIC THEORY AND POLICY (4)

Prereq: MBA 502. Examination of current issues in macroeconomic theory and policy. Emphasis on using macroeconomic theory to explain recent U.S. economic performance and the level of income, employment, prices and output in an economic system. Particular attention given to using and interpreting economic indicators for the U.S.

561 PRODUCTION MANAGEMENT (4)

Prereq: MBA 502, 504. Management of production activities from resource procurement through defined and controlled transformation to marketable products.

572 INFORMATION SYSTEM MANAGEMENT (4)

Prereq: MBA 506. Acquisition, organization, monitoring and control of information resources. Discussion of issues unique to development of information systems.

576 MANAGEMENT SCIENCE (4)

Prereq: MBA 504. Application of quantitative techniques to the analysis of decision problems in organization. Emphasis on the use of computer methods.

Business & Economics Teacher Prep

581 BUSINESS ENVIRONMENT (4)

Prereq: MBA 507, 531. Study of how business organizations interact with the social and political/legal environments. This course will develop the causes and effects of regulation of business and will explore the notion of "corporate social responsibility."

591 BUSINESS POLICY (4)

Study of administration and policy making from a top management viewpoint. Integrates the marketing, financial, production and functional fields of management within a strategic management framework. Case study and simulation techniques used. (MBA program comprehensive exam, in the form of an integrated case, will be a part of the course.) This course is normally taken in the last quarter of the program.

Business and Economics Teacher Preparation Programs

BUSINESS EDUCATION

The business education major satisfies all certification requirements for teaching business courses in Washington secondary schools.

Business education majors must maintain a 2.75 GPA in all course work taken at Western. The major may be declared after completion of 75 credits of work. Students are urged to confer with the program adviser upon enrolling at Western to assure satisfactory progression through the requirements of the major. The Bachelor of Arts in Education degree is awarded upon satisfactory completion of the program.

The Master of Education degree with a major in business education is also offered at Western.

BACHELOR OF ARTS IN EDUCATION

Major — Business Education

Secondary 97 credits

- Off Admin 215, 222, 224, 241, 242, 301, 310, 410, 412
- Bus Ed 319, 421, 422, 423, 450, 490
- Econ 203, 204, 409
- Mgmt 271, 311
- FMDS 308, 330, 341
- Acctg 241, 242, 243

The business education major must be accompanied by the professional studies program offered by the School of Education. See the School of Education section of the catalog for detailed information.

Minor — Business Education

25 credits

- Courses to be selected under departmental advisement.

ECONOMICS EDUCATION

Major — Elementary or Secondary Education

See Economics Department section of catalog for details.

GRADUATE STUDY

For the program in business education leading to the Master of Education degree, see Graduate section of the catalog.

COURSES IN BUSINESS EDUCATION

319 BUSINESS EDUCATION IN THE SECONDARY SCHOOL (3)

Prereq: junior standing. Curriculum planning with consideration of philosophy, scope and objectives.

421 METHODS OF TEACHING BOOKKEEPING AND BASIC BUSINESS SUBJECTS (4)

Prereq: Acctg 241, 242. Objectives, methods, materials and evaluation procedures for teaching in these areas.

**422 METHODS OF TEACHING
TYPEWRITING (4)**

Prereq: completion of advanced course in typewriting and departmental permission. Methods, materials and objectives involved in developing keyboarding ability, with emphasis on psychological principles of motor skill development.

**423 METHODS OF TEACHING SHORTHAND
AND TRANSCRIPTION (4)**

Prereq: completion of advanced shorthand and departmental permission. Preparation for teaching shorthand and transcription with emphasis on methodologies, objectives, materials, equipment, and micro-teaching.

**450 COORDINATION OF VOCATIONAL
PROGRAMS (3)**

Prereq: Bus Ed 319 or equivalent. Objectives, content and techniques applicable to administration of work-experience programs in vocational education.

**490 PRINCIPLES OF VOCATIONAL
EDUCATION (3)**

Prereq: Bus Ed 319 or a similar principles course in the major concentration. The historical and philosophical development of vocational education in the common schools in the U.S. The effect of vocational education philosophies and legislation upon school curricula. The treatment will cross disciplinary lines and meet state certification requirements.

**551 EVALUATION AND MEASUREMENT IN
BUSINESS EDUCATION (3)**

Prereq: graduate status and/or departmental permission. A study of the principles of evaluation methods, programs and test construction for business education subjects with statistical interpretation of test results.

**571 IMPROVEMENT OF INSTRUCTION IN
TYPEWRITING/KEYBOARDING (3)**

Prereq: graduate status and undergraduate major in business education and/or departmental permission. A study of methods, materials and principles underlying successful instruction in keyboarding at all levels. Identifying the contributions of research to teaching methodologies and research needed in the area.

**572 IMPROVEMENT OF INSTRUCTION IN
BOOKKEEPING AND ACCOUNTING (3)**

Prereq: graduate status and/or departmental permission. Approaches to teaching bookkeeping, recordkeeping and accounting on the secondary and post-secondary levels with emphasis on critical evaluation of methodology, course content and materials. Research studies and areas needing investigation will be examined.

**573 IMPROVEMENT OF INSTRUCTION IN
THE BASIC BUSINESS SUBJECTS (3)**

Prereq: graduate status and/or departmental permission. A study of current trends and research in the methodology of teaching and in the course content of business subjects. Consumer education issues will be an integral part of the course.

**575 IMPROVEMENT OF INSTRUCTION FOR
THE AUTOMATED OFFICE (3)**

Prereq: graduate standing and/or departmental permission. Curriculum planning for the electronic office, assessment of instructional hardware/software needs and evaluation methods for designing courses at the secondary and post-secondary school levels to meet demands for preparation to enter the electronic office environment.

595 RESEARCH SEMINAR (3)

Prereq: admission to the graduate program

690 THESIS (6)

Prereq: approval of student's graduate committee. Field project or a research study under the direction of a faculty committee. The field project or thesis may be done off-campus between periods of residence work.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

**503 PRINCIPLES AND PRACTICES IN
BUSINESS EDUCATION (3)**

Prereq: graduate status and teaching experience. Philosophies and role of business education at secondary and post-secondary levels will be examined, with focus on curriculum, course content and current trends.

**504 ORGANIZATION AND
ADMINISTRATION OF VOCATIONAL
PROGRAMS (3)**

Prereq: undergraduate major in vocational area or departmental permission. Principles of effective organization and administration of cooperative and other vocational programs. Philosophies, current practices, trends and research in the area will be analyzed.

SCHOOL OF EDUCATION

Dr. Lawrence W. Marrs, Dean

The School of Education is responsible for developing and implementing those professional education programs which lead to teacher certification, credentialing of school administrators, and professional training of leaders in Human Resources Development. It serves as a clearing house for the exchange of information and as a coordinating agency for programs at both the undergraduate and graduate levels. The Dean of the School of Education is responsible for coordinating programs which involve a wide variety of departments throughout the University. The School of Education faculty is comprised of those persons who teach professional education courses.

The Department of Educational Curriculum and Instruction is one of two major components of the School of Education and is responsible for developing and implementing teacher education programs which lead to Washington State Certification. The Department of Educational Curriculum and Instruction offers both undergraduate and graduate course work in elementary, secondary and special education.

The Department of Educational Administration and Foundations is comprised of those programs which extend and complement the experiences offered in teacher education programs. This department offers programs in Educational Administration, Foundations of Education, Educational Technology and Human Resources Development.

Professional Education Programs are developed and reviewed with the assistance of the Professional Education Advisory Board with representatives from cooperating school districts and professional associations.

All programs were under review/revi-

sion at the time this catalog was being prepared. Students should consult with an adviser in the appropriate area of the School of Education for more information regarding curricula, admissions requirements and other important factors. Current program office materials will be final in these matters.

Academic Programs Leading to Undergraduate and Graduate Degrees

See departmental listings for academic area

programs	BA/Ed, M/Ed
Special Education	BA/Ed, M/Ed
Human Services	BA
Education (various fields)	M/Ed
Graduate programs leading to certification in School Administration and to Educational Staff Associate Certification in School Counseling, Speech Pathology & Audiology, and School Psychology	M/Ed, MA
Reading Resource Specialist certificate related program	M/Ed

Teacher Certification Requirements

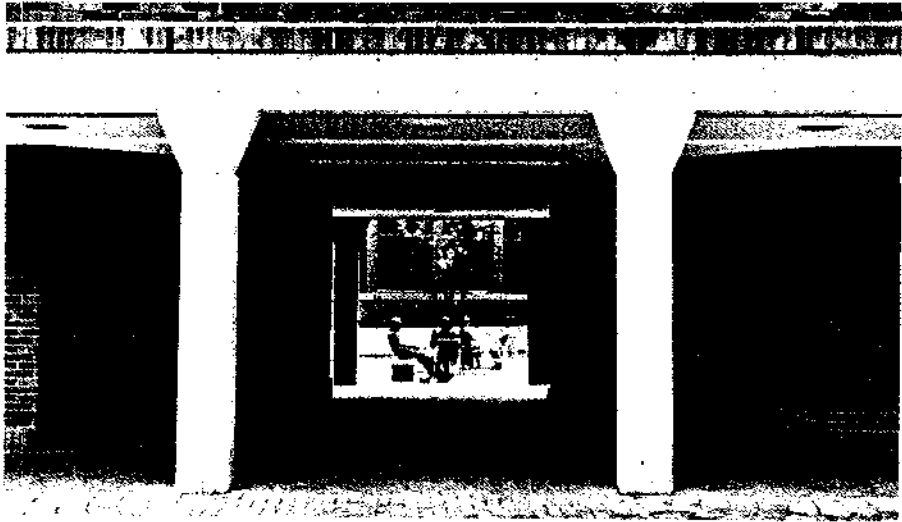
See the Department of Educational Curriculum and Instruction section of this catalog.

Department Chairs

Dr. John F. Utendale	Educational Administration & Foundations
Dr. Theodore A. Mork	Educational Curriculum & Instruction

Overview of the School of Education

- Administrative Services
- Certification Office



- Initial Teaching Certification
- Fifth-Year Standards
- Continuing Teaching Certification
- Principal Certification
- Center for Regional Services
- Field Services for Education

Educational Administration and Foundations

Chair: Dr. John F. Utendale

Programs Offered:

- Educational Foundations
- School Administration
- Human Resources Development
 - Human Services Education
- Instructional Technology
 - Computer Education
 - Library Sciences/Learning Resources

Educational Curriculum and Instruction

Chair: Dr. Theodore A. Mork

Programs Offered:

- Secondary Education
 - Secondary Education Endorsement
- Elementary Education
 - Elementary Education Endorsement
- K-12 Education
 - K-12 Education Endorsement
- Special Education

- Special Education (K-12) Endorsement
- Special Education (K-12) with Secondary Education Endorsement
- Special Education (K-12) with Elementary Education Endorsement
- Early Childhood Handicapped (P-3) Endorsement

Administrative Services:

- Admissions and Advisement
- Office of Student Teaching/Internship

Interdisciplinary Programs

The following programs are listed alphabetically in the Interdisciplinary section of the School of Education, following the department listings:

- Early Childhood Minor
- Reading Minor
- Learning Resources Minor (see Library Science in Department of Educational Administration and Foundations)

Graduate Programs in Education

The two departments of the School of Education offer master's degrees for students of exceptional abilities. For a complete description of the programs offered, see the Graduate School section of this catalog.

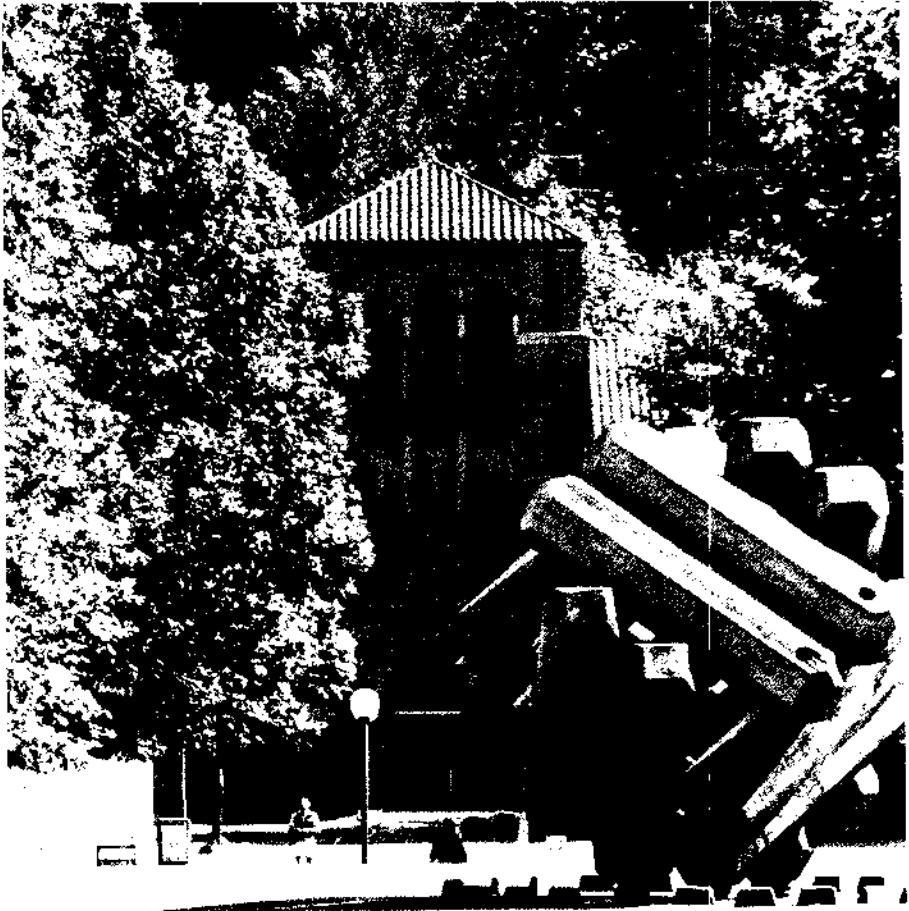
Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this catalog. For an exact scheduling of courses at Western, students should

consult the annual timetable of classes, the Summer Catalog and the University Extension bulletins.

The following programs are listed alphabetically in the "Interdisciplinary" section following the departments listings:

*Early Childhood
Reading*



Educational Administration & Foundations

EDUCATIONAL ADMINISTRATION & FOUNDATIONS FACULTY

- JOHN F. UTENDALE (1972) Chair, Associate Professor, BS, University of Alberta; MEd, Eastern Washington State College; EdD, Washington State University.
- THOMAS BILLINGS (1964) Professor, BS, PhD, University of Oregon.
- LESLIE BLACKWELL (1968) Associate Professor, BA, Washington State University; MEd, EdD, University of Washington.
- FLORA FENNIMORE (1969) Professor, BS, Mt. Angel College; MA, EdD, Washington State University.
- F. RICHARD FERINGER (1962) Associate Professor of Education, BS, University of Minnesota; EdD, University of California, Los Angeles.
- PAUL FORD (1970) Professor, AB, Dartmouth College; MEd, EdD, Harvard University.
- BURTON L. GROVER (1969) Associate Professor, BS, MA, PhD, University of Minnesota.
- ANTHONY JONGEJAN (1983) Assistant Professor, BA, Western Washington University; MS, Western Washington University and University of Oregon.
- LORRAINE KASPRISIN (1979) Associate Professor, BSEd, MA, The College of the City of New York; MPhil, PhD, Teachers College, Columbia University.
- SAMUEL P. KELLY (1965) Professor of Education and Dean of Graduate Affairs and Research, BA, BA in Ed, MEd, Western Washington State College; PhD, University of Chicago.
- ROBERT H. KIM (1971) Professor of Education/Ethnic Studies, BA, Hangeuk University for Foreign Studies; BA, MA, EdD, George Peabody College.
- MORGAN LIVINGSTON (1977) Lecturer, BA, MA, University of Oregon.
- LAWRENCE W. MARRS (1984) Professor and Dean, School of Education, BS, MS, University of Utah; PhD, University of Texas.
- G. ROBERT ROSS (1983) Professor and President of the University, BS, MS, Texas A&M; PhD, University of Denver.
- SY SCHWARTZ (1967) Associate Professor, BS, MS, EdD, Wayne State University.
- JOSEPH E. TRIMBLE (1978) Associate Professor, BA, Waynesburg College; MA, University of New Hampshire; PhD, University of Oklahoma.
- PHILIP B. VANDER VELDE (1967) Assistant Professor, BA, Calvin College; MA, PhD, Michigan State University.

LINDA ZURFLUH (1984) Associate Professor, BA, MA, Pacific Lutheran University; EdD, University of Washington.

OVERVIEW

The Department of Educational Administration and Foundations consists of four program areas as described below. The programs help prepare individuals for administrative-leadership roles in K-12 educational systems, higher education student personnel work, adult educational programming and in human service agencies. The programs also extend and complement the educational experiences offered to teacher education program certification students. Degrees granted are:

- Bachelor of Arts in Human Services
- Master of Education in Adult Education Administration
- Master of Education in Student Personnel Administration in Higher Education
- Master of Education in School Administration (Elementary, Secondary, Learning Resources)
 - Principal's (Initial or Continuing) Certificates
 - Certificate of Advanced Study (CAS)

Computer Competence: Students admitted to programs in the Department of Educational Administration and Foundations are required to possess minimum computer competence prior to completion of their program and, when applicable, prior to being recommended for certification. Procedures for demonstrating or developing competence are available from the main departmental office (Miller Hall 206).

EDUCATIONAL FOUNDATIONS

The Foundations program provides a sequence of transition courses between a student's general education at Western and the areas of professional specialization in the School of Education. Major purposes are: (1) to enhance a student's general education; (2) to synthesize and consolidate a student's general knowledge and focus it on the problems and challenges of the teaching profession; (3) to provide the necessary depth and breadth prerequisite to teaching in any of the several areas of specialization; (4) to acquaint the student with the moral, ethical and political challenges faced by the profession.

SCHOOL ADMINISTRATION

The School Administration program is designed to prepare elementary and secondary school teachers to assume the leadership role of the principal or vice principal. Upon successful completion of the program, candidates are recommended for the master's degree and/or principal certification. The program emphasizes curricular areas in school finance, school law, staff/community relations and collective bargaining. The requirements for principal certification include a master's degree, Washington State teaching certificate and three years of certificated experience, to include one year of teaching experience. Candidates are directed to the Graduate section of this catalog for more information; the program area office is located in Miller Hall 206.

HUMAN RESOURCES DEVELOPMENT

This area consists of three programs: Human Services Program, Adult Education Administration, and Stu-

dent Personnel Administration in Higher Education.

They represent a recognition of several broad areas of adult education and life-long learning that go beyond traditional elementary and secondary education, and which take place in the numerous other human service institutions in the community. The program is organized to prepare both entry-level and advanced practitioners who would administer, counsel or teach in these institutions. A listing of types of institutions is lengthy, but would include colleges and universities, social and health service agencies, volunteer service agencies such as the Red Cross, Planned Parenthood, half-way houses and rehabilitation organizations that sponsor various types of community development programs.

The Human Resources Development program offers undergraduate and graduate degrees. The undergraduate degree emphasizes a study of basic skill areas and the beginning of some specialization. The graduate degrees represent two areas of specialized professional study. All programs include strong segments of field studies. For additional information, refer to the Human Services Program description for the undergraduate level and the Adult Education and Student Personnel Administration programs at the graduate level.

INSTRUCTIONAL TECHNOLOGY

The Instructional Technology program offers instruction and research opportunities in the areas of library-media, instructional television and computer education, including interactive computer systems, on-line networking and information retrieval, and instructional design involving computer technology.

Instructional Technology programs include:

- K-12 Supporting Endorse-

- ment in Learning Resources (Library Science)
- Master of Education in School Administration—Learning Resources
- Elective concentrations for Computer use in Education (elementary and secondary)

The program advisement office is located in Miller Hall 305.

COURSES IN EDUCATIONAL ADMINISTRATION & FOUNDATIONS

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 109 EXPLORATIONS IN EDUCATION (3)
Provides preprofessional students an opportunity to explore the profession of teaching, professional teacher education programs and citizen participation in the process of education.
- 310 THE TEACHER AND THE SOCIAL ORDER (4)
Prereq: written permission of education adviser. Dominant aspects of society as they interact with schools and teaching.
- 311 GLOBAL ISSUES AND AMERICAN EDUCATION (4)
Examination of issues and problems facing mankind in a global village and of ways and means of coping with them in our world community through education.
- 340 PARAPROFESSIONAL ADVISEMENT (4)
Prereq: employment or anticipated employment in campus-based student services and written permission of the Office of Residence Life. Course work emphasizes the nature of the helping relationship; an overview of philosophical and theoretical issues which confront paraprofessionals, and the development of specific job requirement skills.
- 341 PRACTICUM IN PARAPROFESSIONAL ADVISEMENT (1)
Prereq: EdAF 340 and permission of instructor. Supervised practicum for students to work in university student services programs. May be repeated with varied experiences to a total of six credits. S/U grading.
- 344 COMPUTER COMPETENCIES (1)
Prereq: written permission of education adviser. Prepares the student to take the School of Education's computer competency examination. Previous experience with computers is assumed.
- 350 OPERATION OF LEARNING RESOURCE EQUIPMENT (1)
Instruction in the operation of Learning Resource equipment including: video tape recorders, 16 mm projectors, slide/film-strip projectors, overhead and opaque projectors, microcomputers. S/U grading.
- 391 HUMAN RELATIONS (1-4)
A study and practicum in interpersonal relationships as they affect teacher-student interaction.
- 410 TEACHING THE CULTURALLY DIFFERENT CHILD (4)
Prereq: EdAF 310 or equivalent. Analysis of legal, political and cultural forces influencing education of the culturally different child, of his family, community and values, and of school curricula provisions for cultural identity.
- 411 FOUNDATIONS OF EDUCATION (4)
Prereq: written permission of education adviser. Differing views of human nature and learning as they relate to educational aims, methods and content.
- 413 HISTORY OF AMERICAN EDUCATION (4)
Historical development of formal education emphasizing the impact of cultural forces on evolution of the American system of public education.
- 414 GLOBAL EDUCATIONAL SYSTEMS (4)
Examination of the role of education in creating global citizens for an interdependent world.
- 416 PERSISTENT PROBLEMS IN EDUCATION (3)
Seminars in socio-philosophical problems relating to education; different seminars deal with different problems and related sociological and philosophical theory.
- 444 COMPUTERS IN THE CLASSROOM (3)
A study of computers in the classroom including using the computer as teacher, student, partner (tool) and aide. Successful completion of this course satisfies the School of Education computer competency requirement.
- 450 INTRODUCTION TO LEARNING RESOURCES (3)
Prereq: an introductory professional education course. The role and application of educational media and technology in the teaching-learning process.

Educational Administration & Foundations

- 451 PRACTICUM IN LEARNING RESOURCES (3)
Prereq: EdAF 450. Preparation of instructional materials for classroom utilization, selection, evaluation, utilization of major types of audiovisual materials and equipment; organization and curricular integration of educational media; laboratory
- 452 COMPUTER PROGRAMMING PROCEDURES (3)
Prereq: EdAF 444 or permission of instructor. An introduction to the basic elements of computer program design, and classroom instruction utilizing beginning BASIC and LOGO.
- 453 EDUCATIONAL USES OF MICROCOMPUTERS (3)
Prereq: EdAF 444 or permission of instructor. A study of computer education software and PILOT language. Planning strategies for the integration of computers into schools and classrooms will be introduced.
- 454 APPLICATION SOFTWARE FOR EDUCATORS (3)
Prereq: EdAF 444 or permission of instructor. Examines the use of word processing, data base management, spreadsheet analysis, and other types of computer applications by educators
- 455 INTERACTIVE SYSTEMS (3)
Prereq: EdAF 444 or permission of instructor. An introductory study of interactive systems in educational settings; includes videodiscs/microcomputer interface and database services.
- 456 PRINCIPLES AND PRACTICES OF INDIVIDUALIZED INSTRUCTION AND CONTINUOUS PROGRESS EDUCATION (4)
Prereq: practicing teacher. Survey of practices related to most individualized programs and how such practices and programs relate to certain principles of learning; emphasis on types and uses of alternative learning materials found in such programs and systems for monitoring and managing learner progress
- 457 PRACTICUM IN EDUCATIONAL MICROCOMPUTERS (3)
Prereq: EdAF 444 or permission of instructor. Supervised practicum for students to work in the design implementation and evaluation of microcomputer-based activities with selected K-12 population
- 458 MANAGING CONFLICT AND STRESS (3)
Prereq: Upper-division standing or permission of instructor. Examines the relationships among conflict, stress and health. Coping and managing techniques are emphasized. Self assessment methods necessary to diagnose stressors in the work setting, etc., are also included.
- 473 EDUCATIONAL STATISTICS (5)
Prereq: Math 240 or equivalent, or permission of instructor. Statistics applicable to description of school data and research in education, primarily selected analysis of variance and correlation procedures, computer applications.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 INTRODUCTION TO EDUCATIONAL RESEARCH (4)
Prereq: graduate status. Experimental, documentary, case study, survey and other methods of educational research.
- 510 CULTURAL AND LINGUISTIC DIVERSITIES IN AMERICAN EDUCATION (4)
Prereq: must be a practicing teacher. Development of the knowledge and skills necessary to understand culturally different children. A review of methods for teaching such children in school settings.
- 511 SEMINARS IN SOCIAL THEORIES AFFECTING EDUCATION (3)
Studies in various aspects of social theory as it relates to education. Different seminars will deal with different topics and related theory.
- 512 SEMINAR IN EDUCATIONAL PHILOSOPHY (4)
Prereq: EdAF 501. Differing concepts on the nature of human beings and their education; historical and philosophical development of these concepts, their basic premises, implicit assumptions and issues.
- 513 SEMINAR IN PSYCHOLOGY AND SOCIOLOGY OF EDUCATION (4)
Prereq: EdAF 501. Differing concepts of the nature of the individual and society; psychological and sociological development of these concepts; basic premises and implicit assumptions.

Educational Administration & Foundations

- 516 SEMINARS IN PHILOSOPHY OF EDUCATION (3)
Prereq: EdAF 411 or equivalent. Studies of the works of one man, a problem or a movement; implications for schooling.
- 518 CURRENT ISSUES IN EDUCATION (1-5)
Prereq: graduate status or permission of instructor. Examination and discussion of several current and controversial issues in higher education in any of the following areas: adult education, educational administration, foundations, learning resources/library science, personnel administration, community education, interprogram topics. Repeatable.
- 535 SEMINAR IN PUBLIC SCHOOL FINANCE (4)
Local-state fiscal arrangements; current school budgets; related educational finance procedures.
- 538a CASE STUDIES IN SCHOOL
b.c.d ADMINISTRATION (2-3)
Prereq: graduate status. Studies to assist students in understanding school administration. (May repeat to a maximum of 6 credits.)
- 539 EDUCATIONAL LEADERSHIP (4)
Prereq: teaching experience or permission of instructor. Roles and responsibilities of persons serving as members of the leadership team in public schools.
- 540 POLITICAL AND ECONOMIC FORCES SHAPING EDUCATION (4)
Prereq: graduate status. A study of major forces and groups at the federal, local and state level which impact education through political and economic means.
- 541a THEORY IN EDUCATIONAL ADMINISTRATION (4)
Prereq: graduate status. Major administrative theories.
- 541b PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION (4)
Problems and potentials of the principalship.
- 541c SCHOOL LAW (4)
Legal principles underlying statutes and court decisions related to the schools.
- 541e COLLECTIVE BARGAINING IN PUBLIC SCHOOLS (4)
Technical structure and protocol of collective bargaining as well as issues and practices.
- 542a FIELD STUDY IN EDUCATIONAL
b.c.d ADMINISTRATION (2-3)
Prereq: advancement to candidacy, permission of instructor and submission of outline indicating scope of project. Design, implementation and evaluation of a field project (6 credits minimum).
- 543a SUPERVISION IN THE PUBLIC SCHOOLS (4)
Supervision as educational leadership in continuous evaluation and improvement of school practice.
- 543b SEMINAR IN SCHOOL PERSONNEL ADMINISTRATION (4)
Prereq: permission of instructor. Professional relationships among certified employees and other school personnel; development and implementation of policies.
- 543c DEVELOPING STAFF AND COMMUNITY RELATIONS (4)
Prereq: graduate status. Models for planning, implementing and evaluating professional development and school/community relations programs.
- 544a SYSTEMS APPROACH AND EDUCATIONAL MANAGEMENT (4)
The systems approach as related to educational project planning and management.
- 544b COMPUTER TECHNOLOGY AND EDUCATION (4)
Prereq: permission of instructor. A seminar in the study of computers in education; Computer-Managed Instruction (CMI), Computer-Assisted Instruction (CAI). Data processing in schools and classroom management.
- 544c PLANNING FOR CURRICULUM ADMINISTRATION (4)
Prereq: graduate status. Planning and decision-making process as related to development and administration of educational curriculum and innovations.
- 544d ADMINISTERING ALTERNATE LEVEL SCHOOLS (3)
Prereq: currently working on administrative certification. Field study and analysis of schools at the level which is alternate to the student's preparation and employment level.
- 546a ADMINISTRATIVE RESEARCH TOPICS
b.c.d (2-3)
Prereq: graduate status. Identification, study and evaluation of research topics appropriate for building level administrators. (May repeat to a maximum of 6 credits.)

Educational Administration & Foundations

- 547a. READINGS IN SCHOOL
b.c.d ADMINISTRATION (2-5)
Prereq: permission of instructor. Supervised study focusing on one or more selected topics (May repeat to a maximum of 6 credits)
- 548 ADMINISTRATION AND THE INTERNATIONAL SCHOOL (2-6)
Prereq: permission of instructor; graduate status. An examination of the structure, organization and principles by which Western European schools are financed, staffed and administered.
- 549 SEMINAR IN EFFECTIVE SCHOOL PRACTICES (4)
Review and analysis of research findings related to effective school practices
- 550 ORGANIZATION AND ADMINISTRATION OF EDUCATIONAL MEDIA PROGRAMS (3)
Prereq: EdAF 450 or permission of instructor. Problems and principles in establishing, staffing, financing, coordinating, housing and evaluating an audio-visual center.
- 551 SEMINAR IN LEARNING RESOURCES (3)
Prereq: graduate status and 35 credit hours in the program. Analysis of factors affecting communication utilizing learning resources.
- 555 STUDENT PERSONNEL ADMINISTRATION (4)
Prereq: admission to the program in Student Personnel Administration or permission of instructor. The services commonly included in student personnel programs of colleges and universities; emphasis on purpose, scope, function and effect of student services, their conceptual framework and relationship to faculty, other administrative offices and students
- 556 THE COMMUNITY COLLEGE (3)
Prereq: admission to Student Personnel Administration Program or permission of instructor. History, objectives, organization and role of the public community college, special attention to the expanding system in the State of Washington.
- 557a. SEMINARS: COLLEGE STUDENT
b.c ADMINISTRATION (4 ea)
Prereq: admission to Student Personnel Administration Program or permission of instructor. Intensive examination of current philosophies, theories and practices in higher education administration. Major emphasis is placed on human development and organization behavior.
- 558 STUDENT DEVELOPMENT COUNSELING (3)
Prereq: admission to Student Personnel Administration Program or permission of instructor. Consideration of theories and techniques involved in student development counseling and advisement, including interviewing, interpersonal communications and crisis intervention, emphasis on skill acquisition through micro-training techniques
- 559 RESEARCH IN COLLEGE STUDENT PERSONNEL ADMINISTRATION (1-6)
Prereq: admission to MEd program in Student Personnel Administration and EdAF 501. An in-depth research project in the area of higher education administration or related areas of inquiry
- 575 ASSESSING EDUCATIONAL QUALITY (3)
Prereq: EdAF 501 or permission of instructor. Developing criteria and designing procedures for measuring in-put process and product resulting from special or innovative programs, community factors, options in administrative and instructional organization; for coordinators and research workers in the public schools.
- 576 ADULT EDUCATION ADMINISTRATION (4)
Prereq: upper-division course in administration theory, or equivalent; e.g., administrative experience. Planning, organizing, budgeting, staffing adult educational programs in higher educational institutions, museums, libraries and churches.
- 577 LEARNING PROBLEMS OF ADULTS (4)
Prereq: permission of instructor. The problems related to structuring learning and instruction for adults in most types of teaching situations are examined. Case studies utilized
- 578 PROGRAM PLANNING FOR ADULT EDUCATION (4)
Prereq: graduate status and permission of instructor. Program planning for all types of institutionalized adult education settings, including both private and public organizations, in-service education, etc. Case studies utilized
- 579 THE NATURE AND USE OF POWER IN BUREAUCRACIES (4)
Prereq: graduate status or permission of instructor. Examines the nature of social power in organizations, how power is created and how it flows, how it is increased through coalitions, coalition bargaining issues and patterns, conditions influencing coalition formation, conflict bargaining, theories of bargaining tactics, and uses and misuses of coercion.

**592a. FIELD EXPERIENCE IN
b,c ADMINISTRATION FOR THE PRINCIPAL
(2-6)**

Prereq: written permission of instructor
Applicants for the Washington State
Administrative Credentials S/U grading.

**592f FIELD EXPERIENCE IN STUDENT
PERSONNEL ADMINISTRATION (2-6)**

Prereq: admission to Student Personnel
Administration program. Supervised field
experience in developing leadership and
management skills and competencies in
student personnel administration. Students
will intern in various offices and pro-
grams of college student services or
related activities. Repeatable to a maxi-
mum of 13 credits. S/U grading.

**592h. FIELD EXPERIENCE IN ADULT
j,k EDUCATION (2-6; total 8)**

Prereq: permission of instructor. Super-
vised field experience in developing,
directing or evaluating adult education
programs relating to: (h) administration;
(j) learning problems. (k) curriculum
planning.

**594j PRACTICA IN ACTION RESEARCH
k,m (3 ea)**

Prereq: teaching experience and permis-
sion of instructor. Field-based studies by
entire school building staffs to resolve per-
sistent and significant school problems.
Course requirements include the devel-
opment of an approved proposal for action
research. S/U grading. May be repeated
with different content.

639 CURRENT TOPICS IN EDUCATION (1-5)

Prereq: master's degree and permission of
instructor. Studies of current topics in any
one of the following areas: (a) adult educa-
tion; (b) educational administration; (c)
reading; (d) foundations; (e) learning
resources/library science; (f) secondary
education; (g) special education; (h) per-
sonnel administration; (i) elementary edu-
cation; (k) early childhood education; (n)
community education; (p) interprogram
topics

**642a. FIELD PROJECT IN EDUCATIONAL
b,c,d ADMINISTRATION (2-5)**

Prereq: master's degree, permission of
instructor and submission of a one-page
outline indicating scope of proposed pro-
ject (repeatable to 8 credits).

**643 ADMINISTERING THE IMPROVEMENT
OF CURRICULA (3)**

Prereq: M.A. or M.Ed. and EdCI 521 or 522
or equivalent. Systematic analyses of cur-
ricular offerings, development of guide-
lines for curriculum design and develop-
ment of curricular screening devices

**644a. SEMINARS IN EDUCATIONAL
b,c MANAGEMENT: ADVANCED SYSTEMS
THEORY (5 ea)**

**644a Advanced Educational Systems
Analysis**

Prereq: master's degree and permis-
sion of instructor. Identification of
high priority needs within a school
system and application of systems
theory

**644b Educational Change Theory and
Practice**

Prereq: master's degree and EdAF
644a. Analysis of appropriate strate-
gies and tactics for effecting planned
change in public schools and/or
districts.

**644c Management by Objectives:
Accountability**

Prereq: master's degree and EdAF
644a. Establishment of management
objectives at various levels (system-
process, input, output, etc. for the
express purpose of evaluating peo-
ple and/or programs thus affecting
accountability)

**647a. SEMINARS FOR SCHOOL PRINCIPALS
b,c,d (4 ea)**

Prereq: master's degree, applicant for a
Washington State Principal's certificate
and/or permission of instructor. Current
problems and issues facing school
administrators

**676 INSTRUCTIONAL SYSTEMS THEORY
AND COMMUNITY COLLEGE
INSTRUCTION (4-6)**

Prereq: master's degree and/or permission
of instructor. Instructional systems theory
with application to the development of
competency-based programs for com-
munity college instruction. Students will
plan, write and evaluate a short
competency-based program for an
instructional problem in their own area of
teaching.

690a THESIS (6-9)

Prereq: approval of the student's graduate
committee. Research study under the
direction of a faculty committee; the thesis
may be done off campus between periods
of residence work. S/U grading.

690b FIELD PROJECT (6-9)

Prereq: approval of the student's graduate
committee. Field project under the direc-
tion of a faculty committee; the field pro-
ject may be done off campus between
periods of residence work. S/U grading.

692a. FIELD EXPERIENCE IN
b.c ADMINISTRATION FOR THE PRINCIPAL
(2-6)

Prereq: master's degree and written permission of instructor. Applicants for the Washington State Administrative Credential. S/U grading

HUMAN SERVICES

Human services, as a profession and an area of study, is concerned with efforts to aid persons in fulfilling their physical, mental, emotional and societal needs. The human services major is designed to provide an understanding of helping and healing relationships, and of the agencies, organizations and societal context within which these relationships take place.

The human services major is an upper-division program within the Department of Educational Administration and Foundations of the School of Education and leads to a B.A. degree. Admission preference is given to applicants who have completed two years of college or university study, including the General University Requirements (sciences, mathematics, communications, social sciences, humanities, non-western and minority cultural studies).

The curriculum in the human services major is interdisciplinary, based on concepts and skills from the social and management sciences, philosophy and science. Curricular goals emphasize continued integration between theory and practice in human service organizations. Courses are scheduled to minimize conflict with work schedules. Most classes meet in the evening, with some classes in the afternoon or on pre-scheduled weekends.

Admissions information is available in Miller Hall 305.

Computer Competency

Students admitted to programs in the

Department of Educational Administration and Foundations are required to possess minimum computer competency prior to completion of their program. Procedures for demonstrating or developing competence are available from the main departmental office (Miller Hall 206). HS 483 satisfies this requirement. It is suggested this course be taken early in the student's program.

Program Requirements

The human services curriculum consists of five areas of study:

1. Core courses (24 credits): HS 301, 303, 305, 402, 404, 406) taken one per quarter for six quarters, providing a foundation in intrapersonal, small group, organizational, community, societal and global dynamics as they relate to the human services profession.
2. Professional Practicum Experience, taken each quarter for six quarters (24 credits: HS 390a,b,c; HS 490a,b,c), which provides at least 16 hours per week of professional experience in an approved human service setting. Students may meet this requirement either as (a) salaried employees of a human service agency or as (b) volunteers or interns who have, or can obtain, placements in approved human services settings. (Students are responsible for finding their own placements, subject to program approval. Some assistance is available.)
3. Practicum seminars for six quarters (6 credits: HS 320a,b,c; HS 420a,b,c), which provides students the opportunity to discuss their professional practicum experiences and receive weekly consultation from the faculty and their peers.
4. Applied Research Methods (HS 482, 5 credits), which provides

students with the knowledge and skills required to evaluate human service agencies and services.

5. Seminars in one of the four professional concentrations. Thirty-one credits are required, which includes seminars from the human services curriculum, independent study (independent study numbers 300 and 400 may be undertaken to a total of 12 credits), and related and approved course work in other departments.

PROFESSIONAL CONCENTRATIONS

The Counseling Concentration

- Three classes (9 credits) from the human development group: HS 331, 333, 335, 432, 434, 438 and 451
- Three classes (12 credits) from the counseling group: HS 446, 447 and 448.

Chemical Dependency Counseling (sub-concentration) — This area of study is offered to provide opportunities for students to improve their knowledge of the wide range of topics in the alcohol and drug abuse fields. The curriculum is designed to prepare a student to become a certified alcohol and/or drug abuse counselor at Level 1 or 2 in the state of Washington. Students specializing in this concentration at Level 1 are required to successfully complete a four-course curriculum (HS 440, 441, 442, and 443). Human Services 440 and 443 are open to all students; however, students wishing to enroll in Human Services 441 and 442 must be admitted by permission. To receive permission, students must submit an application, together with statements of personal commitment,

letters of reference and interviews when requested. Students who are certified as Level 1 substance abuse counselors and wish to pursue additional studies required for advanced certification at Level 2 may enroll in a specialized four-course curriculum (HS 444, 447, 448, and 449). To enroll in these courses a student must have successfully completed Human Services 440, 441, 442, and 443, or courses equivalent in content, and/or receive special permission from the appropriate instructors.

The Management Concentration

This concentration is designed to prepare students to provide administrative services. Required courses for this concentration total 12 credits and include: HS 381, 383, 485, 487. Electives should include HS 373, 377, 476, 480, and 484.

The Consultation Concentration

This concentration is designed for the professional development of consultants, lobbyists, organizers and mediators. The required courses (15 credits) for this concentration are HS 451, 476, 480, 486 and 487. Recommended courses include HS 371, 373, 377, 434, 438, 446, 447, 448, and 484.

The Generalist Concentration

This concentration is designed to prepare students who wish their professional development to include aspects of the preceding concentrations. Students in this concentration design, with adviser approval, an individualized program of study.

COURSES IN HUMAN SERVICES

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

301 HUMAN SERVICE PROFESSIONALS AND PERSONAL SYSTEMS (4)

The dynamics of the individual as a system in relation to other human service systems. Emphasis on the dynamics of personal growth, the skills useful in the facilitation of personal growth and the characteristics of effective human beings.

303 HUMAN SERVICE PROFESSIONALS AND INTERPERSONAL SYSTEMS (4)

Prereq: HS 301 or permission of instructor. The dynamics of interpersonal systems in relation to other human service systems. Emphasis on knowledge of the factors that influence interpersonal systems, skills useful in influencing these systems and the characteristics of effective human service professionals in interpersonal settings.

305 HUMAN SERVICE PROFESSIONALS AND SMALL GROUP SYSTEMS (4)

Prereq: HS 303 or permission of instructor. The dynamics of small group systems in relation to other human service systems. Emphasis on knowledge of the factors that influence small group systems, the skills useful in influencing these systems and the characteristics of effective human service professionals in small group settings.

320a,b,c PRACTICUM SEMINAR—FIRST YEAR (1 ea)

Prereq: must be taken concurrently with HS 390a,b,c, and first year Core — HS 301, 303, 305. Readings and discussion on the application of Human Services concepts, with emphasis on individuals and groups.

331 DEVELOPMENTAL PATTERNS: CHILDREN/ ADOLESCENTS (3)

Developmental theories and current issues of children and adolescents. Integration of concepts with the problems of service delivery.

333 DEVELOPMENTAL PATTERNS: ADULTS/ SENIORS (3)

Developmental theories and current issues of adults and seniors. Integration of concepts with the problem of service delivery.

335 DEVELOPMENTAL PATTERNS: FAMILY (3)

Theories and historical and current issues of family systems. Integration of concepts with the problem of service delivery.

371 ISSUES AND CONCEPTS IN HUMAN SERVICES SYSTEMS (3)

Current issues and concepts are considered, with emphasis on providers, recipients of services and the cultural influences.

373 LAW AND HUMAN SERVICES (3)

Legal processes and their effect on human services client populations and delivery systems. Legislative, judicial, administrative, and policy and procedural processes.

377 MINORITIES AND HUMAN SERVICES (3)

Culturally different groups and their interaction with human services systems. Comparative ethnic issues, conflicts and institutional practices.

381 PROGRAM PLANNING (3)

Principles of program planning, including needs assessment, authority and credibility, resource identification and management, goal setting, politics of planning and implementation.

383 PRINCIPLES OF AGENCY MANAGEMENT (3)

Management principles including program planning and goal setting, budgeting, staffing, organizing, public relations, control and leadership.

390a, PROFESSIONAL PRACTICUM — FIRST b,c YEAR (4)

Prereq: must be taken concurrently with HS 320a,b,c, and first year core — HS 301, 303, 305. Field experience for first-year students in human services. Staff and agency supervision. S/U grading.

402 HUMAN SERVICE PROFESSIONALS ORGANIZATIONAL SYSTEMS (4)

The dynamics of human service organizations in relation to other human service systems. Emphasis on knowledge of factors that influence organizational behavior, the skills useful in influencing organizational outcomes and the characteristics of effective human service professionals in human services organizations.

404 HUMAN SERVICE PROFESSIONALS AND COMMUNITY SYSTEMS (4)

Prereq: HS 402 or permission of instructor. The dynamics of community systems and the relationship of these systems to other human service systems. Emphasis on factors that influence community systems, skills of influencing community structure and process, and the characteristics of effective human service professionals in community settings.

- 406 HUMAN SERVICES PROFESSIONALS AND SOCIETAL AND GLOBAL SYSTEMS (4)
Prereq: HS 404 or permission of instructor
The dynamics of societal and global systems and their effects on the other subsystems of human services. Emphasis on the factors influencing societal and global outcomes, and the characteristics of effective human service professionals in societal and global settings.
- 420a. PRACTICUM SEMINAR—SECOND YEAR
b.c (1 ea)
Prereq: HS 320a,b,c. Must be taken concurrently with HS 490a,b,c, and second year Core – HS 402, 404, 406. Readings and discussion on the application of Human Services concepts with emphasis on agencies and organizations.
- 432 PERSONALITY THEORY (3)
Theories of personality, the philosophical, problems of personality theory formulation, and the impact on service delivery.
- 434 WOMEN AND MEN IN TRANSITION (3)
Examination of changes occurring in women's/men's roles. Emphasis on personal awareness as well as social, political and economic issues of particular interest to women/men.
- 438 HOLISTIC HEALTH (3)
Health from a systems approach and the interplay of body/mind/spirit, with emphasis on the roles which human service delivery systems (including major health systems) play in fostering or discouraging holistic health practices.
- 440 ALCOHOLISM AND SUBSTANCE ABUSE: ETIOLOGY AND TREATMENT (3)
Examination of the labeling and behavior process in substance abuse (drug, alcohol, food), and exposure to theories and treatment modalities.
- 441 ALCOHOLISM AND SUBSTANCE ABUSE: THE HELPING RELATIONSHIP (4)
Prereq: HS 440, 446 and written permission.
Development and application of basic skills, analysis of alternative interventions, referral resources and professional ethics relating to the alcohol or substance abuser.
- 442 ALCOHOLISM AND SUBSTANCE ABUSE: RECOVERY AND REHABILITATION (2)
Prereq: HS 440 and written permission.
Analysis of the physiological, psychological and sociological aspects of recovery and rehabilitation. Development of understandings and skills for the implementation of aftercare programs.
- 443 ALCOHOLISM AND SUBSTANCE ABUSE: PHYSIOLOGY AND PHARMACOLOGY (3)
Examines the effect and mechanism of action of alcohol, hallucinogenic and other commonly-abused drugs. Studies the physiological effects and responses to such phenomena.
- 444 ALCOHOLISM AND SUBSTANCE ABUSE: ADVANCED COUNSELING (3)
Prereq: HS 440, 441 or permission.
Advanced alcoholism counseling techniques and a survey of topics of special value to alcoholism counselors, i.e., sexual/child abuse, sexual dysfunctions, eating disorders. Includes development of appropriate treatment plans.
- 446 INDIVIDUAL INTERVIEWING AND COUNSELING (4)
Prereq: HS 303 or another interpersonal skills class or permission of instructor.
Theory and practice of basic skills used in one-on-one helping relationships; includes lab for skills acquisition and development.
- 447 GROUP FACILITATING AND COUNSELING (4)
Prereq: HS 446 or permission of instructor.
Theory and practice of basic skills used in fostering and maintaining helping relationships in group settings. Includes lab for skills acquisition and development.
- 448 CASE MANAGEMENT/COUNSELING APPROACHES (4)
Prereq: HS 446 & 447 or permission of instructor.
Theory and practice of skills used in ongoing caseload management in individual and group counseling settings. Includes lab for skills acquisition and development.
- 449 ALCOHOLISM AND SUBSTANCE ABUSE: FAMILY COUNSELING (3)
Prereq: HS 440 or permission of instructor
Recognition and impact of alcoholism on the family, friends and significant others. Therapeutic strategies to facilitate changes in those persons who are affected. Individual and group counseling.
- 450 ALCOHOLISM AND SUBSTANCE ABUSE: LEGAL ISSUES (3)
Examines relevant laws, judicial decisions, administrative regulations, policy and procedures that impact alcohol and drug abuse and detoxification and treatment.
- 451 PHILOSOPHY OF HELPING (3)
A philosophical exploration of various concepts of the helping relationship and the ethical issues inherent in that process.

Library Science

- 474 **WORK AND HUMAN SERVICES (3)**
Work and career patterns in contemporary culture, with a focus on manpower needs, unemployment patterns and the place of work as a political and lifestyle issue.
- 476 **THE FUTURE SOCIETY AND HUMAN SERVICES (3)**
Theories and predictions about the future of society are examined as they impact the kinds, quality and theory of human services delivery.
- 480 **POLITICS OF HUMAN SERVICES (3)**
Examination of political forces affecting human services agencies, and the development of skills for intervention in the political process.
- 482 **APPLIED RESEARCH METHODS (5)**
Study of theory and techniques involved in evaluating the effectiveness of human services agencies including the application of techniques that lead to direct social action and agency intervention. Topics include research design, statistical treatment of results and analysis of evaluation findings.
- 483 **COMPUTERS: COMPETENCIES FOR HUMAN SERVICES (3)**
A study of computers in human services, including elementary word processing, spreadsheeting and data processing.
- 484 **PROGRAM FUNDING (3)**
Planning, writing, marketing and evaluating funding proposals. Elements of grant proposal preparation, including the methods of seeking grant funds, interpreting funding guidelines, designing marketing strategies and negotiating with funding agencies.
- 485 **AGENCY BUDGET AND CONTROL (3)**
Procedures for creating and implementing budgets in agency programs for the purpose of management and control.
- 486 **HUMAN RESOURCES DEVELOPMENT (3)**
Development of knowledge and skills in consultation, advocacy, organizing and mediation.
- 487 **LEADERSHIP IN MANAGEMENT (3)**
How a manager influences and energizes subordinates or colleagues beyond what can be done with formal authority. Sources of power, patterns of decision-making, politics, style, establishment of trust and technical competence.

490a. PROFESSIONAL PRACTICUM —
b.c. SECOND YEAR (4)

Prereq: must be taken concurrently with HS 420a,b,c. and second year Core — HS 402, 404, 406. Field experience for second-year students in human services. Staff and agency supervision. S/U grading.

LIBRARY SCIENCE

Program Adviser: Dr. Les Blackwell

"Information" is one of the key words in education today, and educators in many settings are increasing their use of the Library-Media Center to enhance their teaching and the learning of their students. The supporting endorsement in learning resources is intended to provide teachers with the skills to make efficient use of learning materials in print and non-print and electronic formats in their lessons. This program also offers excellent preparation for those who wish to become directors of library media centers.

K-12 Supporting Endorsement — Learning Resources 25 credits

- Required (16 credits)
 - EdAF 450
 - EdAF 444
 - Lib Sci 405
 - or Lib Sci 407
 - EdAF 453
 - Lib Sci 403
- Electives (9 Credits)
 - Lib Sci 309, 401, 402, 410
 - EdAF 452, 454, 457
 - EdAF 455, 451

M.Ed School Administration — Learning Resources

For a description of this program, please refer to the Graduate Section of the catalog.

Computers in Education

This program is designed for persons who wish to improve or develop their

abilities to select, use, adapt and create learning materials incorporating microcomputers. This program will provide teachers with the background necessary to integrate computers into their lesson plans. Please consult an adviser.

Note: Concentrations of computer education courses are also available to support most School of Education M.Ed. programs. For further information, contact Instructional Technology faculty (Miller Hall 305).

Elective Concentration

24 credits

- Required courses (12 credits)
 - EdAF 444, 452, 453, 457
- Elective courses (12 credits)
 - EdAF 450, 454, 455
 - CS 110 or 210, 491
 - Music 420
 - Additional electives under advisement

COURSES IN LIBRARY SCIENCE

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 125 LIBRARY ORIENTATION (1)
Introduction to books and libraries and to the Wilson Library in particular; effective use of standard reference tools
- 304 INTRODUCTION TO CHILDREN'S LITERATURE (2)
An overview of the field of literature for pre-school through middle school students
- 309 STORYTELLING (3)
Selection, adaptation and presentation of stories for elementary school children.

- 401 THE LIBRARY IN THE SCHOOL (3)
The organization and maintenance of effective materials-centered libraries in elementary and secondary schools.
- 402 ORGANIZATION OF MATERIALS (3)
Principles of classification and cataloging; making unit cards, adapting printed cards, and organizing a shelf list and dictionary catalog.
- 403 BASIC INFORMATION SOURCES (3)
Evaluation of basic information sources and practice in their use.
- 404 THE LIBRARY IN THE SOCIAL ORDER (3)
Social, educational, and cultural implications of the role of the library in society.
- 405 BOOKS AND MATERIALS FOR ELEMENTARY SCHOOLS (4)
Reading and evaluation of books and materials for elementary children; emphasizes wide reading, book selection, literary analysis, correlation with the curriculum, current content trends and innovative uses.
- 407 BOOKS AND MATERIALS FOR YOUNG ADULTS (4)
Reading and uses of books for the adolescent and his curriculum; multicultural, self-concept literature, realistic and mystical fiction and poetry; literary analysis.
- 410 WRITING AND ILLUSTRATING CHILDREN'S BOOKS (4)
Prereq: Lib Sci 405 or permission of instructor. Analysis of illustrations and writing of children's and adolescents' literature; techniques of composition and illustrations fundamental in writing, illustrating and binding
- 502 ADVANCED CATALOGING (4)
Prereq Lib Sci 402 or permission of instructor. Application of theories and principles of cataloging in classifying print and non-print materials for elementary and secondary schools and community colleges.
- 505 BOOKS AND MATERIALS USE AND EVALUATION (4)
Prereq: Lib Sci 405 or permission of instructor. Study and selection of children's and adolescent literature (fiction and poetry). Literary criticism. Use of various media.
- 520 INSTRUCTIONAL DEVELOPMENT (4)
Prereq: permission of instructor. Understanding and application of learning theory to library materials and media. Work with instructional clients (industrial or educational) in production of materials.

Educational Curriculum & Instruction

EDUCATIONAL CURRICULUM & INSTRUCTION FACULTY

- THEODORE A. MORK (1971) Chair.
Associate Professor. BA, MEd, Western Washington State College; PhD, Syracuse University.
- CHARLES M. ATKINSON (1976) Associate Professor. BA in Ed, MEd, Central Washington State College; EdD, Utah State University.
- HORACE O. BELDIN (1965) Professor. BS, MS, University of Oregon; PhD, Syracuse University.
- ROBERTA A. BOUVERAT (1970) Associate Professor. BA, MEd, Western Washington State College; PhD, The Ohio State University.
- RICHARD J. L. COVINGTON (1970) Associate Professor. BA, Doane College; MEd, Whittier College; EdD, University of California, Los Angeles.
- LEE A. DALLAS (1968) Associate Professor. AB, Gettysburg College; MEd, EdD, Temple University.
- HELEN F. DARROW (1969) Professor. BS, Wilson Teachers College; MA, Northwestern University; MA, University of California, Los Angeles; EdD, Teachers College, Columbia University.
- MARIE D. EATON (1975) Professor and Associate Dean. BA, Pomona College; MEd, PhD, University of Washington.
- HOWARD M. EVANS (1972) Associate Professor. BS, Eastern Oregon College; MA, EdD, University of Illinois.
- FLORA FENNIMORE (1969) Professor. BS, Mt. Angel College; MA, EdD, Washington State University.
- SHEILA FOX (1977) Associate Professor. BA, Western Washington State College; MEd, PhD, University of Washington.
- C. MAX HIGBEE (1962) Professor. BA, Simpson College; MS, State College of Washington at Pullman; PhD, University of Iowa.
- PETER J. HOVENIER (1970) Associate Professor. BA, University of California, Santa Barbara; MA, Brigham Young University; MA, PhD, Stanford University.
- MARVIN L. KLEIN (1978) Professor. BS, MS, Southern Illinois University; PhD, University of Wisconsin, Madison.
- STEPHANIE KOZICK (1984) Lecturer. BS, Northern Illinois University; MS, University of Oregon; PhD, Oregon State University.

- GEORGE S. LAMB (1958) Professor. AB, Macalester College; MA, University of Washington; PhD, University of Minnesota.
- LAWRENCE W. MARRS (1984) Professor and Dean, School of Education. BS, MS, University of Utah; PhD, University of Texas.
- LEE MOSLEY (1985) Lecturer. BA, Central Methodist College; MS, Ed, Southwest Missouri State University.
- ALDEN L. NICKELSON (1962) Professor of Education and Biology. BS, MA, PhD, University of Washington.
- ROBERT H. PINNEY (1971) Associate Professor. BA, University of Washington; EdD, Stanford University.
- MAURICE L. SCHWARTZ (1968) Professor of Education and Geology. BS, MA, PhD, Columbia University.
- MARIAN J. TONJES (1975) Professor. BA, MA, University of New Mexico; EdD, University of Miami.
- JOHN C. TOWNER (1972) Professor. BS, MSE, Wisconsin State University; PhD, University of Minnesota.

OVERVIEW

The School of Education has the responsibility for providing the professional studies necessary to become a competent teacher. The Department of Educational Curriculum and Instruction is responsible for screening students for admission and for evaluating their progress in teacher education programs.

In addition to the initial and continuing teacher certification programs, a variety of master's degree programs are offered through Western's School of Education and Graduate School. These programs include Elementary, Secondary, Special Education and Reading programs, as well as certification for principals and educational staff associate certificates in several areas. (See Graduate School section of catalog.)

All programs were under review at the

time this catalog was being prepared. Students or applicants should check with the program office as curricula, admissions requirements and other important factors may change from what is published in this catalog. Program office materials will be final in these matters.

BACHELOR OF ARTS IN EDUCATION WITH CERTIFICATION

The teacher education curriculum at Western is a carefully sequenced professional program that is firmly backed by current research on effective teaching. Each quarter includes attention to the four basic strands in education:

- Research, theory, and philosophy.
- Curriculum.
- Methods.
- Practical experiences.

Students are exposed to young people and the classroom environment early in their program. These practical experiences increase throughout the program, culminating in a full-time internship.

Competency with educational computer uses and software, speech competency and certification in the use of common classroom equipment are included in the teacher education program.

PROGRAM LENGTH

While it is possible to earn a bachelor's degree and initial teaching certificate with certain majors in four academic years, most students require five years. Following acceptance by the School of Education, which requires at least sophomore standing, the student should expect to take eight to ten quarters to complete the teacher education sequence. During these eight to ten quarters, the student has time to work on the major

and General University Requirements, but it is advisable to have made progress in these areas prior to beginning the professional education sequence. Students who enter the School of Education as juniors (i.e., many transfer students) should have satisfied nearly all of the General University Requirements and should have a good start on their major.

Program Sequence

Students progress through the teacher education programs as cohorts (groups of students). Each cohort is involved in the same courses throughout the programs and new cohorts are started twice per year. Elementary Education and Elementary Special Education form cohorts in fall and spring quarters. Secondary and Secondary Special Education cohorts are started in fall and winter quarters. K-12 candidates join other cohorts and may begin in fall, winter or spring.

PROGRAM CONTENT

There are four major components in the teacher education sequence:

- Major.** All teacher education students will have a major. Students will work toward completion of the major during the Core and Program sections of the teacher education sequence.
- Core.** During the Core quarters and courses, students study the philosophical and psychological foundations for teaching, learn general teaching methods, are instructed in child and adolescent development, and gain practical experience with children and youth.
- Program.** During the Program quarters and courses, students begin to specialize in methods and strategies appropriate to their academic area and teaching level. Students also gain experience in implementing these methods with public school stu-

dents in small and large instructional groups.

- **Internship.** During the Internship quarters, students are placed in a public school setting. They gain intensive practice in integrating methods, content area knowledge and classroom organization strategies. For the final portion of the Internship, students take full responsibility for a classroom.

BACHELOR OF ARTS IN EDUCATION WITHOUT CERTIFICATION

A student may obtain a Bachelor of Arts in Education degree without certification. Details regarding this graduation option are available in the Office of the Department of Educational Curriculum and Instruction.

POST-BACCALAUREATE PROGRAM FOR CERTIFICATION ONLY

A concentrated, four- to six-quarter teacher preparation program is available for people who have previously received a bachelor's degree from another university or from Western in an academic area that is approved by Western's programs. This program includes an internship.

Bachelor's degree holders who are interested in certification should apply for admission to Western Washington University well in advance of the quarter in which they intend to enroll. Concurrent with application for admission to the University, the student should:

- Apply for admission to the School of Education (see admissions standards).
- Consult with an adviser in the chosen program area (Elementary, Secondary, Special Education or K-12).
- Consult with an adviser in the

major subject area to determine if there are additional courses in the major which must be completed for certification and endorsement.

MASTER'S DEGREE AND INITIAL CERTIFICATION PROGRAM

A program leading to both a master's degree and teacher certification is available for Secondary candidates who are eligible for admission to Westerns' graduate program in Secondary Education. See a Secondary program adviser for more details.

CERTIFICATES AND ENDORSEMENTS

Beginning in July, 1987, State of Washington teachers are allowed to teach only those subjects for which they have primary or supporting endorsements. A supporting endorsement is often desirable.

Note: *Approved endorsements are subject to State of Washington legislative and administrative action and are not determined by Western Washington University. Students should check with the Admission and Advisement Office of the School of Education for any changes to this listing.*

Secondary certificate candidates are required to complete an approved major referred to by the state as an area of primary endorsement. These majors are offered by various departments within the University. The current list of approved majors includes:

- **Anthropology
- Art (see K-12 sect on)
- *Biology
- *Biology/Chemistry
- Business and Office Education

- *Chemistry
- *Chemistry/Mathematics
- *Chemistry/Physics
- *Earth Science
- **Economics
 - English
 - English/Drama (this double major leads to dual endorsement)
 - English/Speech (this double major leads to dual endorsement)
 - Foreign Language (see K-12 section)
- **Geography
- Health
- **History
 - Home Economics
 - Mathematics
 - Music Education (see K-12 section)
 - Physical Education (see K-12 section)
- *Physics
- *Physics/Mathematics
- **Political Science
- **Psychology
- *Science
- **Social Studies
- **Sociology
- Speech
- Student/faculty designed majors may be acceptable if developed according to established policies and procedures.
- Technology Education (Industrial Arts)

***Science Education.** *Majors in science programs that do not offer a Bachelor of Arts in Education require completion of a Bachelor of Arts plus additional courses in science methods. All 4-12 science endorsements will enable the program graduate to teach any of the sciences offered in State of Washington secondary schools. Consult the Science Education section listed in the index.*

****Social Studies Education.** *All majors in the social studies fields, with the exception of the interdisciplinary social studies major, require the additional 32-credit social studies minor. Consult the social studies education course descriptions in this catalog. Majors, except the social studies major itself, lead to dual endorsement (the approved major and social studies).*

Elementary certificate candidates must complete the program leading to a primary endorsement in Elementary Education and, in addition, must complete an approved 45-50 credit major designed specifically for Elementary Education candidates. The current list includes:

- Anthropology
- Art
- Economics
- English
- Environmental Studies
- Foreign Languages
- General Science
- Geography
- Geology (Earth Science)
- History
- Humanities
- Liberal Studies
- Mathematics
- Music
- Physical Education
- Psychology (Human Development)
- Science Education/Environmental Studies
- Social Studies
- Sociology
- Speech
- Student/Faculty Designed Major

K-12 certificate candidates must complete an approved major specifically designed for these specialist certificates and the professional education program leading to a K-12 certificate. The current majors include:

- Art
- Foreign Languages
- Music
- Physical Education

Special Education certification candidates must complete one of four programs which lead to a primary endorsement in Special Education. The first two listed programs lead to additional endorsements in either Elementary teaching or a Secondary major.

- Secondary (4-12) /Special Education (K-12)
- Elementary (K-8) /Special Education (K-12)

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Special Education (K-12) Early Childhood Exceptional (P-3)

The first three listed programs also require the completion of an approved 45-50 credit major (see Special Education adviser). The Early Childhood Exceptional program requires completion of an approved minor.

Supporting Endorsements, which can be added to a primary endorsement, are offered in a number of subject areas. Check with a departmental adviser for requirements for the more than 20 endorsements offered in arts, sciences, business education, and fine and performing arts. The current list of those offered through the School of Education includes:

Early Childhood
Learning Resources
Reading

Additional supporting endorsements can be added after the initial certificate is granted. Students receiving their teaching certificate after July 1, 1988, will be required to obtain a second endorsement prior to the completion of the *continuing certificate* program. The Fifth Year Office in the School of Education has more information on the requirements for these supporting endorsements.

ADMISSIONS

Pre-Admission Work

Western offers a number of courses such as EdCI 131, EdAF 109, or EdAF 311 that can give students who are considering teaching as a career early exposure to the profession. Some of these can be taken as part of the General University Requirements (GURs). Several courses that are required for admission to or that fulfill competency requirements of the School of Education also fulfill GUR requirements. English 101, Math 281, EdAF 311 and Speech 101 are such courses. There may be other GUR

courses that will apply to a student's major area. Students should check with an adviser in their academic department for suggestions on specific GURs.

Students should pay particular attention to those courses which, although not required until after admission to the program, can provide valuable preparation for the teacher education program. These courses include Math 281 for the Elementary and Elementary/Special Education programs (which allows a student to take later courses in the math sequence) and those courses meeting the general speech and computer competency requirements. Students also will benefit by beginning work toward the chosen major as soon as possible, especially those majors which require careful sequencing of courses.

Students interested in pursuing a career in teaching can benefit by working with children and youth as much as possible. Such organizations as the YMCA, YWCA, Camp Fire, Scouts, church schools, Boys and Girls Clubs, youth sports teams and clubs, and summer camps provide good experiences with groups of young people.

Admission Procedures

Note: Admission to the teacher education program may be limited due to enrollment restrictions.

Students are encouraged to apply for admission to the School of Education as soon as possible after they have completed 45 quarter hours. The Admissions and Advisement Office, Miller Hall 202, will assist students in receiving the proper information to meet all of the admission standards.

Students will not be admitted and may not begin taking courses in the education sequence until all admission standards are met.

Admission Standards

Requirements for admission are:

- Credit Requirements**
Completion of at least forty-five (45) credits.
- Grade Point Average Minimum**
A 2.75 cumulative grade point average (GPA) at the time of application in courses taken from any accredited institution of higher education.

Note: Due to enrollment restrictions in the program, a higher grade point average may be required some quarters for admission to the program.

- Entrance Tests**
Minimum scores* on the Washington Pre-College Test (WPCT), the Scholastic Aptitude Test (SAT) or the American College Test (ACT) are required by state law for admission to teacher education programs. The School of Education requirements are as follows:

Test	Verbal Composite (English)	Math Composite (Quantitative)
WPCT	50	40
SAT	440	340
ACT	20	9

- In-School Observation**
Ten full days of classroom observation in an accredited school will be required for admission. This observation may be completed in one or two classrooms with a minimum of five consecutive days spent in each classroom. Students must request a Ten-Day Observation Packet from the Office of Admissions and Advisement in Miller Hall 202 prior to doing their observation. Forms included in this packet will be required for

*The above numbers represent scores and are not percentiles. A student who does not have these scores may arrange to take the WPCT through the Testing Center at WWU.

admission. When requesting this packet, students need to designate their area of interest as either Elementary, Secondary, Special Education or K-12.

- English Competency**
Completion of an approved English composition course, with a grade of B- or higher, is required for admission. English 101, 201, 202, 203, 204 and 301 at Western or equivalent courses fulfill this requirement.
- Mathematics Competency**
Students applying for admission to the Elementary (K-8) or Special Education (P-3 and K-12) programs must meet a mathematics competency requirement which includes one of the following:
 - Suitable score on the Intermediate Algebra Placement Exam for enrollment in Math 281.
 - A grade of C- or better in Math 102.
 - A grade of C- or better in any course named Intermediate Algebra or Pre-Calculus Mathematics or College Algebra at any two-year or four-year college.

Additional Required Competencies

Computer competency is required of all teacher education students before they begin their fourth quarter of the professional program. Students may select one of the following three options to demonstrate this competency:

- Completion of EdAF 444 (Computers in the Classroom) with a grade of C or higher.
- Completion of EdAF 344 (Computer Competencies) with a grade of C or higher.
- Challenge of the competencies (contact Instructional Technology program in EdAF, phone (206) 676-3312).

Speech competency is required of all students in the teacher education programs. At least two quarters prior to the Internship, a student must complete one of the following speech courses or its equivalent with a grade of B- or better:

- Speech 101 (3) Fundamentals of Speech
- Speech 302 (3) Speech for the Teacher
- Speech 205 (4) Exposition and Argumentation (Secondary candidates only)
- Speech 484 (3) Speech for Elementary Teacher (Elementary candidates only)
- Speech 304 (3) Public Speaking (By permission of Instructor only)

Students are encouraged to meet this requirement *before* beginning the professional program.

Common classroom equipment certification is a requirement of all teacher education programs. Students are asked to become familiar with and demonstrate capability to operate such items as slide and film projectors, video recording and playing equipment, and audio recorders. Visit the Learning Resources Laboratory in Miller Hall for more information.

Math Prerequisites: Mathematics 481 is required of all students pursuing elementary or special education certification as part of their professional program. Mathematics 281 is prerequisite to Mathematics 481, and students are advised to complete Mathematics 281 *before* beginning the education sequence. *Note:* Mathematics 281 satisfies the General University Requirement in mathematics.

PROGRAM AND SEQUENCE

Advisement

Each student is assigned an adviser when admitted to the School of Education. Students schedule an appointment to meet with the adviser

before beginning the education sequence. Appointments may be arranged by contacting the following offices:

Elementary Education

Miller Hall 251, (206) 676-3336

Secondary Education

Miller Hall 306, (206) 676-3327

Special Education

Miller Hall 318, (206) 676-3330

K-12 Programs

Miller Hall 322, (206) 676-3313

Students who are interested in education, but who have not applied for admission to the School of Education, may talk with an adviser by contacting the program area office of their interest, or by contacting the Foundations area of the School of Education in Miller Hall 324, telephone (206) 676-3347.

Students meet with their adviser to obtain a required signature at four checkpoints in their program:

- Before beginning the Core sequence.
- Before beginning the Program sequence.
- Before *applying* for the Internship.
- During the Internship quarters as a final evaluation.

Additionally, the School of Education may require the signature of an adviser for registration in education courses during a given quarter.

Program Standards

Admitted students must maintain a 2.75 cumulative GPA in work taken at Western. If a student's cumulative GPA falls below 2.75, the student will be dropped from the teacher education program.

Academic department requirements for major and minor grade point average may differ.

In certain situations, a case conference may be called by the program head with faculty acquainted with the student or the student's work to determine the student's qualifications for admission or retention.

PROGRAM AREAS IN CURRICULUM AND INSTRUCTION

Secondary Program

Program Area Head: Dr. Lee Dallas
Office: Miller Hall 306
Telephone: (206) 676-3327

The Secondary Education professional program leads to initial certification at the 4-12 level when combined with an approved major. Students will be certified to teach *only* in their endorsed areas. See the Certificates and Endorsements section of the Educational Curriculum and Instruction portion of this catalog for a list of approved major areas for the Secondary certificate.

Secondary candidates who already possess a bachelor's degree in an approved area should consult the Post-Baccalaureate section for information on certification requirements. Students who wish to pursue both certification and a concurrent Master's of Education degree should consult the Graduate School section of this catalog and the secondary graduate program adviser.

Requirements for completion of the professional program in Secondary Education are outlined below. Cohorts for the Secondary program will form fall and winter quarters only.

SECONDARY EDUCATION PROFESSIONAL PROGRAM

63-69 credits

This program leads to certification for grades 4-12 and must be accompanied by an approved major. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

23 credits

- Psychological Foundations
 - Psych 351
 - Psych 353
- Philosophical Foundations
 - EdAF 310
 - EdAF 411

- Instructional Foundations
 - EdCI 363
 - or EdCI 360
 - EdCI 320

Secondary Program 16-20 credits

- EdCI 471
- EdCI 472
- EdCI 484
- or EdCI 481

Secondary Programs Internship

24-26 credits

- EdCI 490a
- EdCI 495

Elementary Program

Program Area Head:

Dr. John Towner

Office: Miller Hall 251

Telephone: (206) 676-3336

The Elementary program leads to initial certification at the K-8 level when combined with an approved major.

Elementary program students will have the option to concentrate in the primary/intermediate grades, or in the intermediate/middle school grades. Students will select the desired concentration at the beginning of the program portion of their sequence.

Elementary candidates who already possess a bachelor's degree with an approved major should consult the Post-Baccalaureate section of this catalog.

Requirements for completion of the professional program in Elementary Education are outlined below. Cohorts for the Elementary program will form fall and spring quarters only.

ELEMENTARY EDUCATION PROFESSIONAL PROGRAM

87-91 credits

This program leads to a K-8 certificate and must be accompanied by an approved major for Elementary candidates. The courses listed below are

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not in the sequential order students will follow.

Professional Studies Core

31-33 credits

- Psychological Foundations
 - Psych 351
 - Psych 352
 - EdCI 395a
- Philosophical Foundations
 - EdAF 310
 - EdAF 411
 - EdCI 395b
- Instructional Foundations
 - EdCI 363
 - or EdCI 360
 - EdCI 320
 - EdCI 385
 - or EdCI 485a (must be taken concurrently with EdCI 485)
 - Lib Sci 304

Elementary Program — Methods

30 credits

- Art 380
- Music 361
- Math 481
 - Note:* Math 281, which is a prerequisite for Math 481, is not part of the program but can be taken as a GUR (General University Requirement) course option.
- PE 306
- Sci Ed 390
- Sci Ed 391
- Soc St 425
- Eng 440
- or EdCI 424
- EdCI 485

Elementary Internship 26-28 credits

- EdCI 490a (optional for winter/spring interns)
- EdCI 396
- EdCI 494

OTHER ENDORSEMENTS

Requirements for the supporting endorsements in Early Childhood and Reading are located in the School of Education Interdisciplinary section.

K-12 Program

Program Adviser: Dr. Marie Eaton
Office: Miller Hall 322
Telephone: (206) 676-3313

The K-12 program leads to initial certification for the K-12 specialist in art, foreign languages, music or physical education. Candidates must also complete the approved major in one of these areas.

Candidates who already possess a bachelor's degree with an approved major should consult the Post-Baccalaureate section of this catalog.

Requirements for completion of a certificate in K-12 education are outlined below.

K-12 PROFESSIONAL PROGRAM

57-61 credits

This program leads to a K-12 specialist certificate and must be accompanied by an approved K-12 major in a speciality area. Approved majors are art, foreign languages, music and physical education (See appropriate catalog section for description.)

The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

22 credits

- Psychological Foundations
 - Psych 351
 - Psych 316
- Philosophical Foundations
 - EdAF 310
 - EdCI 395b
- Instructional Foundations
 - EdCI 363
 - or EdCI 360
 - EdCI 320

K-12 Program 11-13 credits

- EdCI 472
- EdCI 484
- or EdCI 481
- or EdCI 485
- or EdCI 488
- EdCI 422

K-12 Internship 24-26 credits

- EdCI 490a — optional for winter/spring interns
- EdCI 494 and/or 495

Special Education Program

Program Area Head: Dr. Sheila Fox
Office: Miller Hall 318
Telephone: (206) 676-3330

The Special Education program leads to an initial certificate in one of four areas:

- Special Education (K-12) with a Secondary endorsement (4-12)
- Special Education (K-12) with an Elementary endorsement (K-8)
- Special Education (K-12)
- Early Childhood Handicapped (P-3)

See an adviser in the Special Education Office for details about each program.

Students in the Special Education (K-12) programs are required to take an approved major in addition to the professional program. Students in the Special Education program (P-3) are required to take an approved minor in addition to the professional program.

Special Education candidates who already possess a bachelor's degree with an approved major should consult with a Special Education adviser.

Courses necessary for completion of certification requirements with a primary endorsement in Special Education are outlined below. Cohorts in Special Education will form in the same quarters as their supporting programs: fall and winter Special Education with a Secondary endorsement or Special Education (K-12), and fall and spring for Special Education with an Elementary endorsement or Early Childhood Handicapped.

SPECIAL EDUCATION MAJOR

91-97 credits

This major leads to K-12 certificate and endorsement in Special Educa-

tion and must be accompanied by an approved Elementary major or an approved Secondary minor. See an adviser for major information and approval. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

17 credits

- Psychological Foundations
 - Psych 351
 - Psych 316
- Philosophical Foundations
 - EdAF 310
- Instructional Foundations
 - EdCI 320

General Methods 18-22 credits

- EdCI 472
- EdCI 385
 - or EdCI 485a (must be taken concurrently with EdCI 485)
- EdCI 485
- EdCI 424
 - or Eng 440
- Math 481

Note: Math 281, which is a prerequisite for Math 481, is not part of the program but can be taken as a GUR (General University Requirement) course option.

Special Education Program

28 credits

- EdCI 360
- EdCI 395b
- EdCI 361
- EdCI 422
- EdCI 462
- EdCI 461a
- EdCI 461b
- EdCI 466

Special Education Electives

4-8 credits by advisement

Choose one or two from the following:

- EdCI 463
- EdCI 469
- EdCI 460a
- EdCI 468
- EdCI 481
- EdCI 486

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Special Education Internship

24-26 credits

- EdCI 490a (optional for winter/spring interns)
- EdCI 498b
or EdCI 498c

SPECIAL EDUCATION MAJOR WITH ELEMENTARY CERTIFICATE

113-117 credits

This major leads to a certificate and endorsements to teach Special Education (K-12) and regular Elementary (K-8) programs. It must be accompanied by an approved major for Elementary candidates. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

24-26 credits

- Psychological Foundations
 - Psych 351
 - Psych 316
- Philosophical Foundations
 - EdAF 310
 - EdCI 395b
- Instructional Foundations
 - EdCI 360
 - EdCI 320
 - EdCI 385
 - or EdCI 485a

Elementary Program 27 credits

- Take two of the following courses:
 - Art 380
 - Music 361
 - PE 306
- Take each of the following courses:
 - Math 481
 - Note: Math 281, which is a prerequisite for Math 481, is not part of the program but can be taken as a GUR (General University Requirement) course option.*
 - Sci Ed 390
 - Sci Ed 391
 - Soc St 425
 - Eng 440
 - or EdCI 424
 - EdCI 485

Special Education Program

20 credits

- EdCI 361
- EdCI 462
- EdCI 461a
- EdCI 461b
- EdCI 466

Combined Internship 40-42 credits

- EdCI 490a (optional for winter/spring interns)
- EdCI 396
- EdCI 494
- EdCI 498b

SPECIAL EDUCATION MAJOR WITH SECONDARY CERTIFICATE

98-102 credits

This major leads to certificate and endorsements to teach Special Education (K-12) and regular Secondary (4-12) programs. It must be accompanied by an approved major for Secondary candidates. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

20 credits

- Psychological Foundations
 - Psych 351
 - Psych 316
- Philosophical Foundations
 - EdAF 310
- Instructional Foundations
 - EdCI 360
 - EdCI 320

Secondary Program 14-20 credits

- EdCI 385
or EdCI 485a
- EdCI 471
- EdCI 472
- EdCI 484
or EdCI 481
or EdCI 485

Special Education Program

20 credits

- EdCI 361
- EdCI 462
- EdCI 461a
- EdCI 461b
- EdCI 466

Combined Internship 40-42 credits

- EdCI 490a (optional for winter/spring interns)
- EdCI 495
- EdCI 498c

**EARLY CHILDHOOD
HANDICAPPED MAJOR**

108-113 credits

This program is designed to prepare teachers who work with children from birth to age eight who display handicapping conditions and leads to P-3 certificate and endorsement in Early Childhood Special Education. It must be accompanied by an approved minor. At the time this catalog went to press, Western had applied to the Office of the Superintendent of Public Instruction for approval of this program. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

20 credits

- Psychological Foundations
 - Psych 351
 - Psych 316
- Philosophical Foundations
 - EdAF 310
 - EdCI 390
- Instructional Foundations
 - EdCI 320

Early Childhood Program

24 credits

- EdCI 395a or b
- EdCI 431
- EdCI 432
- EdCI 433
- HS 335
- PE 485
- SP/A 351
- SP/A 354

Special Education Program

32 credits

- EdCI 360
- EdCI 361
- EdCI 460b
- EdCI 460c
- EdCI 460d
- EdCI 461a
- EdCI 461b
- EdCI 462a

Educational Curriculum & Instruction

- EdCI 466
- PE 496

Early Childhood Electives

8-11 credits

Select from the following courses:

- EdCI 331
- EdCI 435
- EdCI 463
- EdCI 465
- EdCI 469
- Home Econ 322
- Home Econ 422
- Psych 355
- Psych 451
- Sp/A 465
- SP/A 465a

Early Childhood Internship

24-26 credits

- EdCI 490a (optional for winter/spring interns)
- EdCI 498a

INTERNSHIP

The final experience for teaching certification candidates is the Internship. All primary endorsements require a full semester internship (16-18 weeks). Those students seeking a dual endorsement in Special Education and Secondary or Elementary Education will be required to intern an additional quarter (10-12 weeks). Students in semester internships will register for credits in two consecutive quarters.

Interns in Western's program are assigned to an Affiliated Clinical Faculty (ACF) member in the public schools. The ACF is a public school teacher who works with a team of supervisors (other ACFs, the building principal and the University Intern Coordinator (UIC)) to supervise and evaluate the intern. The ACF members are specially trained by the University to work with interns and to give them constructive feedback and evaluation. The final evaluation of the intern will be in collaboration with the team of supervisors, the UIC and the intern.

This team supervision model gives the intern the opportunity to receive feedback from a variety of sources on teaching skills as well as a cooperative final evaluation of success.

Students must sign up for their internship experience at least two quarters prior to the internship. **An adviser's signature is required for application for the internship.** Students will be required to interview with the ACF to whom they have been assigned for final approval.

Time involvement of interns is considered full-time and normally requires seven clock hours plus class preparation time, seminars and evaluation time spent outside of the school building to which the intern is assigned. Students may not register for other coursework during this time. Outside work or other time-demanding commitments must be approved by the program area head and Office of Field Experiences.

Placement locations currently include Whatcom County, Skagit County, Island County, San Juan County, portions of Snohomish County, portions of King County (including Seattle), and some additional locations in Washington and British Columbia. Available locations are listed on the student intern application available in the program area office or the Office of Field Experiences.

CERTIFICATES

Initial Teacher Certification

The State of Washington has recently approved new teacher certification guidelines which have changed the program requirements and endorsement areas offered by Western Washington University and all other State of Washington institutions. The lists in this catalog are current as of publication, but students must check

at the outset of their program with the Office of Admissions and Advisement for current lists.

The Initial Certificate is awarded to candidates who hold a baccalaureate degree from an accredited college or university and who receive a recommendation for certification from the School of Education. The candidate must also satisfy additional criteria, including:

- Completion of the professional studies program with a minimum grade point average of 2.75.
- Completion of a baccalaureate degree program in an area of endorsement.
- Declaration of intent to become a U.S. citizen or current U.S. citizenship

The Initial Certificate is valid for four years and is endorsed for both grade level and subject matter area. The certificate may be renewed once for a three-year period provided the following criteria can be met:

- No more than ten years have elapsed since completion of the original preparation program.
- The candidate is formally enrolled in a planned continuing-level preparation program.
- The candidate has completed 15 or more quarter credits of course work relevant to that program.
- The credits must have been earned in the seven years immediately preceding the date of application for renewal, unless the individual has completed at least 30 days of teaching in any of those seven years. (In that event, older credits may be used for renewal purposes.)

The Continuing Certificate will again be endorsed for both grade level and subject matter area.

CONTINUING CERTIFICATION REQUIREMENTS AT WESTERN WASHINGTON UNIVERSITY

The Continuing Certificate is required by the State of Washington of all career teachers. Generally, it should be earned by the end of the fourth year of teaching (see preceding section). To earn the Continuing Certificate, the teacher must have had at least three full years of experience and must earn at least 45 credit hours, of which at least 21 credits must be earned subsequent to the first year of teaching. The Continuing Certificate is valid as long as the teacher is in educational service and meets state requirements for formal coursework, but may lapse if the teacher does not serve at least 30 days during one of the seven consecutive years. Complete information regarding state requirements is available from the Office of Continuing Certification, Miller Hall 204A (206) 676-3388.

The following criteria must be met for a candidate to receive a recommendation for continuing certification from Western:

1. An approved plan of study must be filed with the School of Education, Continuing Certification office. Approval of the plan of study by the candidate's supervisory principal or administrator is required.

All course work must be approved prior to registration and must be taken post-baccalaureate and be upper division (300-400) or graduate level.

Within the continuing level preparation program, the candidate must demonstrate knowledge and skill in five areas as specified in the state Standards. The courses at Western for meeting these requirements are:

- Professional Program (minimum of 24 credits)
 - Minimum of 3 credit hours in staff development and supervision
 - Minimum of 3 credit hours in research and evaluation
 - Minimum of 3 credits hours in referral agencies/resource personnel
 - Minimum of 3 credit hours in knowledge of alternate grade levels
 - Minimum of 12 credit hours in professional development/scholarship
- Electives (minimum of 21 credits) to complete the 45 minimum quarter credit hours.

2. A minimum of one-half of the program (23 quarter hours) shall be earned through Western; the remaining 22 credits may be earned under WWU advisement through other approved four-year institutions. Correspondence study is limited to five quarter or three semester hours total.
3. A maximum of 24 quarter credit hours may be earned prior to the completion of one year (180 days) of teaching experience.
4. No grades below "C" are acceptable for certification purposes. If a course is taken on Pass/Fail system, the candidate's instructor must provide a statement that the "Pass" represented a "C" or better.

When all requirements have been met, formal application for the Continuing Certificate is made through Continuing Certification, Miller Hall 204, (206) 676-3388. Persons interested in pursuing a master's degree and the Continuing Certificate concurrently should also contact the Graduate School for information on the Graduate programs available.

COURSES IN EDUCATIONAL CURRICULUM & INSTRUCTION

Courses numbered X37, X97: 300, 400, 417, 445 are described on page 38 of this catalog

KEY TO COURSE NUMBERS: The first digit follows the University policy of numbering for the year in which the course is normally taken. The second digit signifies the following course groups.

- 0 Introductory
- 2 Curriculum and Instruction
- 3 Child and Youth Education
- 6 Special Education and the Disadvantaged
- 7 Secondary Education
- 8 Reading
- 9 Supervised Teaching or Practicums

(See Psychology section for courses in educational psychology)

- 131 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (3)
Review of the field in terms of history, philosophy, and professional opportunities; observation of young children
- 261 PRACTICUM ORIENTATION TO SPECIAL EDUCATION (1)
Guided observation and career exploration in special education; may be repeated for a maximum of 3 credits. S/U grading.
- 320 EFFECTIVE TEACHING (4)
Prereq: admission to the School of Education or permission of the instructor and concurrent enrollment in EdCI 360 or 363. Teacher behaviors positively effecting student achievement
- 331 CREATIVE LEARNING EXPERIENCES IN EARLY CHILDHOOD EDUCATION (3)
Materials and teaching strategies designed to elicit creative responses in young children through storytelling, art, music, body movement, puppetry, creative dramatics, etc
- 360 INTRODUCTION TO EXCEPTIONAL CHILDREN (3)
Prereq: sophomore status. The characteristics and treatment of handicapped and gifted children.
- 361 PRACTICUM IN SPECIAL EDUCATION (3)
Prereq: EdCI 360 and concurrent enrollment in EdCI 395b and EdAF 310 or permission. Observing and participating in recreational and educational activities with exceptional children, youth, and adults.
- 363 EXCEPTIONAL CHILDREN IN THE CLASSROOM (3)
Prereq: sophomore status. Introduction to the characteristics and needs of exceptional learners; pertinent federal and state laws; the regular classroom teacher's responsibility; assessment of learning problems; instructional techniques; behavior modification and collection and interpretation of educational data.
- 385 FOUNDATIONS OF READING INSTRUCTION (2)
Exploration of the reading process, principles underlying the teaching of reading.
- 390 PROFESSIONAL PRACTICUM AND SEMINAR (3)
Prereq: permission of instructor. Observation, participation and related seminars to enable each student to make a suitable professional decision. S/U grading
- 395a ELEMENTARY SEMINAR AND PRACTICUM I (2)
Prereq: admission to School of Education and concurrent with Psych 351 and 352. Guided observation and participation in elementary and/or middle schools with related seminars. Emphasis on study of children and their behaviors. S/U grading.
- 395b ELEMENTARY SEMINAR AND PRACTICUM II (2)
Prereq: EdCI 395a and concurrent enrollment in EdAF 310. Guided observation and participation in elementary and/or middle schools with related seminars. Emphasis on study of teaching behaviors S/U grading.
- 396 PRE-INTERNSHIP TEACHING SEMINAR (2)
Prereq: eligibility for internship. Lesson and unit planning, classroom management and discipline, professionalism, interpersonal relationships, and working with parents and school personnel S/U grading.
- 421 INSTRUCTION IN THE ELEMENTARY SCHOOL (3-5)
Organizing learning experiences, selecting methods or processes and materials appropriate to the maturation and rate of development of children.
- 422 THE ELEMENTARY CURRICULUM (3)
Historical and analytical study of the curriculum of the elementary school.

- 423c,d CURRICULA IN BASIC LANGUAGE ARTS SKILLS IN SECONDARY SCHOOLS (3)
Prereq: admission to a professional studies program. Designed for those who will be working in development and implementation of curricula to meet new accountability standards. Involves study of these standards and work with actual public school materials
- 424a,b,x LANGUAGE ARTS IN THE ELEMENTARY CURRICULUM (4)
Functions and programs of language arts in the curriculum including reading, writing, speaking, listening. Letters indicate grade level of emphasis in various sections of the course:
(a) Primary
(b) Intermediate
(x) Early Childhood
- 424c,d LANGUAGE ARTS IN THE SECONDARY CURRICULUM (3)
Functions and programs of language arts in the secondary curriculum.
(c) Junior High - Middle School
(d) Senior High
- 426a,b SOCIAL STUDIES IN THE ELEMENTARY CURRICULUM (4)
Functions, programs, and materials in the social studies. Letters indicate grade level of emphasis in various sections of the course:
(a) Primary
(b) Intermediate
- 426c,d SOCIAL STUDIES IN THE SECONDARY CURRICULUM (3)
Prereq: teaching experience or permission of department. Functions, programs, and materials in the social studies. Letters indicate grade level of emphasis in various sections of the course:
(c) Junior High - Middle School
(d) Senior High
- 429 DISCIPLINE IN THE ELEMENTARY SCHOOL (3)
Prereq: student teaching (or concurrent), teaching experience, or permission of instructor. Development of teaching strategies designed to prevent and/or solve behavior problems; analysis of related child development and learning theory.
- 431 EDUCATION OF THE YOUNG CHILD (4)
Prereq: permission of instructor. An in-depth study of the historical and philosophical bases of the education of young children and an examination of psychological principles as they relate to current programs.
- 432 NURSERY EDUCATION (3)
Prereq: EdCI 431 or permission of instructor. Development of curriculum for nursery school age children, emphasizing experiences which develop language, perceptual, motor, creative and interpersonal competencies.
- 433 KINDERGARTEN AND PRIMARY EDUCATION (3)
Prereq: permission of instructor. Historical background; recent trends; organization of facilities and materials for kindergarten and primary programs; curriculum development based upon research in this area.
- 435 CHILD ABUSE AND NEGLECT (3)
Development of skills for working with children from abusive or neglectful home environments. Content will deal with helping educators help children increase their self esteem and cope with their environments.
- 438 SCHOOL-HOME-COMMUNITY RELATIONSHIPS (3)
Problems of communication and interaction among teachers, parents, and para-professionals, administrators, and community; conferencing, planning meeting community survey, PR publications, use of mass media.
- 439 IMPROVEMENT OF WRITING SKILLS FOR CHILDREN (2-4)
Appropriate sequence of skills in composition for children; techniques implementing creative writing and improving fundamental skills.
- 441 ANALYSIS AND STRATEGIES OF TEACHING (3-5)
Prereq: one course from the educational psychology or foundations area, or permission of instructor. Systematic study of teaching; observation; analysis and development of teaching skills and strategies; individual projects.
- 442 WORKING WITH STUDENT TEACHERS (3)
Prereq: teaching experience. Techniques for the orientation of student teachers, major problems which confront student teachers, and evaluation of their achievement.
- 458 MANAGING CONFLICT AND STRESS (3)
Prereq: upper-division standing or permission of instructor. Examines the relationships among conflict, stress and health. Coping and managing techniques are emphasized. Self assessment methods necessary to diagnose stressors in the work setting, etc., are also included.

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- 460a LEARNING DISABILITIES (4)
Prereq: EdCI 360 or permission of instructor. Theoretical background assessment and instructional procedures for the learning disabled student.
- 460b PROGRAM DEVELOPMENT FOR EARLY CHILDHOOD SPECIAL EDUCATION (3)
Prereq: EdCI 360. Effective planning and implementation of early childhood special education programs. Includes environmental design, scheduling, budgets, personnel, parent communication and involvement, IEP development, theories and intervention models.
- 460c DIAGNOSTIC TEACHING OF PRESCHOOL AND PRIMARY CHILDREN (4)
Formal and informal testing procedures for identifying learning problems and selecting teaching procedures for preschool and primary exceptional children.
- 460d TYPICAL AND ATYPICAL INFANTS, TODDLERS AND PRESCHOOL CHILDREN (3)
Prereq: admission to the School of Education or permission. Theoretical and conceptual issues in the study of typical and atypical development of infants, toddlers and preschool children, including practicum observation experience.
- 461a ASSESSMENT AND EVALUATION I (3)
Prereq: EdCI 462 or permission. Assessment of pupil performance, selection of teaching strategies and evaluation of results of teaching activities using rate as one of the parameters. Daily practicum required.
- 461b ASSESSMENT AND EVALUATION II (3)
Prereq: EdCI 461a. Use of individualized teaching strategies and evaluation of results of teaching activities using precision teaching techniques. Daily practicum required.
- 462 CURRICULUM, METHODS AND PRACTICUM (8)
Prereq: EdCI 320, computer competency and Math 281, or permission. Student must be available one hour daily for practicum during public school hours. Instructional strategies in Special Education. Includes direct instruction, pre-vocational and vocational programming and transition services, survey and adaptation of instructional materials, task analysis, and classroom management.
- 462a CURRICULUM AND ACTIVITIES FOR PRESCHOOL HANDICAPPED CHILDREN (4)
Prereq: EdCI 360 or permission of instructor. Curriculum development and adaptation and selection of methods and materials for the preschool handicapped child.
- 463 EDUCATION OF BEHAVIOR DISORDER CHILDREN (4)
Prereq: EdCI 360. Definition, diagnosis and treatment of disturbed children in school settings. An in-depth analysis of the major theoretical models of disturbance.
- 464 THE EDUCATIONALLY DISADVANTAGED (4)
Prereq: junior standing. Methods for teachers of children who are underachieving in school due to differences in their cultural/experiential backgrounds.
- 465 ACTIVITIES FOR THE EXCEPTIONAL CHILD (3)
Prereq: EdCI 360 or permission of instructor. Experiences with inexpensive materials and methods which can be used in teaching arts and crafts to exceptional children. S/U grading.
- 466 GUIDANCE FOR THE HANDICAPPED CHILD (3)
Prereq: EdCI 360 and 361 or permission of instructor. Techniques for communicating with and counseling exceptional children, their parents and others influential in satisfying their needs.
- 468 EDUCATION FOR THE GIFTED AND TALENTED (4)
Prereq: EdCI 360 or permission of instructor. Exploration of characteristics, identification and special needs of the gifted and talented. In-depth analysis of the application of major theoretical models to the development of programs and curricula for the gifted and talented.
- 469 BEHAVIOR MANAGEMENT (4)
Prereq: admission to School of Education or permission. Behavior management strategies either elementary or secondary level. Emphasis on applied behavior analysis and teacher behaviors that enhance pupil motivation.
- 471 INSTRUCTION IN SECONDARY SCHOOLS WITH PRACTICUM (4 or 6)
Prereq: EdCI 320 or permission. Secondary curricula, lesson planning, instructional theory into practice, school structure. Practicum recorded and live observation in classrooms, interviewing middle/high school personnel, school-community resources, peer teaching.

- 472 **SECONDARY SCHOOL MANAGEMENT, INSTRUCTION AND EVALUATION WITH PRACTICUM (4 or 6)**
 Prereq: EdCI 471 or permission. Diagnostic techniques, models of instruction, questioning skills, measurement, discipline, management, and peer teaching. Practicum: guided observation, acting as teaching assistant in a middle/high school classroom, small group and limited large group instruction.
- 475 **EVALUATING PUPIL GROWTH (3)**
 Prereq: teaching experience or permission of instructor; for experienced teachers and research workers. Evaluative techniques related to significant or complex objectives, assessing outcomes of innovative teaching.
- 480 **CONFERENCE IN READING (1-3)**
 Prereq: teaching experience. Repeatable with different themes.
- 481 **DEVELOPMENTAL READING IN THE SECONDARY SCHOOL (4)**
 For pre-service and experienced classroom teachers, grades 6-12. Developmental reading skills, reading skills specific to content areas, and basic study skills. Not a course in remedial reading.
- 484 **THE TEACHING OF READING IN CONTENT FIELDS (4)**
 Techniques of teaching reading and applying reading to studying in social sciences, mathematics, English and other content areas in upper intermediate and secondary grades.
- 485 **BASIC READING INSTRUCTION (3-4)**
 Prereq: EdCI 385 or teaching experience. Basic reading instruction in grades K-8; methods and materials for teaching reading, reading readiness; word attack skills, word reading skills, comprehension skills; grouping, lesson planning.
- 485a **PRACTICUM IN BASIC READING INSTRUCTION (4)**
 Prereq: concurrent enrollment in off-campus section of EdCI 485. Practice in offering basic reading instruction in grades K-8. Methods and materials for teaching reading in areas of readiness, word attack skills and comprehension. Lesson plans developed and used with specific children. Evaluation of trade books and reading achievement.
- 486 **PROBLEMS IN CORRECTIVE READING INSTRUCTION (4)**
 Prereq: permission of instructor. Analysis, correction, and prevention of reading problems; refinement of group and informal testing, supervised practicum with pupils having mild disabilities in reading.
- 488 **INDIVIDUALIZED READING INSTRUCTION (4)**
 Principles and practices of individualized reading with emphasis on problems in organizing classroom programs for meeting individual interests and needs.
- 489 **LANGUAGE STRUCTURE AND READING DEVELOPMENT (4)**
 Prereq: EdCI 385. Examines the structure of language and its development in children with consideration of how this structure and development are critical to effective reading instruction.
- SUPERVISED LABORATORY TEACHING — Courses EdCI 490-496 and 498 offer varied opportunities for laboratory study in the classroom and for student teaching. Practice in the classroom is an integral part of professional preparation. See "Supervised Teaching" section for prerequisites, time of application, etc.**
- 490 **OBSERVATION AND PARTICIPATION (2-3)**
 Prereq: permission of department. Guided observation of experienced teachers and limited participation in teaching situations. S/U grading.
- 490a **SEPTEMBER EXPERIENCE (2-3)**
 Prereq: permission of department. Observation and participation in the opening of school. S/U grading.
- 493e,f **INDIVIDUALIZED INSTRUCTION IN READING — LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (6 ea)**
 Integration of reading, writing, speaking, listening and use of children's books as functional tools of the communication process; laboratory experience in developing individualized language activities with children in school settings. S/U grading.
- 494 **INTERNSHIP — ELEMENTARY (2-18)**
 Prereq: recommendation for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the primary and/or intermediate grades. May be repeated up to 24 total credits. S/U grading.
- 495 **INTERNSHIP — SECONDARY (2-18)**
 Prereq: recommendation for supervised teaching. Supervised teaching experience. Develop and demonstrate teaching competence at the junior high/middle school or senior high school level. May be repeated up to 24 total credits. S/U grading.

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496 PRACTICUM IN DIAGNOSIS AND PRESCRIPTION IN TEACHING (2-3)

Prereq: teaching experience. Defining objectives behaviorally; developing sequential learning activities; analyzing pupil readiness; prescribing appropriate strategies for continuous individual progress; applications with students in classrooms. May be repeated with varied content to a total of nine credits.

498abc INTERNSHIP — EXCEPTIONAL CHILDREN (2-18 ea)

- (a) Early Childhood
- (b) Elementary
- (c) Secondary

Prereq: EdCI 360 and recommendation for supervised teaching. Supervised teaching experience. Develop and demonstrate teaching competence for exceptional children. May be repeated up to 24 total credits. S/U grading.

499 ELEMENTARY STUDY IN ENGLAND (4,8)

Practicum and theory of elementary education in England; e and f must be taken in sequence. Offered summers in England.

499e Teaching Practicum in an English Elementary School (4)

499f Workshop in Philosophy, Curricula, Methods and Materials of English Elementary Education (8)

518 CURRENT ISSUES IN EDUCATION (1-5)

Prereq: graduate status or permission of instructor. Examination and discussion of several current and controversial issues in higher education in any of the following areas: (c) reading; (f) secondary education; (g) special education; (j) elementary education; (k) early childhood education.

521 SEMINAR IN ELEMENTARY CURRICULUM (4)

Prereq: teaching experience or permission of instructor. Advanced study of curriculum planning and development, including design, materials and problems in curriculum change. Independent research will be expected.

522a CURRICULUM IN THE SECONDARY SCHOOLS (3)

Prereq: admission to graduate program or permission of program adviser. Historical and philosophical perspectives on school curriculum as these relate to modern curricula. This course is designed for candidates for M.Ed. degrees in secondary school curriculum. Recommended for candidates in School Administration.

522b SEMINAR IN SECONDARY CURRICULUM (4)

Prereq: EdCI 522a or permission of program adviser. Planning and development of curriculum. Advanced study of curricular design, materials and adoption. Emphasis on current studies and trends. Independent research.

523 TEACHING ADOLESCENTS (4)

Prereq: EdAF 501. Advanced study of adolescents, especially in educational settings. Use of case studies. Emphasis upon recent research.

524 SEMINAR IN SECONDARY SCHOOL LANGUAGE ARTS CURRICULUM (2-4)

Planning and developing curriculum in language, literature and composition. Advanced study in specialized curriculum design and materials.

531 SEMINAR IN EARLY CHILDHOOD EDUCATION (4)

Prereq: permission of instructor. In-depth exploration of programs, theories and significant recent research in early childhood education.

531b ADVANCED SEMINAR IN EARLY CHILDHOOD EDUCATION (3)

Prereq: EdCI 531, 596a. Specific problems will be drawn from the field and content organized according to student need.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

502a,b,c,d COMPETENCIES FOR CONTINUING CERTIFICATION (3 ea)

Prereq: teaching experience. Demonstrations of minimum generic competencies required for Continuing Certification of teachers.

- a. Staff development and supervision.
- b. Referral agencies and resource personnel.
- c. Knowledge of grade level alternate to that endorsed for initial certification.
- d. Research and evaluation for the classroom teacher.

(Some MEd programs include one or more of the required generic competencies. Candidates should check with advisers.) S/U grading.

Note: These courses are not applicable to a master's degree. They are for continuing certification only.

532 TEACHING AND LEARNING OF ELEMENTARY SCHOOL SUBJECTS (4)

Prereq: teaching experience or permission of instructor. Advanced study of research findings and theoretical developments affecting the teaching of various basic elementary school subjects.

533 SEMINAR: THE ELEMENTARY SCHOOL CHILD (4)

Prereq: teaching experience or permission of instructor. Critical review of current life in elementary school classrooms in relation to individual differences and general growth patterns of children, ages 5-12, research findings in psychological impact of schooling upon child growth and development as bases for examining specific educational practices and determining implications for improving classroom and school practices.

533b ADVANCED SEMINAR IN ELEMENTARY EDUCATION (4)

Prereq: advancement to candidacy. Advanced study of topics in elementary education. Serves as a program capstone seminar.

534 PLAY AND THE CHILD (4)

Prereq: graduate status or teaching experience. Examination of the nature and role of play in the cognitive, affective, physical and social development of the child. Attention is given to the educative functions of play and implications of those functions for curriculum and instruction.

555 MIDDLE SCHOOL CURRICULUM DESIGNS AND INSTRUCTIONAL STRATEGIES (2-6)

Prereq: teaching experience. Current curriculum designs in middle school programs will be surveyed and selected elements analyzed. Appropriate instructional strategies necessary to facilitate these designs will be studied. The individual class member will select the study of some special major middle school development appropriate to his school curriculum and/or program. (May be repeated to a maximum of 6 credits.)

560 SEMINARS IN SPECIAL EDUCATION (2-5)

Prereq: graduate status or permission of instructor. Specific problems and methods for serving exceptional children. Content will vary from summer to summer; hence the course may be repeated for credit.

560a SEMINAR IN EDUCATION OF LEARNING DISABLED STUDENTS (4)

Prereq: EdCI 460a or permission of instructor. Study of instructional and behavioral interventions with learning disabled students and application in the classroom. Procedures for successfully mainstreaming learning disabled students.

561 ADVANCED PROBLEMS IN SPECIAL EDUCATION (3-5)

Prereq: permission of instructor. Intensive study of problems in a selected area of special education.

562 ETIOLOGY OF MENTAL RETARDATION (3)

Prereq: teaching experience or permission of instructor. Mental retardation; major clinical types whose principle feature is retardation; causes; on-going research into this problem.

563 CURRICULUM AND METHODS OF INSTRUCTION FOR THE MILDLY HANDICAPPED (3)

Prereq: EdCI 562. Class organization, selection of curriculum content and instructional aids for teaching children having a wide range of mental retardation.

564 EDUCATIONAL TECHNIQUES FOR MALADJUSTED CHILDREN (4)

Prereq: teaching experience or permission of instructor. The use of applied behavior analysis techniques with the emotionally disturbed child in the classroom.

565 CONSULTATIVE TEACHING IN SPECIAL EDUCATION (4)

Prereq: admission to the program or permission of the instructor; concurrent enrollment in 565a. The consultative teacher's role in providing special education services to mainstreamed exceptional children with emphasis on skills needed to achieve that role.

565a PRACTICUM IN CONSULTATIVE TEACHING (3)

Prereq: concurrent enrollment in EdCI 565. Students will participate in a practicum with a master teacher or consultant who is operating in the specialist role.

566 COUNSELING AND GUIDANCE FOR THE HANDICAPPED CHILD (4)

Prereq: EdCI 360, 361. Application of techniques in guiding and counseling exceptional children and communicating their characteristics to parents and others influential in meeting their needs.

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571 DISCIPLINE, MANAGEMENT AND MOTIVATION IN THE SECONDARY SCHOOL (4)

Prereq: admission to graduate study or Fifth Year program. Current research on teacher effectiveness; systematic approaches, psychological bases, legal issues related to the creation of an effective, personally rewarding, learning environment in the middle and high school classroom.

583 READING AND CHILDREN'S LITERATURE (4)

Teaching basic reading skills through the use of children's books; selection and analysis of children's books in order to teach reading, from beginning or pre-word recognition levels through junior/senior high level.

584 PSYCHOLOGY OF READING (4)

Perceptual and cognitive processes in reading and their implications for reading instruction. Study and interpretation of reading research literature and the application of psychological principles to the design of reading research problems.

585 SEMINAR IN READING EDUCATION (3-4)

Prereq: permission of instructor. Reading education research and its application to classroom practices, to individual problems in the teaching of reading, to supervision and administration of reading programs.

586 SEMINAR FOR READING SPECIALISTS (4)

Prereq: advancement to candidacy or permission of instructor. Selected readings of a minimum of eight books concerned with issues in reading education.

587 IMPROVEMENT OF INSTRUCTION IN READING (4)

Prereq: at least one previous course in the teaching of reading or teaching experience. Teaching developmental reading, methods, materials theory.



589 SEMINAR IN LANGUAGE ACQUISITION AND READING DEVELOPMENT (4)

Prereq: graduate status or teaching experience. Exploration of current theories in language acquisition, linguistics, and psycholinguistics and implications for early childhood education and reading instruction.

590 SEMINAR IN DEMONSTRATION TEACHING AND SUPERVISION (3)

Prereq: EcCI 442 or permission of department. Advanced studies in the principles of supervision; utilization of instructional resources and the evaluation and improvement of teaching.

592d FIELD EXPERIENCE IN EARLY CHILDHOOD EDUCATION (2-6)

Prereq: graduate status and permission of instructor. Supervised field experience in developing, directing and evaluating early childhood education programs.

592e FIELD EXPERIENCE IN ELEMENTARY SCHOOL LEADERSHIP (2-8)

Prereq: permission of instructor. Designing, field testing and evaluating innovative school programs, practices and materials for the elementary school.

594e. PRACTICUM IN READING DIAGNOSIS AND REMEDIATION (4 ea):

Prereq: graduate status or permission of instructor; e, f, g, or e, f, h must be taken in sequence. Reading consultant candidates will have consultant opportunities approved by instructor (h)

- (e) Standard diagnostic tests in reading; supervised practice in their use.
- (f) Individual case study; diagnosis and remedial instruction of children with reading problems.
- (g) Advanced practicum in remedial reading.
- (h) Practicum in reading consultant work.

596a ADVANCED PRACTICUM: EARLY CHILDHOOD EDUCATION (2-6)

Prereq: graduate status or permission of instructor. Individualized practicum in early childhood programs for experienced teachers. S/U grading.

596b ADVANCED PRACTICUM IN TEACHING: ELEMENTARY SCHOOL (2-6)

Prereq: graduate status and 20 quarter hours of approved course work. Supervised experience for the improvement of teaching. Participants will select an area of concentration, develop plans and procedures for improvement of instruction, and submit a plan for classroom implementation and evaluation.

596c ADVANCED PRACTICUM: SECONDARY EDUCATION (2-6)

Prereq: graduate status and 20 quarter hours of approved course work. Supervised experience for the improvement of teaching in the secondary school. Participants will develop plans and procedures designed for the improvement of instruction and submit a plan to the course instructor and appropriate public school authority for classroom implementation and evaluation.

598 PRACTICUM IN SPECIAL EDUCATION (4)

Individualized experience in programs for exceptional children for students having had teaching experience with handicapped children.

599 FIELD STUDY OF ELEMENTARY EDUCATION IN ENGLAND (2-5)

Prereq: EcCI 499e, f. An in-depth study of the British primary school system with research focus on one specific aspect. Examines schools, philosophy, materials, environment and application to U.S. classrooms.

639 CURRENT TOPICS IN EDUCATION (1-5)

Prereq: master's degree and permission of instructor. Studies of current topics in any one of the following areas: (a) adult education; (b) educational administration; (c) reading; (d) foundations; (e) learning resources; library science; (f) secondary education; (g) special education; (h) personnel administration; (i) elementary education; (j) early childhood education; (k) community education; (l) interprogram topics.

686 ADVANCED SEMINAR FOR READING RESOURCE SPECIALISTS (4)

Prereq: master's degree and initial ESA Certificate as a reading resource specialist; currently employed as reading specialist. This seminar is a requirement for those seeking the Continuing Certificate as an ESA reading resource specialist. Emphasis will be on problems faced by the reading specialist/consultant in working with children, parents, teachers, other specialists and administrators.

690a THESIS (6-9)

Prereq: approval of the student's graduate committee. Research study under the direction of a faculty committee; the thesis may be done off campus between periods of residence work. S/U grading.

690b FIELD PROJECT (6-9)

Prereq: approval of the the student's graduate committee. Field project under the direction of a faculty committee; the field project may be done off campus between periods of residence work. S/U grading.

Interdisciplinary Programs

Reading Supporting Endorsement

READING MINOR — ENDORSEMENT

26-29 credits

This program leads to a supporting endorsement (K-12) in Reading to be added to an Elementary or Secondary teaching certificate.

Reading Core 2-4 credits

- Foundations of Reading or Language
 - EdCI 385
 - or EdCI 489

Reading Program 24-25 credits

- Basic Reading Instruction
 - EdCI 485
 - or EdCI 587
 - EdCI 481
 - or EdCI 488
 - or EdCI 583
- Reading in the Content Fields
 - EdCI 484
- Diagnosis and Remediation
 - EdCI 486
 - or EdCI 594
 - EdCI 460a
 - or EdCI 560a
- Children's Literature
 - Choose one of the following courses:
 - LibSci 405
 - LibSci 407
 - Eng 441
 - Eng 444
 - EdCI 583

Early Childhood Supporting Endorsement

EARLY CHILDHOOD MINOR — ENDORSEMENT

24-26 credits

This program leads to a supporting endorsement (P-3) in Early Childhood Education to be added to Elementary or Secondary certification.

Professional Studies Core

4-5 credits

- Psychological Foundations
 - Psych 316
 - or Psych 352

Early Childhood Program

16-21 credits

- EdCI 431
- or EdCI 531
- EdCI 331
- or EdCI 534
- EdCI 489
- or EdCI 589
- EdCI 432
- or EdCI 433
- or Home Econ 423
- EdCI 390
- or EdCI 592d

Early Childhood Electives

By advisement to total a minimum of 24 credits in the minor.

Fairhaven College

Dr. Daniel M. Larner, Dean

A COLLEGE WITHIN THE UNIVERSITY

Founded in 1966, Fairhaven college is an undergraduate division of Western Washington University. Its purpose is to offer students the opportunity to take an uncommon degree of responsibility for the structure and content of their own educations. The College offers training in writing and research, critical thought and creative expression, independent judgment and scholarship, self evaluation and assessment.

At Fairhaven, students are challenged to bring what they learn to bear on human concerns and crucial real world problems, to experiment, to discover, and to act. This style of education supports the development of certain values and practical skills: discipline, resourcefulness, initiative, flexibility and adaptability. It is the responsibility of faculty to cultivate these attitudes in their own studies and in their classes. It is the responsibility of students to participate fully in the learning process and to shape their own goals and expectations.

Any WWU student can choose to enroll in Fairhaven's integrated degree program, or, if affiliated with Western's other colleges, may take Fairhaven classes to augment their selected course of study. Fairhaven students take, on the average, about half their classes from other departments within Western. They have full University status and access to all the educational, cultural and social resources of WWU.

A STRUCTURE FOR LEARNING

A close working relationship between

the teacher and the student is a continuing commitment at Fairhaven College. Classes are small and the emphasis is on open discussion and exchange of ideas. Independent study, field work, internships and practica are encouraged. In any given quarter, students may select classes offered across the University and/or design study projects in consultation with faculty.

Fairhaven College in conjunction with Western Washington University offers the following undergraduate degrees: Bachelor of Arts; Bachelor of Arts in Education; Bachelor of Fine Arts; Bachelor of Music; Bachelor of Science.

Requirements for bachelor's degrees awarded by Fairhaven College are as follows:

- The Fairhaven Core Program, including an established WWU major or a Fairhaven Interdisciplinary Concentration
- Minimum of 180 quarter hours of credit, including 60 credits at the upper-division level and 45 credits in residence
- Completion of WWU writing proficiency requirements (Fairhaven 101 and Fairhaven 118 partially fulfill this requirement.)
- Scholarship and credit standards as prescribed in the Fairhaven College *Community Handbook*

Note: Requirements common to all undergraduate divisions of WWU are listed elsewhere in this *Catalog*.

THE EXPERIENCE OF GRADUATES

Fairhaven graduates have obtained positions in virtually all fields, includ-

ing; business & industry; communications, journalism & research; community service, counseling & health; education; fine & performing arts; government — local, state, national; medicine, law, ministry; public & international relations.

Graduates have independently ventured into the private sector, started their own businesses, created new jobs in established organizations and distinguished themselves in research and publication.

Many graduates have pursued advanced studies. The following are some of the schools which have accepted Fairhaven graduates: Boston University; Columbia University; Fuller Theological Seminary; Harvard University; The Juilliard School; Northwestern University; Princeton University; The San Francisco Art Institute; Camphill-Rudolph Steiner School (Scotland); Canterbury University (England); Ecole du Louvre (France); Leuven-Kortrijk University (Belgium); University of Paris (France); Waseda University (Japan).

In preparation for graduation, students are invited to review their academic files with faculty and staff. Transcripts, class evaluations, concentration documents, letters of reference — these and other materials may be organized for use in employment search or application to graduate schools.

THE CORE PROGRAM: THREE CURRICULAR STAGES

The Core Program, unique to Fairhaven College, includes a series of courses designed to widen students' exposure to areas of study and to connections among disciplines. Its purpose is to help students become perceptive, probing learners who can ask questions and pursue answers with care and confidence. Skills in reading, writing, presentation and analysis are emphasized. Each course deals with the methods of

knowing and understanding, the unique objects of knowledge, the modes of creativity and the practical applications to be found in each area of study.

There are core courses in each of three curricular stages. Students need not complete one curricular stage before advancing to the next.

STAGE 1: EXPLORATORY STUDIES

Studies to gain basic skills of thought and expression, and to develop broad perspectives in the areas of human inquiry and experience:

- 101 Foundations Seminar
- 103 Social Perspectives
- 105 Historical Perspectives
- 107 Scientific Perspectives
- 109 Artistic Perspectives
- 111 Personal Perspectives
- 113 Cross-Cultural Perspectives
- 118 Writing Competency
- 119 Transition Conference

STAGE 2: CONCENTRATED STUDIES

Studies to sharpen, deepen and integrate knowledge, to learn different approaches to scholarship, to frame questions and find ways to answer them.

Complete one of the following options:

Option A: The Fairhaven Individually Designed Major — The "Interdisciplinary Concentration"

303 Concentration Seminar

Components of Concentration:

- Proposal of study
- Completion of courses and readings
- Senior project
- Student summary and evaluation

Committee review and approval

OR

Option B: A major in one of the departments of Western Washington University Departmental requirements pertain — see particular *Catalog section*

STAGE 3: ADVANCED STUDIES

Studies to demonstrate understanding of knowledge gained and to assimilate and synthesize what has been learned; discovery of ways in which one's specialization may be generalized to other fields and applied to society.

- 401 Senior Project (Option A students only)
- 403 Advanced Seminar (Both Option A and Option B students)

THE INDIVIDUALLY DESIGNED MAJOR

The Fairhaven Interdisciplinary Concentration provides an opportunity for developing an individually designed major. It allows maximum flexibility in formulating a program to meet personal and career goals, bringing together each student's vital interests from more than one discipline into a cohesive whole.

The program combines college and university classes, independent studies, field work and other practical experiences relevant to the student's purposes. Students are assisted in completing the concentration by faculty and other advisers, and by a course, the *Concentration Seminar*. At the conclusion of the program, a *senior project* and a *concentration summary* help each graduate to evaluate his or her work and to look toward the future.

The following titles represent some

concentrations recently completed by Fairhaven College students:

The Ethics of Science
American Social Structures: A Critical Perspective of Women in History
Art as Sign and Ritual in Society
The Narrative Image: Writing, Film and Photography
Poetics of Cultural Change
Poverty, Minorities and Mental Health
Kaleidoscope: Future Design in Education
The Human Condition: A Socio-Psychological Interpretation
Ecological Parameters of Human Culture
Folklore Studies: Myth and Folktales
Performing Arts Management and Production
Affirmative Options in Aging
The Intersection of Science, Law and People

Further information pertaining to the concentration, its possibilities and prospects, may be found in the Fairhaven College *Community Handbook*.

SPECIAL PROGRAMS

THEMATIC AND INTENSIVE STUDIES. The College may offer several classes in a single quarter which focus on particular topics, issues or themes. For example: "Moral Issues," a course based on Robert N. Bellah's *Habits of the Heart: Individualism and Commitment in American Life*, was a 15-credit class taught by an attorney and an historian. Independent field studies abroad or community internships might consume a full quarter registration.

PROFESSIONAL EDUCATION. For students wishing to acquire teaching credentials, Western's *School of Education* offers a choice of majors — including certain Fairhaven Concentrations — appropriate to public school teaching. Faculty advise students in the construction of their programs and work closely with the

Fairhaven College

School of Education in helping the student to complete requirements.

THE UPSIDE-DOWN DEGREE. The usual route to a B.A. degree calls for general education in the first two years and specialization in the last two years. Fairhaven's Upside-Down B.A. gives selected students an option to reverse this process. Graduates of Washington State community colleges who hold the ATA, the AAS, or other approved two-year technical degrees may apply to transfer their specializations to Fairhaven as the completed major. Stages 1 and 3 of the curriculum and a minimum of 90 credits are then required for graduation. Students are expected to complete as much as possible of their elective credit at the upper-division level (courses numbered 300 or above). *Each application for this program is reviewed on an individual basis. Students are urged to contact the College early in the admissions process.*

ADVISEMENT AND FOUNDATIONS

Careful advisement is stressed at Fairhaven, and is always available from members of the faculty and staff. The College schedules its own advisement sessions for entering students. During their first quarter, students take the core *Foundations Seminar* and are assigned a faculty adviser. The faculty and staff then meet with the students throughout their course of study.

GRADING AND EVALUATION

At Fairhaven, the A-to-F grading system is not used. Classes and studies are taken on a "Satisfactory/Unsatisfactory" basis. Academic credit is granted after requirements have been satisfactorily completed and the student has submitted a written self-evaluation of his or her work to faculty instructors. Faculty respond with a written evaluation of the stu-

dent's progress. The student-faculty evaluation becomes a part of the student's academic file.

The official transcript, held in the University's *Registrar's Office*, lists all Fairhaven and other WWU classes (normally graded) and studies completed. Fairhaven College complies with the *Student Records Policy* of Western Washington University found elsewhere in this *Catalog*.

TUITION, FINANCIAL AID, AND SCHOLARSHIPS

Fairhaven students pay the same tuition and fees as students of other colleges in the University. See other sections of this *Catalog* for specific details. Information regarding federal, state and private financial assistance and application procedures should be addressed to: *Office of Student Financial Resources*, Western Washington University, Bellingham, WA 98225. Fairhaven's *Entrance Scholarship* fund provides awards to selected students who are new to both Fairhaven and Western. Write to *Fairhaven College* for separate brochure and qualification guidelines.

APPLYING FOR ADMISSION, VISITING FAIRHAVEN

Students currently enrolled in other programs at Western may transfer to Fairhaven fall, winter or spring quarter. They must then satisfy Fairhaven's requirements for bachelor's degrees. Transfer students from other WWU divisions or other colleges and universities may have some core requirements waived upon admission.

New applicants to Fairhaven and to the University complete the *Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington*.

The words "Fairhaven College"

should be written at the top of the form. Send the standard application and all transcripts to: Office of Admissions, Western Washington University, Bellingham, WA 98225.

We encourage you to pay us a visit! If you call first (206/676-3677) or write to us, we can arrange appointments with the Dean, an admissions adviser, faculty, students or other WWU staff.

FAIRHAVEN COLLEGE FACULTY

- DANIEL M. LARNER (1968) Professor and Dean of the College. AB, Harvard College; MS, PhD, University of Wisconsin, Madison.
- KATHRYN L. ANDERSON (1972) Associate Professor. BA, MA, University of Iowa; PhD, University of Washington.
- JOSEPH BETTIS (1975) Professor. BA, Southern Methodist; BD, Drew University; MA, PhD, Princeton University.
- GARY BORNZIN (1981) Assistant Professor. BS, California Institute of Technology; MS, PhD, University of Colorado.
- MICHAEL J. BURNETT (1969) Associate Professor. BA, University of Illinois; MA, PhD, Claremont Graduate School.
- LESLIE CANTON (1980) Associate Professor. BA, Oberlin College; MA, PhD, University of Oregon.
- CONSTANCE P. FAULKNER (1968) Professor. BS, PhD, University of Utah.
- KENYTH D. FREEMAN (1971) Professor. AA, Mars Hill Jr. College; BA, Wake Forest University; MA, Emory University; PhD, Columbia University.
- PAUL C. GLENN (1969) Associate Professor. BA, University of Washington; MFA, Stanford University.
- WILLIAM H. HEID (1968) Associate Professor. BA, Denison University; MS, PhD, University of Washington.
- RAND F. JACK (1971) Professor. BA, Princeton University; LLB, Yale University Law School.
- ROBERT H. KELLER (1968) Professor. AB, University of Puget Sound; BD, MA, PhD, University of Chicago.
- DAVID T. MASON (1966) Professor. AB, Reed College; MA, PhD, University of California, Davis.
- JOHN C. McCLENDON (1971) Associate Professor. BA, MA, San Francisco State College; PhD Candidate, University of California, Davis.
- DONALD B. McLEOD (1963) Professor. BA, Whitman College; MA, University of Montana.

Faculty Specialties include American literature, anthropology, art and art history, Asian studies, biology, constitutional and environmental law, creative writing, theory and practice of teaching, ecology, economics, European and Russian literature, history and philosophy of science, human development, limnology, mathematics, Middle East studies, oceania, philosophy, physics, psychology, contemporary religion, religion and the arts, play and scriptwriting, social theory, U.S. and Native American history, theater and drama, women studies.

Other Members Of The Western Washington University Faculty, from various departments and programs, contribute to Fairhaven's curriculum as teachers of classes, members of advisory committees for concentrations, and as lecturers. Visiting faculty and guest lecturers from other universities, and from a variety of other occupations, also add to the resources available to Fairhaven students.

THE REGISTRATION PROCESS

UNIVERSITY REGISTRATION. Registration for Fairhaven College offerings occurs during scheduled University registration. Registration appointments are mailed to all students by the University. Registration for Fairhaven College variable credit classes and independent studies is via a faculty-signed *Independent Study Permit Card*.

FAIRHAVEN COLLEGE STUDENTS. Credit earned by Fairhaven students taking Fairhaven classes may apply to the core requirements, to the concentration, or to the general 180-credit requirement for graduation. Credit earned by Fairhaven students taking other WWU classes may apply to the major or concentration, or to the 180-credit requirement for graduation.

OTHER WWU STUDENTS. Fair-

Fairhaven College

haven College credit earned by students affiliated with Western's other divisions is applied to the general 180-credit requirement for graduation. Fairhaven's courses and studies are open to all WWU students.

THE FAIRHAVEN COLLEGE QUARTERLY COURSE SCHEDULE. Available prior to registration in the fall, winter and spring — announces schedule changes and additions and it describes in detail Fairhaven's offerings each term. Students are advised to consult the schedule before finalizing their programs.

FAIRHAVEN COLLEGE COURSES AND STUDIES

FAIRHAVEN'S 1987-89 CURRICULUM. The courses and studies listed in this *Catalog* will be offered during the 1987-89 academic years. Additional classes will be announced and described in the Fairhaven College quarterly class schedule as they are offered.

CORE STUDIES

101 CORE: FOUNDATIONS SEMINAR (5)

Required of Fairhaven College students the quarter of admission. An introduction to critical learning skills, aspects of educational theory, curricular structures and individualized learning. Provides an introduction to the resources of the College and the University. Emphasis on communication skills (writing, seminar discussion, listening), designing and critiquing independent study programs, discovery and use of resources, research techniques and self-evaluation. Partially satisfies the all-University writing proficiency requirement.

103 CORE: SOCIAL PERSPECTIVES (5)

The nature and principles of social organization; the role of the individual in relation to social, economic, religious and political institutions; impact of ideas, values, ideologies and symbols on the social fabric.

105 CORE: HISTORICAL PERSPECTIVES (5)

Various approaches to historical methodology and ways in which information is interpreted to reveal relationships between past and present.

107 CORE: SCIENTIFIC PERSPECTIVES (5)

The nature of scientific truths, sources and manipulation of data, and the philosophic and cultural limits of science.

109 CORE: ARTISTIC PERSPECTIVES (5)

The nature of artistic expression and its relation to society. How artists/writers create and how others experience, analyze and judge the creation.

111 CORE: PERSONAL PERSPECTIVES (5)

What knowledge is possible about the unique individual? Various methodologies and resources for such investigation; exploration of ways toward personal growth.

113 CORE: CROSS-CULTURAL PERSPECTIVES (5)

The variation, function, structures of human culture; the dynamics of enculturation. A look at other cultures in part as a means to gain perspective on life in the United States.

118 CORE: WRITING COMPETENCY (3)

Development and demonstration of writing competency in consultation with faculty. See the Fairhaven College *Community Handbook* for procedure. Partially satisfies the all-University writing proficiency requirement.

119 CORE: TRANSITION CONFERENCE (1)

Demonstration of breadth of knowledge in consultation with faculty. See the Fairhaven College *Community Handbook* for procedure.

301 CORE: TRANSFER SEMINAR: METHODS OF INTERDISCIPLINARY STUDY (5)

Prereq: 90 credits and recommendation of program manager. Emphasis will be on reading educational and social science philosophy.

303 CORE: INTERDISCIPLINARY CONCENTRATION SEMINAR (5)

Required of students undertaking an Interdisciplinary Concentration. Review of procedures and assistance in ordering one's course of study into an effective concentration proposal. Credit awarded upon filing the proposal.

401 CORE: SENIOR PROJECT (Variable)

Independent study required of students undertaking an Interdisciplinary Concentration. See the Fairhaven College *Community Handbook* for guidelines.

403 CORE: ADVANCED SEMINAR (5)

Required of all Fairhaven College students. An opportunity for seniors to share their understanding of the concentration or major, to consider its place in the world, and to explore its possible uses, interactions and continuities after graduation

CONCENTRATED STUDIES**210/310/410 a-z HISTORY, CULTURE AND SOCIETY (1-5)**

Analysis of social institutions: theories or issues with reference to their history, structure or meaning; cultural unity and diversity. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College quarterly class description booklet as they are offered. Repeatable with different topics.

211 THE AMERICAN LEGAL SYSTEM (5)

NOTE: This course may be taken in partial fulfillment of the GUR Social Sciences requirement. The American legal system and how it affects individuals and society. The structure and evolving nature of the legal system, legal reasoning and the role of courts in government. Skill development in reading and analyzing court opinions.

212 INTRODUCTION TO POLITICAL ECONOMY (5)

A study of the American economic system from two perspectives: orthodox (Keynesian/neo-Keynesian) and critical; application of both theoretical frameworks to problems in modern American society.

213 MAKING ANTHROPOLOGY PERSONAL. RESEARCHING AMERICAN CULTURE (4)

Through the collection of data and analysis of local cultural phenomena, students examine the unity and diversity of American culture, and learn the methods and perspectives of cultural anthropology. Focus on popular culture, mass media, social dynamics, national rituals, symbols and myths

214 TELEVISION AND MEDIA: A CRITIQUE (4)

A critical examination of the mass media with particular emphasis on television and the television industry. Television's impact and influence on American culture, society and politics.

216 WORLD RELIGIONS (4)

Study of the history, mythology and cultural context of various world religions. Repeatable with different topics

217 HISTORIAN AS DETECTIVE (5)

Introduction to the challenges of investigation. Assignments develop specific research skills and an understanding of evidence. Use of reference tools, historical fiction, essays and readings in classical historians. Herodotus, Thucydides, Tacitus, Gibbon.

218 NUCLEAR ISSUES (4)

Nuclear war, anti-nuke movements, nuclear ideology, nuclear power and nuclear politics.

311 INDIAN HISTORY/FEDERAL POLICY (4)

Prereq: study of American history or politics, or study of or practical experience with Native American culture. An examination of Native American history with a special emphasis on the role of federal policy, statutory law and court decisions

312 PACIFIC RIM STUDIES (3)

Prereq: history, political science, economics or East Asian studies. History of the development of the Pacific Rim countries with emphasis on the understanding of economic and political developments.

313 CONTEMPORARY ASIA (4)

Prereq: background in history or political science. A critical analysis of political, cultural and social movements and trends in various countries of Asia, including Japan and Communist China. Repeatable with different topics

314 TOPICS IN CONTEMPORARY RELIGION (3)

Prereq: background in philosophy or psychology. Studies in modern religious movements; phenomenology of religion; psychology of religion; the relationship of religion to secular culture and the individual. Repeatable with different topics.

315 MULTINATIONAL CORPORATIONS AND THE THIRD WORLD (4)

Prereq: Fair 103, 105 or equivalent. Development of underdevelopment. Nature and functions of multinational corporations in the Third World and their influence on the U.S. Theoretical approaches and case studies of countries and corporations

316 THE U.S. IN CENTRAL AMERICA (4)

Prereq: at least one course in history or political science. The history of American involvement in Central America and the development of rationales for that involvement.

318 THE AMERICAN LABOR MOVEMENT (4)

Prereq: some college-level background in American history, economics or political science. The American labor movement from the Knights of Labor to the Taft-Hartley Act with particular emphasis on its place in social, political, economic history.

Fairhaven College

411 POLITICAL ECONOMY AND THE STATUS OF WOMEN (5)

Prereq: Fair 212 or Econ 203 or 204 or equivalent micro or macro economics. Examination of the connections between class and gender relations and the productive and reproductive spheres; labor force participation; occupational segregation; wage and other forms of discrimination, etc. Writing intensive.

412 CRITIQUE OF AMERICAN CAPITALISM (5)

Prereq: Econ 204, Fair 212 or equivalent plus upper-division standing. The introduction of critical social theory and its application. Open to students from any field of study. The social problems and theoretical areas to be studied will be determined from students' academic and/or work-related backgrounds.

413 CURERS, CLIENTS AND CULTURE: CROSS-CULTURAL PERSPECTIVES ON HEALTH AND ILLNESS (4)

Prereq: cross-cultural studies or instructor permission. Examines health belief systems in cross-cultural perspective, including the roles of practitioner and patient; explanation, diagnosis and treatment of disease; the impact of modernization on non-western medical systems, and ethnicity and health care in the U.S.

414 RHETORIC OF FEMINISM (4)

Prereq: background in rhetorical theory or women studies. Survey of ideas and modes of persuasion with emphasis on changes in the form and content of arguments and counter-arguments in the context of social and intellectual history. Detailed rhetorical and historical analysis of selected individuals and particular movements. Writing intensive.

415 GOVERNMENT POWER UNDER THE CONSTITUTION (5)

Study of constitutional law and the way in which the Supreme Court construes the constitution in addressing major social and political questions. Critical reading and analysis of court opinions. Questions of power distribution and conflict among the three branches of the federal government and between the states and federal government.

416 INDIVIDUAL RIGHTS UNDER THE CONSTITUTION (5)

Recommended preparation: Fair 415. Study of constitutional law and the way in which the Supreme Court construes the constitution in addressing major social and political questions. Critical reading and analysis of court opinions. Questions of individual rights in conflict with government regulation.

417 KARL MARX ON HISTORY AND SOCIETY (4)

Prereq: some background in the social sciences. Readings and discussions of Marx' works dealing with historical materialism, politics, history and social relations. Each reading will be placed within the general historical and specific polemical milieu from which it arose.

220/320/420 a-z LANGUAGE, LITERATURE AND COMMUNICATIONS (1-5)

Literature as expression of the human experience: creative and expository writing; structure, technique and technology of communication: semantics. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College quarterly class description booklet Repeatable with different topics.

221 COLLEGE WRITING (3)

Directed toward the student who wishes to improve expository writing skills. Theory, practice and criticism of student work.

222 IMAGINATIVE WRITING (3)

Workshop to critique and discuss student manuscripts.

223 a-c COMMUNICATION CLINIC (2 ea)

Three mini-sessions for students interested in developing or sharpening specific skills in group communication, interviewing and public speaking.

224 THE CRAFT OF SCIENCE FICTION (3)

Studies in the problems, issues, assumptions and techniques involved in the writing of science fiction. Discussion of readings and practice in writing within the genre.

225 EXPLORING THE DICTIONARY (4)

Building vocabulary and understanding of etymology and usage through extensive analysis of words their roots and meanings.

226 FILM AND SOCIETY (2)

Viewing and discussion of selected films with reference to social, political and cultural issues, as well as to cinematic technique. Since issues and approach will vary from year to year, course is repeatable.

227 SYMBOLS IN THE MOVIES (4)

Prereq: at least two courses in humanities. A study of symbolic expression as it is found in selected movies—chosen especially for their use of symbols—are viewed and discussed each week, with attention to the ways symbols are used to communicate as well as the effects their uses achieve.

- 322 **IMAGINED WORLDS (4)**
Prereq: background in literature or instructor permission. Studies in the fairy tale, fantasy, or science fiction. Discussion of literary technique, recurrent themes, prototypes in myth and legend. Since authors or genres will vary from year to year, course is repeatable
- 323 **STUDIES IN EUROPEAN AND RUSSIAN LITERATURE (4)**
Prereq: Fair 109 or course in literature. Readings and discussion of great 19th or 20th century imaginative writers. Possible authors: Pushkin, Gogol, Turgenev, Dostoevski, Tolstoy, Chekhov, Gorky, Kafka. Repeatable with different topics.
- 324 **WRITING FOR THE MEDIA (3)**
Workshop on script writing for slide, video, film or radio productions for education, persuasion or entertainment. Focus is on text development, but some instruction is offered on production techniques for these various media
- 325 **STUDIES IN MYTH AND MYTHOLOGY (4)**
Prereq: background in humanities or cultural history. Literary and artistic archetypes, world mythology, comparative cosmology, symbols and the unconscious. Repeatable with different topics.
- 326 **FILMS FROM NOVELS (3)**
Prereq: interests or classes in writing or film. Study of films made from novels with emphasis on development of film treatments.
- 421 **NONFICTION WORKSHOP (3)**
Prereq: writing courses. An advanced course for those who wish to improve their skills in writing effective prose of any kind, as well as those actively engaged in specific writing projects. Devoted to reading and analyzing student work in various stages of completion, supplemented by discussions of individual and common writing problems with emphasis on form and craftsmanship. Conversations with experienced writers in both the arts and sciences will regularly occur. Writing intensive.
- 230/330/430 a-z **NATURE, SCIENCE AND THE ENVIRONMENT (1-5)**
Analysis of systems for understanding, describing and predicting the world of nature; environmental concerns and social policy. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College quarterly class description booklet. Repeatable with different topics.
- 231 **INTRODUCTION TO THE HISTORY OF SCIENCE (4)**
An introduction to the development of scientific investigation, methodology and theory-making. Includes the problems, limitations and powers of various approaches to knowledge that have been called "scientific." Intended for both scientists and non-scientists.
- 232 **COMPUTERS (4)**
Studies in the hardware, software and social, economic, political, cultural and educational implications of the computer revolution. May include introduction and instruction in programming and word processing. Repeatable with different topics
- 233a-c **ORGANIC GARDENING: APPROPRIATE TECHNOLOGY (2)**
An ongoing student-cooperative study, under faculty direction, of the principles and practice of organic gardening and appropriate technology, intended to enable greater self-sufficiency in harmony with the environment in rural or urban settings. Student participation in instruction.
- 234 **THE LANGUAGE OF MATHEMATICS (4)**
Introduction to various aspects of mathematical reasoning and computation, to how mathematics makes its meanings, the uses and limitations of mathematics. Repeatable with different topics.
- 331 **PATTERNS OF NATURE (4)**
Prereq: background in the sciences or literature or instructor permission. Noting, measuring and recording recurring patterns in the environment. May include nature writing, fieldwork, and the design and execution of research projects. Repeatable with different topics. Writing intensive.
- 332 **NATURAL HISTORY OF INLAND WATERS (4)**
Prereq: Fair 107 or other background in science. Biological indicators of wetlands, community structure, sensitivity and resilience. Field observations and identification of creatures large and small, measurements of biotic activity and environmental variables, observational and experimental design, data processing and reduction, and analysis of results
- 333 **THE CONSCIOUS UNIVERSE (4)**
Prereq: Fair 107 or one course in the sciences, or permission of instructor. A study of the increasing importance in the sciences of such concepts as consciousness, relatedness, perspective—dependence, wholism and metaphor—emerging from feminist critiques and from the works of such scientists as Bohm, Prigogine, Shel-drake, Capra and McClintock.

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- 334 REGIONAL ECOLOGIES (3)
Lectures emphasizing the ecology of a large global region: e.g., tropics, arctic/ant-arctic, deserts or temperate zone. Science background not assumed.
- 335 SCIENCE, TECHNOLOGY AND VALUES (4)
Prereq: Fair 103 or 107 or equivalent. Examines the past and present and possible future impacts of science and technology on each other and on social values, and of social values upon science and technology. Writing intensive.
- 431 ENVIRONMENTAL LAW (5)
Prereq: environmental studies or law or government or economics. Survey study of major areas of environmental law with emphasis on legal and policy conflicts which have gone to court for resolution.
- 432 TIME, SPACE AND REALITY (4)
Prereq: upper-division standing. A study of assumptions underlying various conceptions and descriptions of space, time, measurement and reality. May include discussion of classical and modern physics, art, child development, non-Western cultures. Appropriate for the artist, liberal artist, or scientist. Repeatable with different topics.
- 433 FRONTIERS (4)
Prereq: Fair 107 or other science courses. Questions, trends, theories and important figures at the leading edge of physics, biology, chemistry, or mathematics. Repeatable with different topics.
- 240/340/440 a-z HUMAN DEVELOPMENT, PERSONAL IDENTITY AND SOCIALIZATION (1-6)**
Studies in historical, social, educational, cultural, psychological and physiological components of human development, personal identity and social roles. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College quarterly class description booklet. Repeatable with different topics.
- 241 STUDIES IN CARL JUNG (1)
Basic concepts and terminology of Carl Jung through selected readings of Jung, commentaries by established Jungian authors and recorded lectures produced by the Jungian organization, "Centerpoint."
- 242 SEXUAL MINORITIES (3)
Historical, sociological, political, psychological and cultural aspects of people who prefer modes of sexual expression other than exclusive heterosexuality.
- 243 AWARENESS THROUGH THE BODY (4)
The body, its internal senses and its movements. Attention is paid both to theories and experiences of the body and its immediate environment. Repeatable to 8 credits.
- 341 UNDERSTANDING HUMAN DEVELOPMENT (5)
Human development through everyday processes of family, sexuality, work, community and friendship. Includes introduction to basic theories and research from psychology, anthropology, sociology and health.
- 342 PERSONAL EMPOWERMENT IN THE NUCLEAR AGE (3)
Through lecture, discussion and experiential learning, we move from expression of our knowledge and feelings about the present planetary crisis to the articulation, definition and experience of individual and group power.
- 343 AWARENESS THROUGH THE BODY: PHASE II (4)
Prereq: Fair 243. A continuation of Fair 243 with increased emphasis upon psychophysical integration: development of definitions of "good use" and a study of leading theoretical constructs of the field.
- 344 HUMAN EMOTIONS (4)
Prereq: Fair 243 or other experiential learning (consult instructor). Theoretical frameworks for understanding the emotional life will be introduced, along with techniques for self-observation.
- 345 THERAPY, ARTS AND THE COMMUNITY (5)
Prereq: courses in human development or personality theory. Therapies which use music, dance and the other arts in a variety of settings. The nature of social relations in therapy for various cultures. The role of professional and lay healers.
- 346 WORK (4)
Prereq: studies in the social sciences or the humanities. An interdisciplinary study which examines the meaning, necessity and value of our basic activity. Readings drawn from philosophy, psychology, sociology, political science and literature.
- 347 WOMEN AND IDENTITY (4)
Prereq: courses in psychology. An examination of research and theory describing the outer realities of women's lives and their cognitive/emotional responses to those realities. Women's sense of self and identity as it derives from the interplay of these inner and outer worlds. Focus on women's moral thinking, identification with role, and depression.

- 348 MEN AND IDENTITY (3)**
Prereq: courses in human development, women studies or body awareness. Exploration, through the arts, of men's changing identities and roles. Study of artists, media and criticism dealing with contemporary gender roles and relationships. Sharing of creative work, with collaborative projects in theatre, dance, music and mixed media.
- 349 FROM DESCARTES TO PHENOMENOLOGY (4)**
Prereq: courses in philosophy, upper-division standing or instructor permission. Readings, lectures and discussions on the history of modern philosophy with emphasis on epistemology. The intention of the course is to show how contemporary attitudes are both dependent on and a reaction to major tendencies in the history of philosophy.
- 441 ALIENATION AND COMMUNITY (4)**
Prereq: upper-division standing. A study of alienation and community in modern Western thought with special emphasis on interpersonal relationships as the basis of community. The approach is interdisciplinary, drawing on literature in philosophy, psychology, sociology, theology and literature.
- 442 PSYCHOLOGY, RELIGION AND SOCIETY (4)**
Prereq: courses in psychology or religious studies or related subjects or instructor permission. An interdisciplinary study using the methods of psychology and religious studies to examine various psycho-religious activities and events such as "faith," "conversion," etc.
- 250/350/450 a-z ARTS, SELF-EXPRESSION AND CREATIVITY (1-6)**
The creative process in theory and practice; the role of art and artists in society; analyzing expressive forms within cultural context. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College quarterly class description booklet. Repeatable with different topics.
- 251 ORIENTAL ART AND RELIGION (4)**
An introduction to oriental art and aspects of oriental religions that are related to art. The painting of the Tang and Sung period of China; the "I Ching" and the "Tao Te Ching." The temple sculpture in India which drew its inspiration from the Tantric religion; the religious scripture of Tantra, Hinduism and Buddhism.
- 252 STAINED GLASS WORKSHOP (3)**
Techniques for Tiffany-style stained glass-cutting, foiling, soldering. The elements of design peculiar to this art medium will be introduced through a study of traditional and contemporary stained glass.
- 253 CHORAL SINGING (2)**
Open to all without audition who wish to sing mixed choral music. A wide range of choral literature will be rehearsed and performed with emphasis on individual vocal development and ensemble singing. Repeatable to 6 credits.
- 254 ART AND IDEOLOGY (4)**
Exploration of the relationship of art to its culture. Examination of the relationship of Rubens to the Council of Trent, Michelangelo to Martin Luther, the Russian Avant-Garde to the Russian Revolution, Picasso to Einstein, the sculpture of the Age of Pericles to Pythagorus, Chinese landscape painting to Zen Buddhism, David to the French Revolution.
- 255 MUSIC LISTENING (3)**
The principles of repetition and contrast in music; the elements of melody, harmony, rhythm, texture and timbre and their organization into formal structures with primary emphasis on how to hear these elements in a broad range of musical styles including contemporary jazz.
- 256 PORTRAIT DRAWING (2)**
Pencil, pen and ink wash study of the head, working from the model. Instruction and practice in layout, details, expression, likeness and viewpoint.
- 257 MUSICAL/DRAMATIC PRODUCTION (1-5)**
Prereq: permission of instructor. Rehearse, stage and perform a musical/dramatic theatre production. Repeatable with different topics.
- 258 OPERA STUDY (2)**
Enhanced appreciation of productions of operas in Seattle and Vancouver through lecture, discussion, critical listening and historical/cultural studies related to the operas. Repeatable to 6 credits.
- 259 IMPROVISATIONAL THEATRE (2)**
An introduction to acting through improvisation. Individual and ensemble work with a variety of forms and themes. Includes movement, voice, character, narration and scene development. Related readings and short essays.
- 351 SPIRITUAL PATHS (4)**
Prereq: courses in the humanities. A study of the literature of spiritual journey, with references to classical and modern texts. Examples of spiritual autobiography and instruction and psychological and philosophical descriptions of religious experience.

352 BACKGROUNDS OF CONTEMPORARY ART (3)

Prereq: courses in history or art history. Exploration of the current debate on post-modern art by viewing art of the past ten years and reading the critics who are attempting a definition of post-modernism. Study of significant painters of the first 50 years of this century

354 PAINTING TECHNIQUES (4)

The fundamental grammar of painting: studies in water-color, tempera, pastel, gouache, oil, acrylic, mixed media and collage. How to stretch canvas, prepare panels and size paper. Exploration of the nature of pigments, their relative permanence and how to grind and mix them. Examples of the techniques of such painters as Rubens, Van Dyke, Da Vinci, Degas, Renoir, Rothko.

355 PERFORMING ARTS WORKSHOP (1-5)

Preparation, with coaching and co-learning, for individual and small ensemble live performance in music, dance, spoken arts and performance art. Work on selection of material, stage presence, audience relationship, staging and openness to criticism. Supportive and critical context for new and experienced performers leading to a public performance.

356 DREAMS, IMAGINATION AND CREATIVITY (4)

Prereq: Fair 111, or Fair 243, or instructor permission. A study, through readings, discussion, experiences, of the content and interrelationships between dreams, imagination and creativity to enhance the intuitive dimension of daily life. Extending the range of imagination through practice: visualization techniques, artistic expression, journal writing.

451 SYMBOLS IN ART, CULTURE AND THE UNCONSCIOUS (4)

Prereq: courses in the humanities or social sciences. The nature of symbols and symbol systems as expressed in art, psychology and historical myth. Developing dictionaries of personal symbols through reference to dreams and personal reaction to universal symbols.

452 SHAMANISM: HEALERS, VISIONARIES AND DREAMERS (4)

Prereq: Fair 113 or Anth 201; Fair 413 or Anth 424 recommended. Cross-cultural comparison of the roles, recruitment, techniques and performances of shamans, those ceremonial practitioners who move in a state of ecstasy between various spiritual realms. The relationships between healing, magic, sorcery and alternative states of consciousness in cultural context

COOPERATIVE, INDEPENDENT AND SPECIAL STUDIES

200/300/400 INDEPENDENT STUDY (Variable)

Prereq: Fairhaven College independent study permit card required for registration. By arrangement: fall, winter and spring. To enable students to study independently under faculty sponsorship. Repeatable.

275/375/475 a-z COOPERATIVE SPECIAL INTEREST STUDIES (1-6)

Faculty or student initiated small special interest study groups formed around particular topics, themes, issues or activities. Topics will be listed in the Fairhaven College quarterly class description booklet as they are offered. Repeatable with different topics.

280 PRACTICUM (Variable)

Prereq: approval by two or more Fairhaven faculty members via independent study procedures. By arrangement: fall, winter and spring. Fairhaven College independent study permit card required for registration. Learning through practical involvement outside the classroom; general exposure and experience. Repeatable.

297/397/497 a-z EXPERIMENTAL COURSES (1-6)

Courses which give flexibility to the curriculum by allowing faculty to offer unusual or timely classes. Topics will be listed in the Fairhaven College quarterly class description booklet as they are offered. Repeatable with different topics.

480 INTERNSHIP (Variable)

Prereq: approval by two or more Fairhaven faculty members via independent study procedures. By arrangement: fall, winter and spring. Fairhaven College independent study permit card required for registration. Practicum in a(n) area related to one's course of study, addresses specific roles or responsibilities. Repeatable.

499 a-z SPECIAL PROBLEMS IN INTERDISCIPLINARY STUDIES (1-15)

Prereq: upper-division standing. Investigation of problems and issues through advanced interdisciplinary study. Topics will be listed in the Fairhaven College quarterly class description booklet as they are offered. Repeatable with different topics.

COLLEGE OF FINE AND PERFORMING ARTS

Robert Sylvester, Dean

The College of Fine and Performing Arts is dedicated to excellence in teaching and learning. Creativity in process and analysis form the objectives of course work: *doing* music, theater, dance, painting, sculpture, ceramics, fabrics, while *thinking* about their theory, criticism and history.

The primary supposition of the College remains that only through encouraging and promoting new ways of seeing and thinking can we hope to provide educated individuals with the tools necessary to enjoy, and change, a world increasingly beset with the problems of modern civilization.

Academic Programs Leading to Undergraduate and Graduate Degrees

Art	BA, BA/Ed, BFA, M/Ed
Art History	BA
Music	B/Mus, M/Mus, BA/Ed
Theatre	BA

Admission

A student is admitted to the College of Fine and Performing Arts when he or she has been admitted to Western Washington University and has officially declared and been accepted as a major in any one of the three departments of the College. Advisement is carried on through the department and through the office of the Dean of the College of Fine and Performing Arts.

Requirements for Bachelor's Degree

Besides the general requirements for

graduation from the University, explained elsewhere in this catalog, the College of Fine and Performing Arts has the following specific requirements:

- The Bachelor of Music degree requires at least 192 quarter hours of credit.
- The Bachelor of Fine Arts degree is the professional undergraduate art degree requiring study beyond the normal four years.

Majors/Minors

In addition to the General University Requirements and other common degree requirements, a candidate for a bachelor's degree must complete a major from one of the departments within the College of Fine and Performing Arts. A minor is optional.

Student/Faculty-Designed Major

The Student/Faculty-designed major is a major for a bachelor's degree granted by the College of Fine and Performing Arts. Each major is approved by the Curriculum Committee of the College of Fine and Performing Arts. Approval should come after 45 — and before 90 — credits are completed.

Directions and contract forms will be issued to applicants by the Dean's office only after the Dean has granted preliminary approval to the applicant's concept for his or her student/faculty-designed major.

Interdisciplinary Arts Major

A nine-quarter program which leads to a Bachelor of Arts degree in Fine and Performing Arts, the program is a 108 credit major comprised of 36 credits in Interdisciplinary Arts courses, a 36 credit concentration within a department of the College

College of Fine & Performing Arts

and a 36 credit University concentration, taken under advisement. Courses and other details can be found in this catalog under Arts, Interdisciplinary.

Students interested in this major should consult with the Director of the Interdisciplinary Arts program or the Dean of the College of Fine and Performing Arts.

A minor in Interdisciplinary Arts is also offered.

Department Chairmen

Gene Vike Art
C. Bruce Pullan Music
Dennis Catrell Theatre/Dance

Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this catalog. For an exact scheduling of courses at Western, students should consult the annual timetable of classes, the Summer Catalog and the University Extension bulletins.

The following program is listed in the "Interdisciplinary" section following the departments listings:

interdisciplinary Arts

Art

The Art Department offers a number of degree programs with major and minor concentrations in art history, art education, graphic design and

illustration, painting, drawing, print-making, sculpture, ceramics, fibers and metals. These concentrations are basic and central to the various purposes of art. They are potentially discrete disciplines in themselves and are typically studied as such, but they are also media and process alternatives that may be brought together in various ways.

Concept of Instruction

The broad instructional concept is to integrate the components of art history, criticism, studio courses, University courses, gallery exhibition programs and permanent collections into patterns of day-to-day experience.

It is important that the student understand the history, traditions and conventions of art and art criticism, for herein lies the intelligible language of art and the heritage of humankind. The student learns to interpret, analyze and make intelligent judgments about art as well as learn the skills and concepts of the studio. It is important to experience contemporary art and the work of the avant garde as well as learn the traditional. A grasp of the dynamic nature of a culture and the continuing extension of its language is a fundamental objective.

This integrated pattern of experience does not come about by a long series of required courses but is achieved through coordinated scheduling, cooperation of faculty and student interest and commitment. Through a contract system students may, in conjunction with faculty of the Art Department, develop majors to meet their particular backgrounds, needs and interests. Through arrangement with instructors, innovative programs may be planned. Programs may also be developed involving art and other disciplines. While there are certain required courses in each of the majors, the Art Department has attempted to give the greatest possible degree of flexibility in its pro-

grams congruent with student involvement and concerted faculty advisement. Students should seek advisement from faculty members in the department regularly.

ART FACULTY

- GENE E. VIKE (1962) Chair.
Professor. BA in Ed. BA, Western Washington State College; MS, Pratt Institute.
- MADGE GLEESON (1983) Assistant Professor
BA, MAT, Brown University; MFA, Washington State University.
- LAWRENCE HANSON (1963) Professor, BA, MFA, University of Minnesota.
- ROBERT A. JENSEN (1966) Associate Professor
BFA, University of Washington; MFA, Washington State University.
- THOMAS A. JOHNSTON (1967) Professor, AA, San Diego City College; AB, San Diego State College; MFA, University of California, Santa Barbara.
- DAVID F. MARSH (1957) Professor, BA, Central Washington State College; MS, University of Oregon.
- PATRICK F. McCORMICK (1969) Professor.
BFA, BA, University of Washington; MFA, Cranbrook Academy of Art.
- MARY A. McINTYRE (1968) Professor, AB, MFA, Indiana University.
- THOMAS SCHLOTTERBACK (1965) Professor.
BFA, MFA, University of Kansas; PhD, The State University of Iowa.
- LINDA E. SMEINS (1981) Assistant Professor.
BFA, University of Denver; MA, California State University, Long Beach.
- DAVID E. TEMPLETON (1969) Professor, BFA, MA, University of Illinois; PhD, University of Minnesota.
- ROBERT A. URSO (1969) Professor, BA, MA, University of Notre Dame, Ind.
- HOMER A. WEINER (1964) Professor, BFA, Bradley University; MFA, University of Iowa.

Adjunct Faculty:

- John Olbrantz, Curator, Whatcom Museum of History and Art.
George Thomas, Director, Whatcom Museum of History and Art.

BACHELOR OF ARTS

Studio Major 80-85 credits

- Art 101 or equivalent, 120 or 130
- Art History 201, 301, 401
- Art History 220, 230, 240

Satisfactory completion of the studio

major will be determined by contractual agreement between the student and a faculty committee. Individual advisement concerning this contract may begin whenever the student requests it. The contract should be written before the student has completed 24 credits in art. Concentrations may be developed in printmaking, painting, sculpture, ceramics, metals, fibers, graphic design/illustration, or in a combination of these areas as determined by the student's contractual agreement. Courses outside the Art Department may be applied where appropriate. Revisions and amendments will be considered and may be made by the student and the faculty committee upon request.

Upon completion of the contract the studio major will submit 10-15 slides of their work as verification of competency.

Studio Minor 30-35 credits

- Art 101 or equivalent, 120 or 130
- Art History 240
- Electives under advisement

Art History Major 70 credits

- Art History 201, 301, 401
- Art History 220, 230, 240, 340, 440, 490
- Three areas from:
 - Art History 310, 410
 - Art History 320, 420
 - Art History 430, 431
 - Art History 360, 460
 - Art History 370, 470
- 12 elective credits in art history
- 12 credits in studio courses
- Supporting courses; 10 credits in appropriate courses outside the area of art history selected under departmental advisement
- Reading knowledge of French or German

Art History Minor 30-35 credits

- Art History 220, 230, 240

Art

- Two courses selected under advisement from each of two areas: Primitive, Ancient, Renaissance, Modern, or American; one course from any single area may be a directed studies in that area

BACHELOR OF ARTS IN EDUCATION

Programs in art education lead to becoming either an elementary classroom teacher or an art specialist who teaches art only. Elementary classroom teachers, who teach all subjects, must specialize in one area. Those who want to do so in art will take the 50-credit program in addition to those courses specified in the School of Education elementary section of this catalog. Those who want to teach art only at any grade level take the 70-credit program as well as the requirements presented in the School of Education secondary section.

For possible changes in program requirements, consult the current timetable of classes and School of Education, Advisement Office.

The content of the major will be determined by contractual agreement between the student and a faculty committee. Upon completion of not less than 12 credits and not more than 18 credits of art a student must write a contract with the faculty committee for completion of the major. Transfer students with more than 18 credits should do this prior to completion of their second quarter at the University. Revisions and amendments may be made by the student and the faculty committee upon request.

Major — K-12 Art Specialist 70 credits

Required of all majors:

- Art 101 or 201 and 202

- Art 120, 220, 230, 240, 250, 260, 370, 373, Tech 260
- Advanced Studio (15 credits)
- Art History 201, 220, 230, 240
- Art Education 280, 381, 382

Major — Elementary Education 50 credits

- Art 101 or equivalent, 120, 201 or 202, 220, and 320
- Art History 201, 240, and 220 or 230
- Art 280, 381, 382
- Three courses from the following: Art 240, 250, 260, or Tech 260
- 5 credits in advanced studio

Supporting Teaching Endorsement 30 credits

- Art 101 or equivalent, 120 and 230
- Art 280, 381, 382
- Art History 240
- Electives under advisement

BACHELOR OF FINE ARTS

Studio Major 140-150 credits

The Bachelor of Fine Arts degree is the professional undergraduate art degree. It is an expanded undergraduate degree that requires each student to undertake a program of more than 180 undergraduate quarter credit hours. Students are advised that a Bachelor of Arts studio major of normal length is available. The Bachelor of Fine Arts degree requires each student to complete the following basic program:

- A 70-75 hour primary concentration in one specific studio area. The areas are: drawing, painting, printmaking, sculpture, graphic design/illustration, ceramics, fibers and metals. Certain areas may be combined to create an area of concentration on consultation with faculty
- A 25-30 hour secondary concen-

tration in a studio area other than that covered in primary concentration. Certain areas may be combined to create an area of concentration on consultation with faculty

- A 30-35 hour Art History minor
- A minimum of 10 free elective hours outside of the Art Department in addition to general university requirements
- Passage to BFA candidacy after completion of 50 hours of art credit
- Passage to BFA status upon completion of contract before granting of the degree

Each student BFA program is arranged through the Art Department's contract system. That contract should be established between the student and the primary and secondary area advisers at the completion of 24 credits in art. After the completion of 50 credit hours, each student should have made arrangements through the major professor to submit work to the area faculty in consideration for admission to BFA candidacy. Each student's works are considered by his/her committee separately and judged in relationship to established esthetic criteria in a manner designated by the department. At the completion of all hour requirements each student must submit work for BFA degree consideration. This will be a public exhibition or presentation in an appropriate professional milieu. Transfer students with more than 18 credits of previous art work should seek advisement before entering the BFA program. All incoming students contemplating the BFA degree are urged to seek departmental advisement during the first quarter at Western.

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an art major who wishes to graduate "with

honors" must complete an Honors Senior Project in art.

MUSEUM TRAINING

The Art Department, along with the Whatcom Museum of History and Art, provides a museum training program for qualified students from Western Washington University. Students wishing such experience will enroll in Art History 302 — Museology I, or Art History 402 — Advanced Museology. The students will receive their training with the staff of the appropriate museum.

INTERNSHIP

The Art Department offers a field internship program for qualified students concentrating in graphic design/illustration, printmaking or museum work. Interns receive instruction and practical experience under the supervision of professionals in the field.

WESTERN GALLERY

Western Art Gallery has a well established reputation in the Northwest and it features a thoughtful, high quality exhibition program throughout the year. The program includes regional, national and international exhibitions. Visiting artists, critics and curators are a regular part of the activity of the department and the gallery.

FIRST-YEAR STUDENTS

Freshmen may elect courses of their choice at the 100 and 200 level which will become the basis for subsequent work.

All students should notice the Art History core requirements and prerequisites for 300 and 400 level courses and plan their academic program accordingly.

Transfer students with more than 18 hours of previous work should seek

Art

advisement concerning transfer of credit during the first quarter at the University. Transfer students are required to complete a minimum of 15 art credits in residence for an art major and 5 credits for a minor.

GRADUATE STUDY

For a concentration leading to the Master of Education degree, see the Graduate Section of the Catalog.

COURSES IN ART

(See also Art History section, which follows.)

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

NOTE: The Art Department may request samples of work produced in a studio course for exhibition purposes.

- 101 DRAWING (3)
Fundamental principles and techniques of drawing in a variety of media.
- 120 DESIGN AND COLOR (3)
Prereq: Art 101 or equivalent. Introductory level problems involving the elements and principles of two-dimensional design.
- 130 THREE-DIMENSIONAL DESIGN (3)
Prereq: Art 101 or equivalent. Introductory level problems involving three-dimensional form.
- 201 DRAWING CONCEPTS & SYSTEMS (3)
Prereq: Art 101 or equivalent. A studio course committed to the study of various drawing concepts and systems, beyond the introductory level. Assigned projects emphasize more in-depth use of media and sophistication of concept.
- 202 LIFE DRAWING I (3)
Prereq: Art 101 or equivalent. Drawing from the live model. Individual and group critiques.
- 210 PRINTMAKING I (3)
Prereq: Art 101 or equivalent. A lecture/lab course covering history, methods and practice of printmaking concepts. Introduction to the monoprint, intaglio (etching) and planographic (lithography) printmaking processes.
- 220 PAINTING (3)
Prereq: Art 101 or equivalent. Introduction to contemporary painting.
- 230 SCULPTURE I (3)
Prereq: Art 101 or equivalent. Beginning problems in three-dimensional form and expression employing a variety of media. Introduction to contemporary concepts in sculpture.
- 240 CERAMICS (3)
Prereq: Art 101 or equivalent. Introduction to ceramics. Pottery and sculptural forms are handbuilt using coil, slab, and molded techniques. Introduction to glaze formulation, kiln loading, and firing.
- 250 METALS I (3)
Introduction to metal fabrication techniques which may be applied toward a jewelry, sculptural or mixed media approach in creative expression.
- 260 FIBERS/FABRICS I (3)
Prereq: Art 101 or equivalent. A studio course designed to explore the character of soft materials by application of thread/paint/dye to a surface and the structuring of fiber forms.
- 280 INTRODUCTION TO ART EDUCATION (2)
Prereq: 9 credits in art. Examination of the profession of art education, teaching skills, teaching as influencing student behavior in art, curriculum content and materials.
- 301 HUMAN FIGURE STUDY (5)
Prereq: Art 101, 201, 202, 220 or 230. Study of the human figure from an anatomical standpoint. Includes drawing, painting and sculpting. The student will complete a portfolio including in-class work and other assignments in sketching and anatomy studies.
- 302 LIFE DRAWING II (3)
Prereq: Art 202 or equivalent. Intermediate level drawing problems from the live model. Some emphasis given to anatomy. Repeatable to 9 credits.
- 310 DRAWING WORKSHOP (5)
Prereq: Art 201 or 202. A studio course committed to the pursuit of drawing as a major creative mode of expression. Emphasis is placed on students becoming self-directed as to assignments. Weekly group criticisms; field trips to museums and galleries. Repeatable to 15 credits.
- 311 PRINTMAKING - LITHOGRAPHY (3)
Prereq: Art 201, 210. Planographic processes: emphasis on stone lithography.
- 312 PRINTMAKING INTAGLIO (3)
Prereq: Art 201, 210. Intaglio processes: etching, engraving, drypoint, aquatint.

- 313a,b PRINTMAKING - COLOR (3,5)
Prereq: Art 311 or 312. Workshop in color problems for etching or lithography. Repeatable to 15 credits.
- 320 PRINCIPLES OF COLOR (3)
Prereq: Art 120. Advanced theory and principles of color as applied in painting or design. Studio problems in a variety of media.
- 321a,b PAINTING WORKSHOP (3,5)
Prereq: Art 220, AH 240 or concurrent enrollment. Intermediate problems in painting. Development of individual direction in form and expression. Repeatable to 15 credits.
- 325a,b WATERCOLOR PAINTING (3,5)
Prereq: Art 220. Beginning problems with various water soluble media. Repeatable to 15 credits.
- 328a,b LIFE PAINTING (3,5)
Prereq: Art 202 and 220. Painting from the nude or draped model. Repeatable to 15 credits.
- 331a,b SCULPTURE WORKSHOP (3,5)
Prereq: Art 230. Problems in three-dimensional form and expression employing a variety of media and materials. Students will set their own problems in consultation with the instructor. Repeatable to 15 credits.
- 341a,b CERAMICS II (3,5)
Prereq: Art 240. Introduction to the potter's wheel as a tool; handbuilding, glaze formulation and kiln firing. Emphasis on functional ware forms. Weekly seminars. Repeatable to 15 credits.
- 342a,b CERAMICS WORKSHOP (3,5)
Prereq: Art 341. Intermediate problems in clay as a medium. Development of individual directions in pottery and/or ceramic sculpture. Weekly seminars. Repeatable to 15 credits.
- 350 METALS II (3)
Prereq: Art 250. Problems in form and expression using more advanced metal techniques such as casting, forging, plating and enameling. Repeatable to 15 credits.
- 361 FABRICS (5)
Prereq: Art 120 and 260. Fabrics as a creative mode of expression. Use of silk-screening techniques and dyeing processes. Consideration of repeat patterning, color and space. Repeatable to 15 credits.
- 367 FIBERS (5)
Prereq: Art 120 and 260. Creation of fiber structures as a major medium of expression. Consideration of form, color and space in the structuring of loom and non-loom work. Repeatable to 15 credits.
- 370 LETTERING (3)
Prereq: Art 101 or equivalent. Anatomy of letter forms, alphabets and calligraphy; problems in pen and brush lettering.
- 371 GRAPHIC DESIGN (3)
Prereq: Art 101 or equivalent, 370. Introduction to visual communication in trademark, poster, brochure and advertising design.
- 372 ADVERTISING DESIGN (5)
Prereq: Art 371 or permission of instructor. The theory and design of advertising both for print and TV. Developing the concept, preparing the roughs and preparation of comprehensives. Repeatable to 10 credits.
- 373 INTRODUCTION TO COMPUTER GRAPHICS (1)
Computers and graphic software for artists and designers.
- 375 GRAPHIC DESIGN GROUP (1-3)
Prereq: Graphic Design 371 and permission of instructor. Directed field experience in Graphic Design.
- 376 CARTOONING (3)
Prereq: Art 101 or equivalent. Basic course covering character development, movement and panel composition. Repeatable to 12 credits.
- 377 CALLIGRAPHY (2)
Prereq: Art 101 or equivalent or permission of instructor. A studio course committed to the pursuit and development of calligraphy as a creative and practical mode of expression. Repeatable for different alphabets to a maximum of 12 credits.
- 378 BLACK AND WHITE ILLUSTRATION (3)
Prereq: Art 101 or equivalent. Concepts and techniques of black and white illustration: idea development, problem solving and printing considerations. Repeatable to 9 credits.
- 379 COLOR ILLUSTRATION (3)
Prereq: Art 101 or equivalent. Concepts and techniques of color illustration, text, editorial and advertising illustration. Media include watercolor, airbrush, markers, colored pencils and shading film. Repeatable to 9 credits.

Art

- 380 ART EDUCATING THE CHILD (3)
For non-majors. Strategies and techniques in production of art and critical inquiry by elementary school children.
- 381 THEORIES OF ART EDUCATION (3)
Prereq: Art 280. The philosophy, psychology, and procedures for art in the elementary and secondary schools
- 382 TEACHING STRATEGIES AND RESOURCES (3)
Examination of the field from student teaching to the job market. Development of plans for lessons, programs and learning resource materials. Study of techniques for art production and critical inquiry.
- 402a,b ADVANCED LIFE DRAWING (3,5)
Prereq: 9 credits of Art 302. Continuation of individually established concerns in the area of life drawing. Repeatable to 15 credits.
- 404 BFA DRAWING WORKSHOP (2-5)
Prereq: admittance to BFA program. Repeatable to 20 credits. For students in the BFA program, to pursue their individual directions in drawing.
- 410 ADVANCED DRAWING WORKSHOP (5)
Prereq: Art 302 or 310. Class is for the pursuit of individual creativity in drawing media. Repeatable to 15 credits.
- 411a,b ADVANCED PRINTMAKING WORKSHOP (3,5)
Prereq: Art 313. Continuation of problems in traditional printmaking processes as well as more recent innovations. Repeatable to 15 credits
- 414 BFA PRINTMAKING WORKSHOP (2-5)
Prereq: admittance to BFA program; repeatable to 20 credits. For students in the BFA program to pursue their individual directions in printmaking.
- 421a,b PAINTING WORKSHOP II (3,5)
Prereq: Art 101 or equivalent; Art 301, Art 321, and Art History 240; repeatable to 15 credits. Continuation of individually motivated search and research into form and expression with an emphasis on current issues within the field of painting as related to the making of art.
- 422 ADVANCED STUDIO WORKSHOP/ SEMINAR (2-5)
Prereq: 15 credits in Art History; 30 credits in any studio concentration. Individual direction in studio art. Emphasis given to concept development and meaning. Studio/seminar format. Repeatable to 15 credits.
- 425a,b ADVANCED WATERCOLOR PAINTING (3,5)
Prereq: Art 325. Painting workshop using aqueous media. Repeatable to 15 credits.
- 431a,b ADVANCED SCULPTURE WORKSHOP (3,5)
Prereq: Art 331. Advanced problems in three-dimensional form and expression employing a variety of media and materials. Students will set their own problems in consultation with the instructor. Repeatable to 15 credits
- 432a,b DIRECT METAL SCULPTURE (3,5)
Prereq: Art 331. Direct metal sculpture, emphasis on the welding process. Repeatable to 15 credits.
- 433a,b BRONZE CASTING (3,5)
Prereq: Art 331. Bronze casting by the lost wax process, modeling in clay, wax and plaster; mold-making and other techniques for making cast metal sculpture. Repeatable to 15 credits.
- 434 BFA SCULPTURE WORKSHOP (2-5)
Prereq: admittance to BFA program. For students in the BFA program to pursue their individual directions in sculpture. Repeatable to 20 credits.
- 441a,b ADVANCED CERAMIC WORKSHOP (3,5)
Prereq: Art 342. Problems in advanced ceramics: self-directed projects and weekly seminars. Repeatable to 15 credits.
- 444 BFA CERAMICS WORKSHOP (2-5)
Prereq: admittance to BFA program. For students in the BFA program to pursue their individual directions in ceramics. Repeatable to 20 credits.
- 450a,b METALS III (3,5)
Prereq: Art 350. Focus on individual expression in metal fabrication with seminar discussions on the relations of one's work to current and historic artistic directions. Repeatable to 15 credits.
- 452a,b ADVANCED METALS WORKSHOP (3,5)
Prereq: Art 450. Self-directed problems in metal fabrication. Repeatable to 15 credits.
- 454 BFA METALS WORKSHOP (2-5)
Prereq: admittance to BFA program. For students in BFA program to pursue their individual directions in metals. Repeatable to 20 credits.

- 461 **ADVANCED FABRICS (5)**
Prereq: Art 361. Continuation of individual problems in fabric-related areas employing a variety of materials. Repeatable to 15 credits.
- 464 **BFA FABRIC DESIGN WORKSHOP (2-5)**
Prereq: admittance to BFA program. For students in the BFA program to pursue their individual directions in fabric design. Repeatable to 20 credits.
- 467 **ADVANCED FIBERS (5)**
Prereq: Art 367. Continuation of individual problems in woven/constructed fiber-related areas employing a variety of materials. Repeatable to 15 credits.
- 471 **ADVANCED GRAPHIC DESIGN (5)**
Prereq: Art 371. Advanced work in corporate identity and in brochure design. Repeatable to 15 credits.
- 472 **TYPOGRAPHY (5)**
Prereq: Art 371 or permission of instructor. Emphasis on letter forms as design and illustrative elements. Advanced work in periodical design. Repeatable to 15 credits.
- 473a **COMPUTER GRAPHICS II (3)**
Prereq: Art 373 and other computer programming classes. Survey of computer graphics and animation techniques.
- 473b **COMPUTER GRAPHICS WORKSHOP (3)**
Prereq: Art 373 and other computer programming classes. Directed studies in computer graphics.
- 474 **BFA GRAPHICS WORKSHOP (2-5)**
Prereq: admittance to BFA program. For students in the BFA program to pursue their individual directions in graphics. Repeatable to 20 credits.
- 475 **ADVANCED ILLUSTRATION (5)**
Prereq: Art 378, 379. Advanced problems, concepts and techniques of black and white and color illustrations. Development of personal style and professional portfolio. Repeatable to 15 credits.
- 476 **GRAPHIC DESIGN PORTFOLIO (1-3)**
Prereq: senior standing, permission of instructor. For advanced students to prepare a professional portfolio presentation.
- 477 **FIELD INTERNSHIP IN GRAPHIC DESIGN (3-15)**
Prereq: senior standing, art major, permission of instructor. Enrollment by portfolio review. Supervised field work in appropriate professional situations.

- 481 **ADVANCED ART EDUCATION (3)**
Prereq: previous work in art education; teaching experience. Lectures and studio work in art education as related to materials and evaluation of process, product and individual growth.
- 482 **ART EDUCATION WORKSHOP (2-5)**
Prereq: teaching experience. Explorations in art media and their adaptation to use in the school; may be repeated with different topics.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of the catalog.

- 501 **GRADUATE ART THEORY AND CRITICISM (3)**
Prereq: graduate status, undergraduate art major or equivalent, art history minor or equivalent, permission of instructor. Repeatable to 15 credits.
- 511 **GRADUATE DRAWING AND PRINTMAKING (2-6)**
Prereq: graduate status or completion of an art major or equivalent. Individual problems. Repeatable to 15 credits.
- 521 **GRADUATE PAINTING (2-6)**
Prereq: graduate status or completion of an art major or equivalent. Individual problems in painting. Repeatable to 15 credits.
- 522 **GRADUATE SEMINAR (3)**
Prereq: graduate status; undergraduate art major or equivalent, permission of instructor. Repeatable to 15 credits.
- 531 **GRADUATE SCULPTURE (2-6)**
Prereq: graduate status or completion of an art major or equivalent. Individual problems in sculpture. Repeatable to 15 credits.
- 541 **GRADUATE CERAMICS (2-6)**
Prereq: graduate status or completion of an art major or equivalent. Individual problems in ceramics. Repeatable to 15 credits.
- 551 **GRADUATE JEWELRY (2-4)**
Prereq: graduate status or completion of an art major or equivalent. Individual problems in jewelry. Repeatable to 15 credits.
- 555 **GRADUATE STUDIO I (3-5)**
Prereq: graduate status with a B.A., B.S. in art, or B.F.A. and permission of instructor. Repeatable to 20 credits.

Art History

- 556 GRADUATE STUDIO II (3-5)
Prereq: Art 555 and permission of instructor.
- 561 GRADUATE FABRIC DESIGN (2-6)
Individual problems in fabric design. Repeatable to 15 credits.
- 560 SPECIAL PROBLEMS IN ART EDUCATION (2-4)
Prereq: teaching experience and 27 credits in art. Special problems in art education as announced.
- 582 CURRICULUM PLANNING (4)
Prereq: teaching experience and 27 credits in art. Planning, development, implementation and evaluation of art as related to the total curriculum.
- 690a THESIS (6)
Prereq: advancement to candidacy.
- 690b FIELD PROJECT (6)
Prereq: advancement to candidacy.

COURSES IN ART HISTORY

- 190 INTRODUCTION TO VISUAL DIALOGUE (3)
Introduction to the processes, materials, vocabulary and expressive means used in art. Concepts of content, significance and cultural interrelationships of art.
- 201 THEORY AND CRITICISM SURVEY (3)
Survey of the theories of art from the earliest times to the present from world cultures. Historical survey of the major art critics and their writings.
- 220 SURVEY OF ART HISTORY I (5)
Ancient and medieval art.
- 230 SURVEY OF ART HISTORY II (5)
Renaissance art, 13th-18th centuries.
- 240 SURVEY OF ART HISTORY III (5)
Modern art in 19th, 20th centuries
- 270 SURVEY OF ASIAN ART, INDIA, CHINA, JAPAN (5)
A survey of Far Eastern Art from 4000 B.C. to 1912 A.D. A review of art from specific periods and dynasties from India, China and Japan.
- 301 ART AND CRITICISM SINCE 1945 (3)
A survey of recent ideas in the visual arts. Incorporates a history of art since 1945 but is not limited to historical analysis. Study of major artists and critics of this period.
- 302 MUSEOLOGY I (2-5)
Prereq: background in art history, art, history, or anthropology; permission of instructor. Training in the methods and processes of museum work. Students work with and under the guidance of the staff of the Whatcom Museum of History and Art. Part of the training is an apprenticeship program of work directly in the museum. Repeatable to 15 credits.
- 305 GALLERY MANAGEMENT (3)
Prereq: 3 credits of art history, 3 credits studio and tool skills or concurrent. Training in methods and processes of gallery management and preparation of exhibitions. Repeatable to 3 credits.
- 310 PREHISTORIC AND PRIMITIVE ART I (3)
Prereq: Art History 220 or 230 or 240; Anth 215 or 361 prerequisite or concurrent. Art of the Paleolithic and Neolithic cultures and Western hemisphere primitive cultures.
- 315 THE HISTORY OF ARCHITECTURE FROM 1620 TO 1800 (3)
Prereq: Art History 240. European and American architecture, architectural theory and urban planning from the late Renaissance through the Enlightenment of the 19th century. Domestic, public and religious buildings in America from colonial period to independence.
- 316 THE HISTORY OF ARCHITECTURE FROM 1800 TO 1895 (3)
Prereq: Art History 240. European and American architecture, architectural theory and urban planning of the 19th century as elements in the continuum of technological and cultural developments of the early modern age.
- 317 THE HISTORY OF ARCHITECTURE FROM 1895 TO PRESENT (3)
Prereq: Art History 240. European and American architecture, architectural theory and urban planning of the 20th century. Emphasis on solutions to environmental and social problems in public and domestic architecture.
- 320 ANCIENT ART I (3)
Prereq: Art History 220 and 230. Art of Ancient Egypt, Mesopotamia, Crete, Mycenae and peripheral areas.
- 330 MEDIEVAL ART (3)
Prereq: Art History 420 or 220 or 230 and permission of instructor. Western art from the fall of the Roman Empire to the beginning of the Renaissance.
- 340 MODERN ART HISTORY I (3)
Prereq: Art History 240. The art of the 19th century Western world.

- 360 **AMERICAN ART TO 1913 (3)**
Prereq: Art History 220, or 230, or 240, or 340. Art in the United States from the Colonial period to the Spanish American War.
- 370 **ORIENTAL ART I (3)**
The art of India and Southeast Asia from the Indus Valley civilization (c. 2500 B.C.) to the end of the 18th century.
- 401 **SEMINAR IN ART (2)**
Prereq: Art History 301, 9 additional credits in art history, 9 credits in studio courses. Development of criteria for mature artistic judgement. Repeatable to 6 credits.
- 402 **ADVANCED MUSEOLOGY (2-5)**
Prereq: Art History 302 and permission of instructor. The course concentrates on preparing the student for a career in museum curatorship. Repeatable to 15 credits.



- 405 **ADVANCED GALLERY MANAGEMENT (3)**
Prereq: Art History 305, 301 or concurrent or Art History 302 or permission of instructor. Management of permanent collection: record keeping, archival preparation and exhibition development. Repeatable to 9 credits.
- 410 **PREHISTORIC AND PRIMITIVE ART II (3)**
Prereq: Art History 220 or 230 or 240; permission of instructor: Anth 215 or 363 or 364 or Art History 310 prerequisite or concurrent. Tribal arts of Africa and the South Pacific.
- 420 **ANCIENT ART II (3)**
Prereq: Art History 320 or 220 and permission of instructor. Art of the Ancient Greek and Roman civilizations.

- 430 **RENAISSANCE ART I (3)**
Prereq: Art History 220 and 230. Art of the Renaissance in Southern Europe.
- 431 **RENAISSANCE ART II (3)**
Prereq: Art History 430 or 220 or 230 and permission of instructor. Art of the Renaissance in Northern Europe.
- 432 **BAROQUE ART (3)**
Prereq: Art History 230 or 430 or 431 and permission of instructor. Art of the West during the 16th, 17th and 18th centuries.
- 440 **MODERN ART II (3)**
Prereq: Art History 240 and 340. Art of the 20th century Western world.
- 460 **AMERICAN ART, 1900 TO THE PRESENT (3)**
Prereq: Art History 220, 230, 240.
- 470 **ORIENTAL ART II (3)**
The art of China and Korea from the Shang Dynasty (1523 B.C.) to the end of the 18th century.
- 471 **ORIENTAL ART III (3)**
The art of Japan from the prehistoric Archaeological Age to the end of the 18th century.
- 490 **SEMINAR IN ART HISTORY (3)**
Prereq: 12 credits in art history including Art History 300, or senior standing, or permission of instructor. Each seminar deals with a separate and special art historical problem or project. Each student prepares research, with oral and written presentation of materials pertinent to the course.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of the catalog.

- 590 **DIRECTED STUDIES IN ART HISTORY (1-4)**
Prereq: art major or minor status, senior or graduate level; 12 credits in art history with at least one field concentration. Independent art historical research:
- Prehistoric and Primitive Art History
 - American Art History
 - Modern Art History
 - Art Theory Aesthetics and Art Criticism
- Cumulative credit in any one area may not exceed 12 credits.

Music

At Western we believe music is doing —performing, composing, searching for new insights and sharing the joy of music with others. An education in music is the result of interaction among students and between students and faculty actively pursuing musical endeavors.

Here at Western Washington University we believe in the personalization of music education and the need for ongoing counseling for all music majors. The University takes pride in the quality of its instruction and the fact that Western offers a *balanced* program in choral, instrumental, private instruction and academic music aimed toward professional competency in music education, teaching, performance, conducting, composition, music history/literature and jazz studies.

Explorations in early, traditional, contemporary, avant-garde, jazz and electronic music exist in the various course activities and degree plans with the emphasis always on dealing directly with the musical art through performance, composition and analysis.

Five undergraduate professional degree programs are offered by the Department of Music. The Bachelor of Music (B.Mus.) degree with majors in music performance, music history and literature, music composition and jazz studies is offered for those who wish to continue advanced musical study in graduate school, enter private studio teaching, or launch a professional career in music. The B.Mus. with a music education major with concentrations in choral music, instrumental music or elementary classroom music is offered for those who plan to teach in the public schools. The Bachelor of Arts in Education is offered with an elementary music major. State certification to teach is received concurrently with the granting of the degree. The

Department of Music is a member of, and is accredited by, the National Association of Schools of Music (NASM).

Job placement in public school music teaching has remained excellent at Western in spite of the general overall decline in the availability of teaching positions. While most other professional degree holders continue in graduate programs, those who do not usually secure positions in studio teaching, church music, professional performance, and allied fields such as radio, television and the music industry.

The Department of Music provides individual advisement and program planning for all music majors. This takes place officially during the registration period at the beginning of each academic quarter. The department also provides individual advisement at any time prior to entrance by appointment. Many students prefer to spend a day on campus in the spring prior to transfer, at which time they may receive advisement and visit the various departmental performance groups and classes and meet with instructors. Write or phone for an appointment if interested (206/676-3130).

Many music courses and activities are open to non-majors as well as majors. Students may select from among University Choir, Concert Choir, Chamber Choirs, Symphonic Band, Wind Ensemble, Jazz Ensembles, University Symphony Orchestra, Chamber Music, Opera, Collegium Musicum, and numerous smaller ensembles.

MUSIC FACULTY

C. BRUCE PULLAN (1975) Chair.
Professor. BA, Kings College; Diploma in Ed., New College; MA, Cambridge University.

- BARTON FRANK (1969) Professor. Curtis Institute of Music; BM, MM, Tulsa University.
- FORD D. HILL (1975) Associate Professor. AB, Wisconsin State University; MA, Indiana University.
- KAREN IGLITZIN (1986) Associate Professor. BM, Indiana University; MM, Yale University.
- CHUCK ISRAELS (1986) Associate Professor. BA, Brandeis University.
- EDWIN M. LaBOUNTY (1968) Associate Professor. AB, Yankton College; BM, MM, MusD, Indiana University.
- JACK MORRIS (1985) Lecturer. BA, Brigham Young University; MM, Indiana University.
- CARLA J. RUTSCHMAN (1975) Associate Professor. BA, University of Northern Colorado; MM, Arizona State University; PhD, University of Washington.
- EDWARD R. RUTSCHMAN (1975) Associate Professor. BM, University of Northern Colorado; MM, Arizona State University; PhD, University of Washington.
- ROBERT L. SCANDRETT (1967) Professor. BA, Seattle Pacific College; MA, PhD, University of Washington.
- ALBERT C. SHAW (1978) Professor. BME, Wheaton College; MME, Drake University; DME, Indiana University.
- MARY TEREY-SMITH (1967) Professor. BA, Liszt Academy of Music, Budapest; MA, University of Vermont; PhD, University of Rochester.
- EUGENE S. ZORO (1969) Associate Professor. BM, MM, Eastman School of Music of the University of Rochester.

Affiliate Music Faculty

Byron Akita, saxophone
 Nicholas Bussard, oboe
 Michael Clark, percussion
 Gregory Cox, trombone
 David Feingold, classical guitar
 Karla Flygare, flute
 J. Christopher Leuba, horn
 Milo Petersen, jazz guitar
 Francine Peterson, bassoon
 Marianne Weltman, voice

Nancy Bussard, professional accompanist
 Lucille Oster, professional accompanist
 Curtis DuBois, electronic music technician
 David Steege, keyboard technician

MUSIC PERFORMANCE

All students majoring in music must be members of a major performing ensemble each quarter of residence except those quarters in which music education majors are enrolled in student teaching. Those ensembles designated as major performing ensembles are the Symphonic Band, Wind Ensemble, University Choir,

Concert Choir and Symphony Orchestra. The participation requirement must be met through the student's major instrument or voice. Pianists, organists and guitarists may elect to participate in any of the major performing ensembles for which they are qualified. Pianists, organists and guitarists majoring in music performance may, under advisement, substitute up to 12 additional credits in chamber music for this requirement. Jazz studies majors who play piano, guitar or electric bass may substitute up to 12 credits in jazz ensembles for the major performing group requirement. Jazz studies majors who play instruments other than those listed above may substitute up to 12 credits in jazz ensembles "under strict advisement." Performance ensembles may be repeated for credit.

OFFICIAL ATTIRE

The official attire for all public performances of the University Orchestra, Wind Ensemble, Symphonic Band and Concert Choir is as follows: Women — long black dress; Men — black tuxedo. The Department of Music requires the student to have this costume available at the beginning of the academic year.

APPLIED PERFORMANCE PROFICIENCY

All entering music students will be expected to demonstrate their performance proficiency before a faculty committee to determine their admission as music majors. This qualifying audition will be held on announced dates prior to the start of fall, winter and spring quarter classes, on "Western Preview Day" in the spring, and on any day school is in session by prior appointment. Freshman and transfer students with marginal qualifications may be placed on probation at the beginning of their first quarter of study and will be re-examined at the end of the quarter. A student who fails to have probationary status removed at the

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end of two consecutive quarters may be removed from music major status, continued applied instruction and admissibility to restricted classes. All applied private music study is included in the student's regular fees. Applied music may be repeated for credit.

Minimum applied performance proficiency levels required for entrance to private applied music study are as follows: This list of repertoire is intended to characterize acceptable standards for full admittance and entrance to music major status. However, at the entrance audition, the entering music student may play or sing musical selections other than those listed below.

ORGAN — Ability to play, at the piano, a Bach "Chorale" and a Bach "Two-Part Invention."

PIANO — Classic, Romantic and contemporary literature of the difficulty of Bach, "Short Preludes" and "Inventions;" Clementi, Haydn, Mozart and Beethoven "Sonatinas"; Bartok, "Mikrokosmos," Books 3 and 4. It is expected that three pieces be prepared from different style periods and that at least one be played from memory. Sight reading will also be a part of the audition.

VIOLIN — Mazas, "Special Studies," opus 36, Book 1, edited by Hermann or Saenger; Handel, Corelli, Vivaldi or other sonatas. Solo pieces through five positions; scales two octaves (major and melodic minor).

VIOLA — Handel, Purcell or other sonatas; Telemann Concerto in G major or Vivaldi Concerto in E minor. Scales two octaves (major and melodic minor).

VIOLONCELLO — Completion of the Lee, "Method" Book 1 or Dotzauer "Studies" Book 1 or Grutzmacher "Studies" Book 1; short pieces or a sonata of the difficulty of Vivaldi or Marcello. Scales through the fourth position.

DOUBLE BASS — Simandl, "New Methods for the Double Bass," Book

1. Scales through half, first and second positions.

FLUTE — Any Handel sonata (except the E minor Sonata) [select at least one sonata]. Any etude from Anderson Etude Method, opus 41 [select any two of the 18 studies]. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

OBOE — Handel Sonata No. 1; Bach "Gavotte in D Major"; Grieg "Solvejg's Song" [select any two]. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

CLARINET — Any two etudes from "Thirty-two Etudes for Clarinet" by C. Rose, or from "Preliminary Studies for the Accomplished Clarinetist," Vol. 1, by R. Jettel. One solo work comparable in difficulty to the Weber "Concertino" or Hindemith "Sonata." Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

BASSOON — Three or four selected studies from the Weissenborn Complete Method. Any two studies from the Weissenborn Advanced studies. Mozart "Concerto in Bb" (second and third movements), or Galliard "Sonatas I and VI," or Phillips "Concert-piece" or Telemann "Sonata in F Minor," or J. C. Bach "Concerto in Bb." Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

SAXOPHONE — Two or three studies from "Twenty-five Exercises for Saxophone" by Klose. Solos selected from "Cantilena" by Benson, "Chant Corse" by Tomasi, or "Concerto" by Larsen. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

FRENCH HORN — Two or three etudes selected from "Method for French Horn" by Fottag, edited by Hovey. Mozart, "Concerto No. 3" or Saint-Saens "Romance." Major and

minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TRUMPET — One or two etudes from "34 Studies" by Brandt, edited by Nagel. Haydn "Concerto" (first and second movements), or Vidal "Concertino" or Thome "Fantasy in Eb" or Corelli "Sonata VIII," edited by Fitzgerald. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TROMBONE (TENOR AND BASS TROMBONE) AND EUPHONIUM — Two or three studies from "Melodious Etudes" by Rochut, Book I (bass trombone should play one octave lower where feasible). Studies one through ten of the Blashevich Clef Studies. Five selected studies from the Arban Method, Book I. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TUBA — Any two of the first four solos in "Solos for the Tuba Player" by Wekselblatt. First ten studies from the "Studies for BBb Tuba" by Tyrell. Major and minor scales through four sharps and four flats (two octaves when possible).

PERCUSSION — On entering, percussion students should have prior training in at least one of the following five categories, and some experience and ability on the remainder: timpani; snare drum; mallet instruments; bass drum; cymbals, and miscellaneous percussion and drum set. *For Timpani:* tuning, stick technique, pedaling, intonation, tone production, roll and attack. *For Snare Drum:* all rudiments, rhythm studies, stick technique (both matched and traditional grip), control and bounce. *For Mallet Instruments:* tone production, mallet technique, scales and arpeggi in all major and minor keys, and experience on xylophone, marimba, vibraphone, chimes, etc. *For Bass Drum, Cymbals, and Miscellaneous Percussion:* experience and technique on all. *For Drum Set:* basic rhythms in all

styles and traditional and Latin American patterns.

VOICE — Two songs of contrasting styles demonstrating potential beauty and body of tone, innate sensitivity to pitch and rhythm.

CLASSICAL GUITAR — One piece from the classical guitar repertoire of the applicant's choice and one study from the collection "Twenty Etudes" by Fernando Sor, edited by Andres Segovia.

JAZZ GUITAR — Two or three standard jazz compositions (such as "Tune-Up," "Here's That Rainy Day," and "Straight No Chaser") with melody, chords and improvised solo. Major, dorian and mixolydian scales in all keys. Ability to sight-read sequences of major-seventh, minor-seventh and dominant-seventh chords in all inversions. Ability to sight-read jazz melodies.

ELECTRIC BASS — Two or three standard jazz compositions (such as "Tune-Up," "Footprints" and "Freedom Jazz Dance") with melody, improvised solo and appropriate bass lines. Major, dorian and mixolydian scales in all keys. Ability to improvise a bass line in different styles (Swing, Be-bop, Latin, Funk) from a given sequence of chords. Major-seventh, minor-seventh and dominant-seventh arpeggios in all keys. Ability to sight-read jazz melodies and chord symbols.

THEORY PLACEMENT EXAMINATION — TRANSFERS

All students transferring to Western with less than two years of college theory will be assigned to the theory course that succeeds the last course taken. (Students may repeat theory courses previously taken elsewhere.) All students transferring to Western who have completed two years of college theory will write, prior to enrollment, a Theory Placement Examination; this examination may be written

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at Western or it may be written and examined at any college or community college (administered by professors at that college) prior to transferring to Western, upon individual request. This examination is an evaluative instrument; the results of this examination are advisory only. All credit received in theory previously at other institutions will be transferred at the level for which it was earned and may apply toward fulfillment of the requirements for the major in music or in music education.

HISTORY CREDITS — TRANSFERS

Students with upper-division credit (300-level or above) must take a history placement examination to determine what history courses remain to be taken.

KEYBOARD COMPETENCY

All music majors are required to successfully complete an eight-item Keyboard Competency Examination to receive a Bachelor of Music degree. Examinations are scheduled throughout the year by appointment. The examination may be repeated but at least five of the eight items must be passed or the entire examination must be repeated at a later time.

Entering freshman music majors will take a Piano Skills Placement Examination at the end of fall quarter. Transfer students will take this placement examination when entering the University. Students will then be advised to enroll in Music 160, Preparatory Class Piano, to enroll in Music 261-263, Class Piano, or to take the Keyboard Competency Examination.

All music majors will be required to take the Keyboard Competency Examination by the end of the sophomore year or, in the case of transfer students, after three quarters of full-time study. Students who do

not pass the examination will be advised to enroll in Music 260, Remedial Class Piano.

SCHOLARSHIPS

In addition to general University scholarships, several awards are available from off-campus music organizations through the Western Foundation. Scholarship awards to in-coming music majors will be based upon quality of entrance audition. For further information, consult the Department of Music.

PROGRAM ADVISEMENT

All undergraduate music majors are assigned to the departmental undergraduate program adviser for scheduling and program approval.

INTERDISCIPLINARY PROGRAM

It is possible to take an Interdisciplinary Arts major with a concentration in music. See "Interdisciplinary Arts" in the College of Fine and Performing Arts Interdisciplinary Programs section for full details of the major.

BACHELOR OF MUSIC

To complete the Bachelor of Music degree requirements it may be necessary for the student to take more than the usual 180 credit hours. Students should anticipate that these programs may require more than four years.

Music Education Major

100 credits

(plus School of Education professional courses*)

Core Requirements 90 credits
(common to all Music Education major emphases)

- Theory/Literacy Laboratory: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Advanced Theory: Select two courses from Music 322, 324, 326, 422, 424
- Music History: Music 342, 343 and 341 or 344
- Conducting: Music 351, 352, 353
- Music Education: Music 362, 363, 462
- Pedagogy: 6 quarters of Music 264, 265, 364
- Major performing ensemble each quarter in residence (minimum 22 credits)
- Applied music on major instrument or voice — minimum of 3 credits in courses numbered 311-316 or above — each quarter in residence, except when student teaching (minimum 11 credits)

*Elementary Music Education**Emphasis* 10 credits

- Music Education: Music 461
- Pedagogy: Music 164, 271
- Electives: 3 credits selected under advisement. Piano majors will take all elective credit in Music 466

Secondary Choral Emphasis

10 credits

- Music Education: Music 463
- Electives: 8 credits selected under advisement. Piano majors will take at least 4 credits of Music 466 as part of their electives

Secondary Instrumental Emphasis

10 credits

- Music Education: Music 464
- Pedagogy: Music 164, 271
- Electives: 4 credits selected under advisement. Piano majors will take all elective credit in Music 466

**Music education majors should consult the Education Admissions Office, Miller Hall 202, for information concerning the School of Education professional courses and admission to the Teacher Education program.*

Professional Majors

122 credits

The Bachelor of Music (B.Mus.) degree is the professional undergraduate degree program in music. It is an expanded program which requires a student to undertake a course of study of 192 undergraduate credit hours.

Core Requirements 55-59 credits (common to all Professional Music major concentrations)

- Theory/Literacy Laboratory: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Advanced Theory (each concentration selects courses as follows from 322, 324, 326, 422, 424): Performance — three courses; Composition — four courses; History & Literature — four courses; Jazz Studies — two courses
- Music History: Music 342, 343 and 341 or 344
- Major performing ensemble each quarter in residence (minimum 24 credits)

Performance Concentration

65 credits

- Entrance by performance audition — student must expect to achieve upper-division applied instruction by sophomore year
- Applied music on major instrument or voice; at least three credits in courses numbered Music 411-416 (minimum 30 credits)
- Chamber Music: minimum 8 credits selected from Music 275, 475, 478, 480, 481, 483, 484
- Music History: 3 credits beyond core requirement
- Conducting: Music 351
- Senior Recital: Music 499
- Electives: 19 credits selected under advisement. Piano majors will take at least 4 credits in Music 466 and 6 credits in Music 467

Music

Composition Concentration

63 credits

- Entrance by compositional accomplishment and interview — student must qualify for upper-division composition courses by junior year
- Applied music on major instrument or voice; at least three credits in courses numbered Music 311-316 or above (minimum 12 credits)
- Pedagogy: select three courses from Music 164, 264, 265
- Chamber Music: minimum 6 credits selected from Music 275, 475, 478, 480, 481, 483, 484
- Music History: 3 credits beyond core requirement
- Conducting: Music 351, 352, 353
- Composition: minimum 21 credits from Music 231, 331, 431
- Senior Recital: Music 499
- Electives: 5 credits selected under advisement

History and Literature Concentration

63 Credits

- Entrance by interview and distinguished accomplishment in musicianship
- Applied music on major instrument or voice; at least three credits in courses numbered Music 311-316 or above (minimum 12 credits)
- Chamber Music: minimum 8 credits selected from Music 275, 475, 478, 480 (minimum 4 credits), 481, 483, 484
- Conducting: Music 351
- Notation: Music 441
- Music History: 3 credits beyond core requirement
- Advanced History: minimum 12 credits from Music 442, 443
- Thesis: Music 490
- Electives: 20 credits selected under advisement
- Students in history and literature must pass a reading examination in French or German

Jazz Studies Concentration

67 credits

- Entrance by performance audi-

tion to include: all major, dorian and mixolydian scales; all major seventh, minor seventh, and dominant seventh arpeggios; sight reading and improvisation

- Applied Music on major instrument or voice; at least three credits in courses numbered Music 311-318 or above (minimum 12 credits)
- Chamber Music: minimum 6 credits selected from Music 275, 475 (minimum 4 in 475)
- Jazz Ensembles: minimum 8 credits selected from Music 274, 474
- Jazz Studies: Music 202, 334, 335, 336, 434, 435, 436
- Conducting: Music 351
- Senior Recital: Music 499
- Electives: 15 credits selected under advisement

Jazz Studies majors who play piano, guitar or electric bass may substitute up to 12 additional credits in jazz ensembles (Music 274, 275, 474, 475) for the major performing group requirement. Jazz Studies majors who play instruments other than those listed above may substitute up to 12 additional credits in jazz ensembles "under strict advisement." Jazz Studies majors may meet the chamber music requirement in Chamber Jazz Ensemble (Music 425).

BACHELOR OF ARTS IN EDUCATION

Elementary Music Major

47 credits

(plus Performance Requirement; the minor in Elementary Education; and the School of Education professional courses)

- Theory/Aural Skills: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Music History: select two courses from Music 341, 342, 343, 344
- Musical Survey: Music 105, 205

- Pedagogy: Music 164
- Music Education: Music 362, 363, 461
- Applied Music on major performing instrument or voice (jazz guitar and electric bass not applicable); minimum 6 quarters

GRADUATE STUDY

For concentrations in music leading to the Master of Music, see the Graduate section of the catalog.

COURSES IN MUSIC

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

- 101 FUNDAMENTALS OF MUSIC (3)
Open to all students. The study of musical construction for those unfamiliar with the fundamentals of notation (pitch and rhythm), major and minor scales, intervals, triads, and keys, with particular attention to their practical application.
- 102, 103 INTRODUCTION TO MUSIC THEORY AND EAR TRAINING (3 ea)
Open to all students. Each course prerequisite to the next. Courses designed to strengthen the prospective music major's knowledge of fundamental theoretical principles, and to introduce the basic aural/reading skills needed to begin the musicianship sequence.
- 104 THE ART OF LISTENING TO MUSIC (3)
Open to all students. Non-technical basis for enjoyable listening to music; performance practices relating to symphony orchestras, instrumental ensembles, opera, choral groups and solo performance.
- 105 MUSIC IN THE WESTERN WORLD (3)
Open to all students. An introduction to the principal genres, forms and composers of Western music within the framework of a study of the historical stylistic periods.
- 121, 123, 125 MUSIC LITERACY LABORATORY I (1 ea)
Prereq: music major status or approval of music theory area coordinator; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of the diatonic major and minor system. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.
- 122, 124, 126 THEORETICAL AND ANALYTICAL SKILLS I (2 ea)
Prereq: music major status; each course prerequisite to the next. Study of and practical experience in using the basic materials of musical construction including notation, melody, harmony, rhythm and form.
- 160 PREPARATORY CLASS PIANO (1)
Open to music majors only. Designed for students with no keyboard experience. Basic reading skills and technique.
- 164 CLASS VOICE AND PEDAGOGY (2)
Prereq: open to music majors only. Tone production, song repertoire interpretation and pedagogy for non-voice majors.
- 202 JAZZ: GENESIS AND EVOLUTION (3)
Open to all students. Personalities, styles and social/cultural influences on jazz from its beginning to the present day.
- 205 SURVEY OF NON-WESTERN MUSICAL CULTURES (3)
Open to all students. A general introduction to the musical styles of major non-Western cultures, including those of Africa, India, Asia, Indonesia and Eastern Europe. Focus will be on the role played by music in each society.
- 211-218 APPLIED INSTRUCTION (1-4)
Prereq: open to music majors only; minimum applied performance audition.
211 Organ
212 Piano
213 Strings
214 Winds and Percussion
215 Voice
216 Classical Guitar
217 Jazz Guitar
218 Electric Bass
- 221, 223, 225 MUSIC LITERACY LABORATORY II (1 ea)
Prereq: Music 125; music major status; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of the chromatic major and minor system; introduction to extended tertian harmony. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.
- 222, 224, 226 THEORETICAL AND ANALYTICAL SKILLS II (2 ea)
Prereq: Music 126; music major status; each course prerequisite to the next. Advanced study of and practical experience in using the materials of musical construction including extended, chromatic, and non-tertian harmonic structures and complex musical forms.

Music

- 231 **ELEMENTARY COMPOSITION (1-2)**
Prereq: permission of instructor. Elementary craft of melodic, harmonic, rhythmic, instrumental and contrapuntal writing in traditional modes; participation in concomitant composition seminars. Repeatable for credit.
- 233 **INTRODUCTION TO ELECTRONIC MUSIC PROCESSES (1)**
Open to all students. An introductory overview of electronic processes in creating music: tape manipulation, musique concrete, the use of the synthesizer. Group instruction and studio time in the laboratory. Repeatable for credit.
- 260 **REMEDIAL CLASS PIANO (1)**
Prereq: open to music majors only; successful completion of at least four items of the Keyboard Competency Exam. Concentration on specific areas of the Keyboard Competency Exam based on individual needs. Repeatable.
- 261, 262, 263 **CLASS PIANO (2 ea)**
Open to music majors only; each course prerequisite to the next. Sightreading skills, functional application of material learned in theory class, accompanying, and score reading.
- 264 **INSTRUMENTAL LAB FOR SECONDARY INSTRUMENTS (2)**
Prereq: open to music majors only. Pedagogy of and performance on secondary instruments, conducting, developing teaching strategies with goals and objectives. Repeatable for credit.
- 265 **STRING TECHNIQUES AND PEDAGOGY LAB (2)**
Prereq: open to music majors only. Principles and techniques of playing and teaching string instruments.
- 271 **UNIVERSITY CHOIR (2)**
Prereq: permission of instructor. Preparation and performance of major choral works and part-songs. Open to all students having the ability to sing mixed part-songs. Repeatable for credit.
- 272 **SYMPHONIC BAND (2)**
Prereq: permission of instructor. Preparation and performance of major band works. Open to all students with band experience. Repeatable for credit.
- 274 **JAZZ ENSEMBLES (2)**
Prereq: by audition. Performance and interpretation of contemporary jazz in a large ensemble situation. Repeatable for credit.
- 275 **CHAMBER JAZZ ENSEMBLES (2)**
Prereq: by audition: Music 224 and 334 strongly recommended. Supervised small ensemble performance in jazz idioms stressing repertoire, improvisation, and performance of written arrangements and compositions. One public performance per quarter required. Repeatable for credit.
- 311-318 **APPLIED INSTRUCTION (1-4)**
Prereq: open to music majors only, upper-division examination.
311 Organ
312 Piano
313 Strings
314 Winds and Percussion
315 Voice
316 Classical Guitar
317 Jazz Guitar
318 Electric Bass
- 321, 323, 325 **MUSIC LITERACY LABORATORY III (1 ea)**
Prereq: Music 225 or permission of instructor, music major status; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of atonal, freely tonal and highly chromatic tonal systems; completion of extended tertian harmony. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.
- 322 **ANALYTICAL TECHNIQUES: MUSIC BEFORE 1800 (2)**
Prereq: Music 225, 226. Formal and stylistic analysis of works from the major historical periods up to 1800.
- 324 **MODAL COUNTERPOINT (2)**
Prereq: Music 225, 226. Counterpoint in the style of the 16th century. Composition and analysis of pieces in two and three parts. Introduction to the setting of texts.
- 326 **ORCHESTRATION/ARRANGING (2)**
Prereq: Music 225, 226. Orchestration and arranging with special reference to the needs of the instrumental conductor and composer. Repeatable for credit.
- 331 **COMPOSITION (3)**
Prereq: Music 226 and successful completion of upper-division competency examination in composition. Writing pieces in part forms, variation form and sonata form for solo instruments and small ensembles; choral writing. Repeatable for credit.
- 334 **JAZZ IMPROVISATION I (3)**
Prereq: open to all accepted jazz majors, or Music 224, or permission of instructor. Study of basic chord changes, scales and patterns with improvisation based on these principles. Analysis of transcribed solos and study of jazz repertoire.

- 335 JAZZ IMPROVISATION II (3)
Prereq: Music 334. Study of altered chords, scales and patterns with improvisation based on the principles. Analysis of transcribed solos, study of jazz repertoire and ear-training.
- 336 JAZZ IMPROVISATION III (3)
Prereq: Music 335. Study of bi-tonal chords, atonality and patterns with improvisation based on these principles. Analysis of transcribed solos, study of jazz repertoire and ear-training.
- 341 HISTORY OF MUSIC TO 1600 (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers up to 1600. Individual research projects.
- 342 HISTORY OF MUSIC 1600-1750 (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers from 1600 to 1750. Individual research projects.
- 343 HISTORY OF MUSIC 1750-1900 (3)
Prereq: Music 225, 226, music major status. Main styles, forms, terminology and composers from 1750-1900. Individual research projects.
- 344 HISTORY OF MUSIC 1900 TO PRESENT (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers from 1900 to present. Individual research projects.
- 351 BASIC CONDUCTING (2)
Prereq: Music 225, 226 and music major status. Basic conducting techniques, score reading and interpretive analysis.
- 352 INSTRUMENTAL CONDUCTING (3)
Prereq: Music 351 and music major status. Instrumental techniques, score reading, interpretive analysis and rehearsal techniques.
- 353 CHORAL CONDUCTING (3)
Prereq: Music 351 and music major status. Choral techniques, score reading, interpretive analysis and rehearsal techniques.
- 361 MUSIC FOR ELEMENTARY TEACHERS (3)
For elementary teachers, *not music majors*. The skills of singing, reading, writing, playing and hearing music; techniques and materials used in the elementary grades
- 362 ELEMENTARY MUSIC EDUCATION (3)
Prereq: Music 224 and music major status. Teaching techniques, materials and organization of the elementary music program. Introduction to Orff, Kodaly and MMCP methodology Observations
- 363 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION (3)
Prereq: music major status. Historical, philosophical and psychological foundations of music education; learning theory, curricular structures and applications to classroom and ensemble teaching.
- 364 INSTRUMENTAL LAB FOR SECONDARY INSTRUMENTS/LAB BAND METHOD (2)
Prereq: 3 credits in Music 264; music major status. Pedagogy of and performance on secondary instruments in an ensemble environment Repeatable for credit.
- 411-418 APPLIED INSTRUCTION (1-4)
Prereq: open to music majors only, upper-division examination.
411 Organ
412 Piano
413 Strings
414 Winds and Percussion
415 Voice
416 Classical Guitar
417 Jazz Guitar
418 Electric Bass
- 422 ANALYTICAL TECHNIQUES: MUSIC SINCE 1800 (2)
Prereq: Music 225, 226. Formal and stylistic analysis of representative works from the major historical periods after 1800.
- 424 TONAL COUNTERPOINT (2)
Prereq: Music 225, 226, music major status. Counterpoint in the style of the 18th century. Composition and analysis of inventions in two and three parts. Introduction to the fugue.
- 431 COMPOSITION (3)
Prereq: Music 331 for at least two quarters. Writing pieces of broad proportions for various media. Repeatable for credit.
- 432 ELECTRONIC MUSIC LABORATORY (2)
Prereq: Music 233 or permission of instructor. Instruction in the use of the ARP synthesizer, tape-recording techniques, audio generators and modifiers for use in electronic music. Equipment for teaching electronic music. Group instruction and studio time in the use of this equipment. Open to non-majors Repeatable for credit.
- 434 JAZZ ARRANGING I (3)
Prereq: Music 226 or 334. Writing and arranging for small jazz ensembles. Analysis of small jazz ensemble styles.

Music

- 435 JAZZ ARRANGING II (3)
Prereq: Music 434. Writing and arranging for a variety of instrumental combinations. Analysis of jazz ensemble styles.
- 436 JAZZ ARRANGING III (3)
Prereq: Music 435. Writing and arranging for large jazz ensemble. Analysis of large jazz ensemble styles.
- 441 NOTATION (3)
Prereq: Music 226, 341, 343; permission of instructor. Reading and interpreting early, contemporary or other extant systems.
- 442 SEMINAR IN MUSIC HISTORY (4)
Prereq: Music 342, 343 and music major status. The student in consultation with the instructor will select one or more given musical developments for individual research. Ongoing results of this research will be shared with other members of the seminar. Focus of the course will vary from quarter to quarter. Repeatable for credit.
- 443 HISTORY OF MUSICAL MEDIA (3 ea)
Prereq: Music 343 and music major status. Development and literature of important musical media from their origin to the present. Offered irregularly.
- 443a Choral Music
 - 443b Solo Song
 - 443c Opera
 - 443d Keyboard Music
 - 443e Chamber Music
 - 443f Symphonic Music
 - 443g Concerto
 - 443h Symphonic Music in the 20th Century
- 451 CONDUCTING PRACTICUM (1-3)
Prereq: Music 351 and 352 or 353 or permission of instructor. Advanced conducting techniques to include direction of student ensembles under faculty supervision. Repeatable for credit.
- 455 BIRCH BAY BAND MUSIC WORKSHOP (2)
Offered summers only. Repeatable for credit.
- 456 BIRCH BAY ORCHESTRA MUSIC WORKSHOP (1)
Offered summers only. A reading workshop in materials and literature for school music orchestra teachers. Repeatable for credit.
- 461 ELEMENTARY MUSIC EDUCATION METHODS II (3)
Prereq: Music 361 or 362. Advanced teaching techniques, activities, materials and literature for elementary music teaching. In-depth application strategies for Orff, Kodaly and MMCP methods. Observation and laboratory experience.
- 462 SECONDARY SCHOOL MUSIC ADMINISTRATION (2)
Prereq: Music 363. Curriculum development, organizational and administrative procedures and supervision for secondary school music teaching. Must be taken prior to student teaching.
- 463 PROBLEMS IN SECONDARY CHORAL MUSIC EDUCATION (2)
Prereq: Music 363. Programmatic, curricular, organizational and instructional problems unique to teaching choral music at the secondary level. Must be taken prior to student teaching.
- 464 PROBLEMS IN SECONDARY SCHOOL INSTRUMENTAL MUSIC EDUCATION (2)
Prereq: Music 363. Programmatic, curricular, organizational and instructional problems unique to teaching secondary school instrumental music. Must be taken prior to student teaching.
- 466 APPLIED MUSIC PEDAGOGY (1-3)
Prereq: upper-division level in applied instruction; music major status; permission of instructor. A study of the basic concepts involved in instrument or voice pedagogy through a survey of the most important modern teaching methods. Repeatable for credit.
- 467 APPLIED MUSIC LITERATURE (1-3)
Prereq: music major status; permission of instructor. A stylistic and historical survey of literature for instruments or voice. Repeatable for credit.
- 471 CONCERT CHOIR (2)
Prereq: by audition. Selected group experience, vocal ability, reading skill, musicianship and interest in serious choral music considered for membership. Repeatable for credit.
- 472 WIND ENSEMBLE (2)
Prereq: by audition. Repeatable for credit.
- 473 UNIVERSITY SYMPHONY ORCHESTRA (2)
Prereq: by audition; open to students who qualify. Repeatable for credit.
- 474 JAZZ ENSEMBLES (2)
Prereq: by audition. Advanced performance and interpretation of contemporary jazz in an ensemble situation; recent developments in the idiom; performance of student compositions and arrangements. Repeatable for credit.



- 475 CHAMBER JAZZ ENSEMBLE (2)
Prereq: by audition; Music 334 or 434 strongly recommended. Supervised small ensemble playing in jazz idioms stressing repertoire, improvisation and performance of written arrangements and compositions. One public performance per quarter required. Repeatable for credit.
- 478 OPERA PRODUCTION (1-2)
Admission by audition. Preparation of opera scenes or a major musical production to include a public performance each quarter. Repeatable for credit.
- 480 COLLEGIUM MUSICUM (2)
Prereq: permission of instructor. Music literature studies from an analytical and performance viewpoint from early to pre-classic music, culminating in a public performance each quarter. Repeatable for credit.
- 481 APPLIED CHAMBER MUSIC (2)
Prereq: permission of chamber music coordinator. Open to piano, string, wind, brass and percussion performers. Repeatable for credit.
- 483 CHAMBER VOCAL ENSEMBLES (2)
Prereq: permission of instructor. Repeatable for credit.
- 484 VOCAL JAZZ ENSEMBLE (2)
Prereq: admission by audition; Music 101 through 103 sequence recommended. Preparation and performance of vocal works by major jazz composers. Open to all university students having the ability to sing in mixed chorus. Repeatable for credit.
- 490 SENIOR THESIS (3)
Prereq: admission to music history and literature program; permission of instructor. S/U grading.

499 SENIOR RECITAL (3)

Prereq: permission of instructor. A full-length, public recital approved by the student's Recital Committee. S/U grading.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES (3)
Advanced work in conducting school band and orchestra music; baton technique, interpretation, score preparation and rehearsal techniques. Repeatable for credit.
- 502 CHORAL CONDUCTING AND LITERATURE (3)
Successful techniques in developing and conducting choral groups, score analysis of outstanding choral works; laboratory experience in conducting. Repeatable for credit.
- 503 INTRODUCTION TO GRADUATE STUDY OF MUSIC (4)
Sources and availability of music, recordings and literature about music throughout its entire history. Techniques of research bibliography and formal writing about music. Students will be expected to prepare and defend a formal written project.
- 511 INDIVIDUAL INSTRUCTION — ADVANCED ORGAN (3-4)
Prereq: permission of the department. In addition to regularly scheduled private lessons, the student will be expected to participate in organ class performances and to hold a church-organist position throughout his residence for the degree.

Music

- 512 **INDIVIDUAL INSTRUCTION — ADVANCED PIANO (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance will be expected each quarter.
- 513 **INDIVIDUAL INSTRUCTION — ADVANCED STRINGS (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance of a significant work is expected. The performance will be approved and evaluated by a faculty committee.
- 514 **INDIVIDUAL INSTRUCTION — ADVANCED ORCHESTRAL WINDS AND PERCUSSION (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance of a significant work is expected. The performance will be approved and evaluated by a faculty committee.
- 515 **INDIVIDUAL INSTRUCTION - ADVANCED VOICE (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance will be expected each quarter.
- 521 **TEACHING COMPREHENSIVE MUSICIANSHIP IN SECONDARY SCHOOLS (4)**
Strategies, curricular design, materials, equipment, resources, philosophy for designing and teaching comprehensive musicianship in secondary schools.
- 525 **BRASS AND PERCUSSION TECHNIQUES AND MATERIALS (3)**
Pedagogical and fundamental performance problems for all brass and percussion instruments; appropriate literature for beginning through advanced levels; performance problems encountered within the school band and orchestra settings.
- 531 **ARRANGING (3)**
Practical techniques in arranging and composing for large and small ensembles. Summer only.
- 532 **ANALYTICAL TECHNIQUES: 20th CENTURY MUSICAL PRACTICES (3)**
Isolated phenomenon from various composers which have generated the major trends of the 20th century.
- 533 **ANALYTICAL TECHNIQUES: LATE 19th CENTURY MUSICAL STYLES AND PRACTICES (3)**
Techniques and practices unique to the late 19th century and their historical precedents in the works of Beethoven and Berlioz.
- 534 **COMPOSITION (4)**
Prereq: Music 431. Composition in the classic forms for solo instruments or small ensembles.
- 535 **COMPOSITION (4)**
Prereq: Music 431. Composition for solo voice accompanied by piano or small ensembles; composition of choral works both a capella and accompanied.
- 536 **COMPOSITION (4)**
Prereq: Music 431. Composition for large instrumental groups; band, orchestra or a combination of these with chorus, voice or solo instrument.
- 540 **ADVANCED COLLEGIUM MUSICUM (2)**
(May be repeated for credit.) Editing, coaching and performance of early music (before 1800) for chamber ensembles (vocal and instrumental). Students will be expected to prepare stylistically suited performing editions, coach these works and participate in their public performance. (Only 6 credits applicable toward M.M. degree.)
- 541-544 **HISTORY/ANALYSIS (4 ea)**
An in-depth study of a particular segment of music from the period with historical perspective, analysis of representative works and bibliography and research techniques appropriate to the subject.
541 Music from 800-1600
542 Music from 1600-1800
543 Music from 1775-1900
544 Music from 1900 to present.
- 550 **SEMINAR IN THE HISTORY OF MUSIC (3)**
Prereq: permission of instructor. Detailed study of a particular period or phase of the history of music designed to give students a first-hand acquaintance with one special area of musical literature and with musicological method.
- 690 **THESIS (1-6)**
Students in the composition area of the Master of Music degree program may meet the thesis requirement by submitting a major original composition; students selecting the performance area may meet the thesis requirement by presenting a full-length public recital; students in the music education concentration selecting the conducting practicum for their thesis requirement will carry out a practical and/or creative conducting project, field study or investigation, or rehearsal/conducting series culminating in a public performance.

Theatre/Dance

The Department of Theatre/Dance offers an academic major and minor in theatre and a minor in dance. The programs provide pre-professional training for those intending to pursue a career in the world of theatre and dance. The degree programs also provide a thorough background for those who wish to seek advanced degrees or, in conjunction with other specialties, to prepare for teaching careers.

THEATRE

An active production schedule involving students in all aspects of the arts and crafts of theatre makes theatre studies at Western exciting and fun. The class and studio work is related to the many productions whenever possible. The classes that lead to the Bachelor of Arts degree are set up so that students can learn how all the parts of theatre work fit together in theory as well as in practice. Every student chooses her or his own area of special studies: acting, directing, technical theatre, etc.

During the school year, a regular program of faculty directed and choreographed shows is produced. Plays range from the classics to musical comedy and recent Broadway offerings. In addition, some 20 to 30 student-generated productions are presented in connection with undergraduate and graduate theatre production course projects.

Western Theatre On Tour puts productions into the public schools of Western Washington for dozens of performances to thousands of spectators.

Summer Stock is an intensive nine-week program designed to provide participants with experience in all phases of theatre production work — on stage, backstage, in the production shops and in the offices. Musicals, Shakespeare, comedies, dramas and plays for children are presented.

DANCE

Dance studies may lead to a minor in the Department of Theatre/Dance or, in conjunction with the School of Education, to a teaching minor. Both programs offer courses in dance technique, history and philosophy of dance. Studio and public performance are a feature of dance studies, including choreographic opportunities.

Other academic degree possibilities are available to the student of dance by combination of the department minor with other areas of study (see Interdisciplinary Arts following the department's course listings).

THEATRE/DANCE FACILITIES

Theatre/dance students at Western currently "learn by doing" in a variety of special classrooms including a 1,100-seat proscenium theatre, a 200-seat modified-thrust proscenium theatre, a well-equipped dance studio and related support facilities including costume, make-up, scene and paint shops. Two experimental theatre studios plus support facilities are also available for student use.

For information and guidance, contact the chair of the department, Mr. Dennis Catrell, Performing Arts Center 395, (206) 676-3678.

THEATRE/DANCE FACULTY

- DENNIS E. CATRELL (1966) Chair.
Professor. BA, University of Michigan; MA, Northern Illinois University.
- WILLIAM A. GREGORY (1968) Professor. BS, Central Michigan University; MA, Michigan State University; PhD, University of Minnesota.
- MONICA C. GUTCHOW (1960) Assistant Professor. BS, University of Oregon; MFA, University of North Carolina, Greensboro.

Theatre/Dance

- DANIEL M. LARNER (1968) Professor and Dean of Fairhaven College. AB, Harvard University; MS, PhD, University of Wisconsin, Madison.
- PERRY F. MILLS (1981) Assistant Professor. BA, Western Washington State College; MA, Western Washington University.
- MAUREEN E. O'REILLY (1983) Assistant Professor. BA, Whitman College; MA, University of Washington; MFA, University of Cincinnati.
- DOUGLAS R. VANDER YACHT (1970) Associate Professor. BA, Western Washington State College; MA, Purdue University; PhD, Ohio State University.
- THOMAS E. WARD (1977) Associate Professor. BA, Western Maryland College; MFA, New York University, School of Arts

Adjunct Faculty

- Roger Germain (1970) BA, Western Washington State College.
- Victor H. Leverett (1977) BA, BA Ed, Western Washington State College; MA, Washington State University.
- Lee H. Taylor (1967) BA, Goddard College, MA, University of Washington.

BACHELOR OF ARTS

Major — Theatre 70 credits

- Required core (49 credits):
Th/D 212, 222, 231, 250, 285, 322, 370, 380, 428a or 428b or 428c, and two courses selected from 325, 327, 328, 381, 421, 422, 423
- Concentration (15 to 18 credits) selected from:
 - a. Acting: Th/D 260, 261, 360, 361, 460, 461
 - b. Children's Theatre: Th/D 350, 351, 450, 452 and 6 credits under advisement
 - c. Dance: Th/D 235, 238, 241, 242, 333, 342
 - d. Directing: Th/D 260, 314, 470, 471 and 3 credits under advisement
 - e. Dramatic Writing: Th/D 385, 485, 486, 487, 488
 - f. Technical Theatre: Th/D 213, 311, 312, 313, 315, 411, 415
- Electives (13 to 15 credits):
Th/D 215, 255, 256, 257, 314, 453, 462

Minor — Theatre 30 credits

- Th/D 101, 160, 212, 222
- One of Th/D 201, 231, 250, 260, 285
- One of Th/D 314, 322, 350, 370, 385
- Electives under advisement

Minor — Dance 30 credits

- Th/D 231 recommended to be taken as part of the GUR program
- 6-9 credits selected from Th/D 336, 431, 432, 433, 434
- 12 credits from the dance technique area — 200 or above level
- 5-6 credits selected from Th/D 241, 242, 342, 442
- 3-4 credits under advisement

This minor will provide an adequate background in dance as an area of concentration; further work could lead to completing the interdisciplinary dance studies major.

Extended Minor -- Dance

36 credits

- Dance Theory & Literature: Th/D 231 (should be included as part of the GUR requirements), Th/D 336, 431
- Dance Technique: Th/D 333, 339
- Dance Improvisation/Composition: Th/D 241, 242, 233 or 234
- Dance Pedagogy: Th/D 434; PE 209, 326
- Electives under advisement

This minor is applicable to either the Bachelor of Arts degree or the Bachelor of Arts in Education degree.

Proficiency in technical skill above the 200-level technique courses should be established before taking this minor.

A student teaching experience through the School of Education is strongly recommended.

BACHELOR OF ARTS IN EDUCATION

Major — English/Theatre

94 credits

(English 49 credits and Theatre 45 credits)

Theatre 45 credits

- Th/D 101, 160, 212, 213, 222, 250, 260 (repeated once), 285, 322, 370, 371, 380 or 480
- Recommended additional courses: Th/D 360, 470, 428a-e

English (see English section of catalog) 49 credits

GRADUATE STUDY

For concentration in theatre and dance leading to the Master of Arts degree, see the Graduate section of the catalog.

A NOTE ON COURSE NUMBERING

In each level of course work (100, 200, 300, 400 and 500), the following numbering system has been used:

Technical Theatre	11-20
Literature	21-30
Dance	31-45
Children's Theatre	50-59
Acting	60-69
Directing	70-75
Playwriting	85-90

600-level courses are not a part of this system.

It is possible to take an Interdisciplinary Arts major with a concentration in Theatre/Dance. See Arts, Interdisciplinary, in the College of Fine & Performing Arts Interdisciplinary Programs section for full details of the major.

COURSES IN THEATRE AND DANCE

Courses numbered X37: X97: 300, 400, 417: 445 are described on page 38 of this catalog.

Non-majors in dance are advised to take all technique classes Pass/Fail.

All 200-level and above technique courses are by audition at the first class meeting.

- 101 INTRODUCTION TO THE ART OF THE THEATRE (3)
An introduction to the nature of the theatre, to plays and the way they work, and to the arts of the theatre and the activities of those who perform them.
- 135 BEGINNING MODERN DANCE I (2)
The study of basic principles of dance movement in terms of placement, technique, and space, time, energy concepts. Emphasis will be on dance technique, creative movement experiences and developing an appreciation of the dance as an art form. Repeatable up to a maximum of 6 credits. Open to non-majors. S/U grading.
- 138 BEGINNING BALLET I (2)
An introductory study of basic principles of the ballet as an artistic and physical medium. Emphasis on French terminology, basic barre exercises, simple combinations in adagio and allegro. Repeatable up to a maximum of 6 credits. Open to non-majors. S/U grading.
- 139 MODERN JAZZ DANCE (2)
Emphasis on control and isolation of body parts, rhythm and alignment. Repeatable up to a maximum of 6 credits. S/U grading.
- 160 INTRODUCTION TO ACTING (2)
Prereq: Written permission of instructor. Th/D 101 recommended. Fundamentals of acting: emphasis on basic techniques and tools used by the actor, including improvisation, resume writing, auditioning, vocal, physical and emotional awareness. Open to majors and non-majors.
- 161 ACTING WORKSHOP FOR HIGH SCHOOL STUDENTS (2)
Prereq: intended for, but not restricted to, students who have completed their junior year of high school. An intensive program to develop actor skills through daily physical, vocal and imagination training. Rehearsal and performance in a variety of theatre environments. Summers only. Recommendations required.

Theatre/Dance

- 201 **INTRODUCTION TO THE CINEMA (3)**
Training eye and ear to appreciate the work of the filmmaker. Analysis of the basic conventions of technique with an emphasis on critical exposition.
- 212 **INTRODUCTION TO STAGECRAFT (5)**
Basic theory of planning, drafting, construction and rigging of scenery. Practical lab experiences in scenery construction: painting, handling and rigging of scenery; one production crew assignment, with one scheduled lab assignment.
- 213 **INTRODUCTION TO LIGHTING (3)**
Prereq: Th/D 212 or permission of instructor. Basic theory in planning, handling and rigging stage lighting and special effects; assignments on one major production.
- 215 **STAGE MAKE-UP (2)**
Theory and practice of applying make-up for the stage. S/U grading.
- 216 **STAGE COSTUMING (3)**
Th/D 101 recommended. Costume design and execution; specific emphasis on basic sewing, use of patterns, materials and costume crafts, costume plots and wardrobe supervision.
- 222 **UNDERSTANDING PLAYS (3)**
Prereq: Th/D 101 or permission of instructor. Reading a playscript with an eye to theatrical production. Introduction to primary dramatic forms (tragedy, comedy). Practice in speaking and writing intelligently about plays.
- 231 **DANCE AND WESTERN CULTURE (3)**
An historic overview of dance topics with emphasis on integrating the dance with its cultural role within various societies through the ages.
- 232, 233, 234 **DANCE THEORY AND PRODUCTION (2 ea)**
Group and individual experience in dance as a theatre art: participation in the dance concert. A maximum of six hours may be earned. S/U grading.
- 235 **BEGINNING MODERN DANCE II (2-3)**
Prereq: Th/D 135 or equivalent. Further development of movement principles established in Th/D 135. Repeatable up to a maximum of 6 credits. Open to non-majors.
- 238 **BEGINNING BALLET II (2-3)**
Prereq: Th/D 138 or equivalent. Further development of principles of ballet. Increased difficulty and terminology; preparation for advanced levels. Repeatable up to a maximum of 6 credits. Open to non-majors.
- 241 **BEGINNING MODERN DANCE AND IMPROVISATION (2)**
Improvisational approaches to movement exploration for the non-dancer and dancer; developing a creative sensitivity to time, space, energy, motion and body awareness.
- 242 **DANCE COMPOSITION I (3)**
Prereq: Th/D 235 or permission of instructor. Fundamentals of composition emphasizing theme and development; form or design; time force and spatial aspects in solo and some group studies.
- 250 **INTRODUCTION TO CHILD DRAMA (3)**
Children's theatre, creative dramatics, puppetry; history, value, philosophy and literature of child drama; its uses in theatre, speech therapy, education and recreation.
- 255, 256, 257 **THEATRE THEORY AND PRODUCTION (2 ea)**
Prereq: permission of instructor. Instruction and experience in all aspects of theatre organization and production. Repeatable up to a maximum of 6 credits. S/U grading.
- 260 **ACTING STUDIO I: THEORY (3)**
Prereq: written permission of instructor. The theory of the physical, vocal, intellectual and emotional instrument of the individual actor will be explored in relation to character demands of a scene or play through the studio approach. Students demonstrate their knowledge of theory in both written and oral forms.
- 261 **ACTING STUDIO I: SCENE STUDY (3)**
Prereq: written permission of instructor. Application of the actor/character theory learned in Th/D 260 is presented in at least two different scenes which the instructor must approve. It is in the actor's self-interest that, while in the category of American realism, each selection should offer a different writing style.
- 262 **SUMMER STOCK WORKSHOP (15)**
Prereq: permission of director of Summer Stock. Offered only summer quarter. Contact director of theatre for details. S/U grading.
- 265 **ORAL INTERPRETATION (3)**
Basic theory and technique of effective oral presentation of poetry, prose and dramatic text.

- 285 INTRODUCTION TO DRAMATIC WRITING (4)
Prereq: written permission of instructor. Beginning exercise in dramatic writing, with emphasis on primary forms and conventions.
- 311 STAGE DESIGN TECHNIQUES (3)
Prereq: Th/D 212 or concurrent. Theory and practical experience in communicating technical and artistic information through drafting, and color-rendering.
- 312 ADVANCED STAGECRAFT (3)
Prereq: Th/D 212 and 311. Technical analysis of scripts; special effects and properties; laboratory work on productions.
- 313 ADVANCED STAGE LIGHTING (3)
Prereq: Th/D 213 and 311. Technical and artistic study of light and color as they affect other theatre arts and contribute to artistic design; laboratory work in production.
- 314 STAGE MANAGEMENT (3)
Prereq: at least 3 credits of acting and Th/D 212. An in-depth study of the stage manager's role and responsibilities prior to, during and after production. Assignment to one major production.
- 315 HISTORIC COSTUME FOR THE STAGE I (3)
Th/D 101 recommended. Evolution of fashion from Ancient Greece through 1660 with reference to contemporary reproduction.
- 316 HISTORIC COSTUME FOR THE STAGE II (3)
Prereq: Th/D 315 or permission of instructor. A continuation of Th/D 315, detailing fashion from 1660 through World War I with reference to contemporary reproduction.
- 322 REPRESENTATIVE PLAYS (5)
Prereq: Th/D 222. Introductory survey of historically significant and stageworthy plays from all periods.
- 325 MODERN EUROPEAN DRAMA (3)
Prereq: Th/D 222. Selected European plays and playwrights from 1850-1950.
- 327 MODERN AMERICAN DRAMA (3)
Prereq: Th/D 222. Selected American plays and playwrights from 1920 to 1950.
- 328 CONTEMPORARY DRAMA (3)
Prereq: Th/D 222. Selected plays and significant trends in contemporary English, European and American drama.
- 331 INTRODUCTION TO DANCE/ MOVEMENT THERAPY (1)
Required for acceptance into the pre-dance/movement therapy option. An introduction to the nature of dance/movement therapy through a review of literature and experimental sessions; professional organizations, graduate dance therapy programs and career possibilities
- 333 INTERMEDIATE DANCE TECHNIQUE (3)
Prereq: 6 credits of Th/D 235 or permission of instructor. This sequence consists of intensive application of principles established in Beginning Modern Dance II. Emphasis is placed on correct body alignment and concepts of spiral and curve and how these affect moving through space. Repeatable five times for credit by permission of instructor.
- 336 RHYTHMIC ANALYSIS AND ACCOMPANIMENT (3)
Prereq: Th/D 235 or equivalent. Technical aspects of music and rhythms and musical forms as applied to dance movements; the function of percussion and accompaniment for dance techniques, improvisations and accompaniment.
- 339 INTERMEDIATE BALLET TECHNIQUE (3)
Prereq: 6 credits of Th/D 238. Study of classical academic technique through a strict adherence to fundamental principles. Students repeating Th/D 339 will gain an increase of terminology and movement vocabulary and learn increasingly difficult tours, jumps, combinations in adagio and allegro. Open to non-majors. Repeatable five times for credit by permission.
- 342 DANCE COMPOSITION II (3)
Prereq: Th/D 242, 333, 336, or permission of instructor. Further development of principles introduced in Th/D 242 with added emphasis on musical forms. Solo and duet studies. Music 101 strongly recommended for this course.
- 350 CREATIVE DRAMA (3)
Th/D 250 recommended. Principles and methods for using improvised drama as an experimental means of fostering the young person's growing awareness of himself and his world. Laboratory work with students at elementary and secondary schools.
- 351 PUPPETRY (3)
Design, construction and manipulation of puppets; their use in productions for the child audience, in speech therapy, in elementary education, and as a craft for children.

Theatre/Dance

- 360 **ACTING STUDIO II: VOCAL INTERPRETATION OF A ROLE (3)**
Prereq: written permission of instructor. Continuation of skills and refinement of techniques presented in Acting Studio I but with strong emphasis on voice and vocal characterization. Scene work from several major periods and styles is required.
- 361 **ACTING STUDIO II PHYSICAL INTERPRETATION OF A ROLE (3)**
Prereq: written permission of instructor. Continuation of skills and refinement of techniques presented in earlier acting studios but with a strong emphasis on the use of the body and physical characterization. Scene work of several periods and styles is required.
- 365 **ADVANCED ORAL INTERPRETATION (3)**
Prereq: Th/D 265 or permission. Continuation and refinement of theory and techniques of oral interpretation (Th/D 265) and introduction of Reader's Theatre theory and practice.
- 370 **INTRODUCTION TO DIRECTING (3)**
Prereq: at least 3 credits of acting and Th/D 314. Theory and practice of stage direction including selection of play, analysis, casting, floor plans, blocking, and production of a scene for public performance.
- 371 **PLAY DIRECTION I (3)**
Prereq: Th/D 370 or permission of instructor. Theory and practice of stage direction including selection of play, casting and blocking, and production of a scene for public performance.
- 380 **THEATRE HISTORY I (4)**
Development of the theatre arts from Classic Greece to Renaissance.
- 381 **THEATRE HISTORY II (4)**
Prereq: Th/D 380 or permission. Development of the theatre arts from the 18th century to the present.
- 385 **INTERMEDIATE DRAMATIC WRITING WORKSHOP (4)**
Prereq: written permission of instructor. Further practice in primary forms and conventions of drama. Longer forms. Introduction to mixed forms and contemporary styles.
- 411 **SCENIC DESIGN (3)**
Prereq: Th/D 312 and 313 or permission of instructor. Design for the modern theatre: emphasis on interpretation of the play through design; practical designs and techniques.
- 414 **THEATRE BUSINESS PRACTICES (3)**
Prereq: Th/D 314, 37C; Th/D 101 recommended. Examination of the theories and approaches to business management in the theatre as well as practical application of those theories discussed including budgeting, promoting and producing.
- 428 **MAJOR DRAMATISTS (3 ea)**
Prereq: Th/D 222. In-depth treatment of playwrights influential in the development of drama.
428a Greek & Roman
428b British
428c Continental
428d North American
428e Contemporary
May be repeated under advisement as a, b, c, d, or e with different subject matter.
- 431 **WORLD HISTORY OF THE DANCE (3)**
Prereq: Th/D 231. The history of dance with emphasis on the evolution of dance from primitive cultures through the Middle Ages.
- 432 **HISTORY OF THE DANCE SINCE 1450 (3)**
Prereq: Th/D 431 or permission of instructor. Significant topics of dance history from the Renaissance to the Modern Period with emphasis on the evolution of dance in Europe, Denmark and Russia during the 18th and 19th centuries.
- 433 **LABANOTATION (3)**
Prereq: Th/D 231, 235, or equivalent. An elementary course in dance notation. Reading and writing bodily movements, ballet and modern dance sequences with emphasis on directions, levels, arm and leg movements.
- 434 **THE DANCE ARTS IN EDUCATION (3)**
Prereq: permission of instructor or demonstrated competency at the intermediate level in dance technique. Materials and methods of instruction in the modern dance and ballet. Observation and teaching opportunities in a laboratory studio environment.
- 440 **ADVANCED MODERN DANCE TECHNIQUE (3)**
Prereq: Th/D 333 or permission of instructor. This course is intended for the student who wishes to obtain a pre-professional level of technical ability. Intensive work on rhythmical variation and phrasing. Repeatable to a maximum of 15 credits.
- 442 **DANCE COMPOSITION III (3)**
Prereq: Th/D 342 or permission of instructor. Principles of advanced composition: solo and group works, dance composition in relation to other art forms, advanced studies in theme and development, phrasing and movement manipulation.

- 450 **CREATIVE DRAMATICS LEADERSHIP (3)**
Prereq: Th/D 350. Advanced techniques: supervised teaching.
- 452 **CHILDREN'S THEATRE (3)**
Th/D 350 recommended. Plays for children studied for appreciation of their values for the child audience: principles of children's theatre play selection
- 453 **TOURING THEATRE (5)**
Prereq: permission of instructor. Theory and principles of touring technique and problems: participation in college theatre touring program. S/U grading.
- 460 **ACTING STUDIO III: STYLE (4)**
Prereq: written permission of instructor. Continuation of refinement of skills and techniques presented in Acting: Studio II. This course is devoted to advanced workshops and performance projects with directors and playwrights with an emphasis on theatrical style.
- 461 **ACTING STUDIO III: CHARACTER (4)**
Prereq: written permission of instructor. Continued refinement of skills and techniques introduced in previous studios, with special emphasis on individual acting problems.
- 462 **ADVANCED WORKSHOP IN SUMMER STOCK (15)**
Prereq: written permission of instructor required before registering. Offered only summer quarter. Contact Director of Theatre for details.
- 465 **READER'S THEATRE (3)**
Prereq: Th/D 365 or permission. Continuation and refinement of theory and techniques of Reader's Theatre introduced in Th/D 365. Public performance required.
- 470 **PLAY DIRECTION II (3)**
Prereq: 30 hours in the major including Th/D 370. Producing and directing a one-act play for public performance. special emphasis on working with the actor.
- 471 **PLAY DIRECTION III (5)**
Prereq: Th/D 470 and written permission. Producing and directing a full-length play for public performance. emphasis on problems in high school, community and professional theatres.
- 472a.b **HIGH SCHOOL DRAMA DIRECTORS INSTITUTE (2, 4)**
A workshop for those who are now engaged or who intend to become engaged in the processes of play production. from script selection, production planning, casting and rehearsal to performance. This institute utilizes the resources of the concurrent acting workshop for high school students. Repeatable with permission of instructor. (Summer only.)
- 485, 486, 487 **DRAMATIC WRITING WORKSHOP (4 ea)**
Prereq: written permission of instructor. Opportunity for disciplined expression in writing for stage, film, television or other media. May be repeated as 485, 486 or 487 to a maximum of 12 credits
- 488 **REVISION AND PRODUCTION SCRIPT PREPARATION (2)**
Prereq: permission of the instructor required. Supervised revision and script preparation for production in any medium, and/or opportunity for extra work on full-length scripts. Normally taken concurrently with Th/D 485, 486 and/or 487 when student's work is or is about to be in actual production. May be repeated for a maximum of six credits.
- 495 **INTERNSHIP (1-12)**
Prereq: junior status or above and permission of the chairman. Qualified third- and fourth-year students may apply to apprentice with theatre and/or dance companies, performing arts agencies or producing organizations. S/U grading. Repeatable to a maximum of 24 credits.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 501 **INTRODUCTION TO RESEARCH IN THEATRE/DANCE (4)**
Interpretation and evaluation of research outcomes: purposes and design of various methods with particular emphasis on historical and descriptive methods.
- 511 **SEMINAR IN SCENIC DESIGN AND STAGE LIGHTING (4)**
Prereq: Th/D 313 and 411. Topics in the practice and principles of the scenic arts with individual projects in design.

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- 512 **ADVANCED SEMINAR IN SCENIC DESIGN AND STAGE LIGHTING (4)**
Prereq: Th/D 511. Advanced topics in the practice and principles of the scenic arts with individual projects in design
- 522 **SEMINAR IN DRAMATIC THEORY AND CRITICISM (4)**
Prereq: undergraduate major in theatre or permission of instructor. Dominant concepts and issues of dramaturgical thought. Principles and practices of dramatic criticism.
- 528 **SEMINAR IN DRAMATIC LITERATURE (3)**
Intensive study of major dramatists or periods
528a Greek and Roman
528b British
528c Continental
528d North American
529e Contemporary
a,b,c,d or e may be repeated once with permission of graduate adviser.
- 530 **HISTORY/ANALYSIS OF DANCE IN THE TWENTIETH CENTURY (4)**
Prereq: Th/D 431 or equivalent, or permission of instructor. Selected topics in Western theatrical dance histories since 1900, the Diaghilev Ballets Russes, development of ballet in England and America, the forerunners, pioneers and traditionalists of the modern dance, dance of the avant-garde, and a micro unit in musical theatre dance
- 531 **GRADUATE CHOREOGRAPHY & PERFORMANCE (4)**
Prereq: permission of instructor only. Individual projects in problem solving, thematic development, and performance refinement at the advanced compositional level
- 550 **DRAMA IN EDUCATION (4)**
Prereq: Th/D 450 and 452, or equivalent. Critical review of theories and research in children's theatre and creative drama; the use of drama techniques in teaching grades K-12. Individual artistic or research projects
- 551 **THEATRE IN EDUCATION (4)**
Prereq: Th/D 550. Strategies for the implementation of the techniques for theatre production in the public schools
- 560 **ACTING (4)**
Prereq: permission of instructor only. Intensive training for the actor with an emphasis on the historical; stage mechanics; self awareness, character action and development, styles, and script analysis.
- 561 **ADVANCED ACTING (4)**
Prereq: Th/D 560. A continuation of 560 with emphasis on contemporary approaches and application in production.
- 570 **PLAY ANALYSIS AND THEATRE PRODUCTION PLANNING (4)**
Theories of play analysis and theatre production organization from the point of view of the play director preparing to produce a play
- 571 **SEMINAR IN PLAY DIRECTION (4)**
Prereq: Th/D 471. Topics in the principles and practices of the art of play direction with individual student projects.
- 572 **ADVANCED SEMINAR IN PLAY DIRECTION (4)**
Prereq: Th/D 571. Advanced principles and practices of play direction with individual student projects.
- 585 **PLAYWRITING SEMINAR (5)**
Individual projects in dramatic writing will be submitted for group discussion. (Also listed as English 503a)
- 586 **ADVANCED PLAYWRITING SEMINAR (5)**
Prereq: Th/D 585 or permission of instructor. Individual projects in playwriting. (Also listed as English 503b.)
- 595 **INTERNSHIP IN THEATRE ARTS (1-6)**
(Option II) Experimentation leading to the development of new methods and materials in the teaching and/or practice of theatre. May involve on- or off-campus projects.
- 690a **THESIS (1-9)**
- 690b **RESEARCH PAPER (1-3)**
Planning and execution of a publishable scholarly paper

Interdisciplinary Arts Program

BACHELOR OF ARTS

Major

Basic Core (Required in all options — 45 credits + 14 credits in supporting courses)

- Th/D 232, 242, or 342, 241, 235, 238, 333, 336, 339, 440, 431 or 432, 433

- Supporting Courses: Th/D 231, Music 128, Interdisciplinary Arts 110, Biol 348

Refer to Theatre/Dance Department for course description.

Interdisciplinary Dance Studies Concentration

86-105 credits

Interdisciplinary dance study leading to the Bachelor of Arts degree in interdisciplinary arts offers courses in dance technique (modern, ballet, jazz), choreography, history and philosophy of dance. The program includes a dance core plus supporting courses and a choice of an option in pre-dance/movement therapy, performing-visual arts or liberal arts. Aside from the interdisciplinary dance studies concentration, it is possible, in conjunction with the School of Education, to earn an extended teaching minor (36 credits) in dance.

Option 1: Pre-Dance Therapy

45 credits

Pre-dance/movement therapy is specifically designed for students who wish to undertake graduate study in dance therapy.

Basic Core

- Th/D 331, PE 120, 122, 209
- 6 credits in internships in dance/movement therapy from Th/D 300 and 400
- 34 additional credits under advisement from: Psych 217, 313, 314, 352, 353, 431 or 432; PE 201, 302, 326, 402; SPA 465; EdC 360, 361, 466

Option 2: University or College of Fine and Performing Arts

36-40 credits

Visual/performing arts is concerned with the continued growth of dance as a creative/performing art experience.

Basic Core

- Dance/theatre performance emphasis: Th/D 160, 213, 215, 242 or 260, 233, 334, 339, 417, 431 or 432, 434, 442 (3-7 credits under advisement)
- 36-40 credits from music, theatre, visual arts or other university departments under advisement

Option 3: Liberal Arts

Liberal Arts provides a broad liberal background as it examines performance in a social and cultural context.

Basic Core

- 36-40 credits from: Music 190, 240; Anth 247, 332, 335; Soc 302; Psych 315, 318, 342, 344; Lbrl 121, 122, 123

Students should consult with the director prior to registering in order to assure that they enter the core sequence correctly, as well as in the selection of option 1, 2 or 3. This program may also be taken as a student/faculty designed major.

The interdisciplinary arts major shall have, under advisement, an option of taking one quarter in the College of Fine and Performing Arts Abroad program.

COURSES IN INTERDISCIPLINARY ARTS

Courses numbered X37; X97: 300, 400, 417; 445 are described on page 38 of this catalog.

110 INTERDISCIPLINARY ARTS (3)

An introduction to creativity and artistic expression. Students will be required to develop critical judgment.

HUXLEY COLLEGE OF ENVIRONMENTAL STUDIES

Dr. John C. Miles, Dean

As we approach the beginning of the twenty-first century, it is clear that one of the responsibilities of colleges and universities is to help society become aware of environmental problems and issues. A new synthesis of knowledge is needed that is global in its frame of reference, interdisciplinary in its character and experimental in its work.

Huxley College contends that the more people know about their environment in its interdependent detail, the better they will be able to make correct decisions relative to a quality of life that depends on the environment. To this end the College teaches and researches, in an interdisciplinary and systematic way, the complex issues and problems of the natural environment and its social overlay. Its aim is to impart knowledge and to encourage rational and acceptable approaches to environmental problem solving.

Environmental studies at Huxley centers on three academic concentrations: environmental science, social assessment and policy, and environmental education. Studies in these program areas lead to the B.S. or B.A. degree. Both allow students to pursue specialization or breadth, to acquire a synthesis of environmental knowledge and to develop skills applicable to careers or to further advanced study.

At Huxley, faculty, staff and students alike are at work to create a teaching-learning environment that reflects the ideals and values of personal communication, independent learning, new approaches to education and a sense of community. Huxley is a gathering place and a focus for those

genuinely concerned about the environmental well-being of the earth.

At Huxley there is real opportunity for students to contribute to the growth and functioning of the College. Students often attend faculty meetings, co-sponsor seminars with faculty members, and work with faculty and staff on decision-making College committees.

Huxley College was created in 1968 to develop programs of environmental studies that reflect a broad view of man in a physical, biological, social and cultural world. This interdisciplinary approach is supported by courses in marine, freshwater or terrestrial ecology; environmental chemistry; environmental toxicology and nutrition; human ecology; environmental policy and decision-making; and outdoor and experiential education. Most of Huxley's courses are at the junior and senior levels. Lower-division preparation may be completed at Western or at another institution, following the guidelines set forth under "Background Preparation" in the Admissions section of this listing.

REGION AND RESOURCES

Huxley College is located at the interface of several important environmental regions: the mountains of the North Cascades range and the shores of Puget Sound and the Pacific Ocean, the urban industrial regions of Seattle and Vancouver, B.C., and the rural agricultural regions of western Washington. Oil refining, logging in the Cascades, pulp and paper

manufacture, aluminum production, fisheries, and aquaculture are key industries in the area.

Instruction and research at Huxley College are carried out in the Environmental Studies Center, a six-floor laboratory, classroom, and studio facility on the WWU campus. The Center also houses the Institute for Wildlife Toxicology, which provides opportunity for research and education on the effects of toxic substances on avian and mammalian species, and the Institute for Watershed Studies, which provides opportunity and specialized equipment for freshwater and watershed studies. Leona M. Sundquist Marine Laboratory at Shannon Point on Fidaigo Island, within easy traveling distance of the campus, provides facilities for marine studies.

About 150 students are currently enrolled in Huxley College. Huxley students are members of the WWU student body, which totals about 9,000. They have access to all library and computer facilities, and the academic, athletic and recreational activities of Western.

HUXLEY FACULTY

- JAMES R. ALBERS (1971) Professor and Associate Vice President for Instruction and Planning, WWU. BS, Washington State University; MS, George Washington University; PhD (Physics), University of Washington.
- DAVID BRAKKE (1980) Professor and Director, Institute for Watershed Studies. BA, College of St Thomas; MS, University of North Dakota; PhD (Zoology), Indiana University.
- DAVID E. CLARKE (1966) Associate Professor. BA, MA, Trinity College (Cambridge); PhD (Political Science), Stanford University.
- KIM FRIEIER (1986) Lecturer. BS, Purdue University; MEd, Western Washington University.
- ERNST L. GAYDEN (1971) Associate Professor. PhD University of Chicago; MS, Illinois Institute of Technology.
- RONALD J. KENDALL (1980) Professor and Director. Institute of Wildlife Toxicology BS, University of South Carolina, Columbia; MS, Clemson University, PhD (Fisheries and Wildlife Sciences), Virginia Polytechnic Institute and State University.

- THOMAS E. LACHER, JR. (1981) Associate Professor. BS, PhD (Biological Sciences), University of Pittsburgh.
- ROBIN A. MATTHEWS (1986) Lecturer. BS, University of California Riverside, MSES, Indiana University; PhD (Aquatic Ecology), Virginia Polytechnic Institute and State University.
- J. RICHARD MAYER (1978) Professor. BS, Union College; MA, Columbia University; PhD (Organic Chemistry), Yale University.
- JOHN C. MILES (1968) Professor. BA, Dartmouth College; MA (Recreation and Park Management), University of Oregon; PhD (Environmental Education), Union Graduate School.
- LYNN A. ROBBINS (1971) Professor. BA, University of Utah, MA, PhD (Anthropology), University of Oregon.
- WILLIAM C. SUMMERS (1971) Associate Professor. BME, PhD (Zoology), University of Minnesota.
- HERBERT H. WEBBER (1970) Professor. BSc, PhD (Zoology and Marine Biology), University of British Columbia.
- RUTH F. WEINER (1974) Professor. BS, MS, University of Illinois. PhD (Physical Chemistry), The Johns Hopkins University.
- MING-HO YU (1970) Professor. BS, National Taiwan University; MS, PhD (Plant Nutrition and Biochemistry), Utah State University.

Adjunct Faculty

- LARRY W. BREWER
Institute of Wildlife Toxicology, Huxley College. MS (Wildlife Sciences) University of Washington.
- RONALD HITCHCOCK
Institute of Wildlife Toxicology, Huxley College. PhD (Wildlife Science), Auburn University.
- BILL WILLIAMS
Project Officer, EPA Corvallis Environmental Research Laboratories. PhD (Neuro-Physiology), University of Illinois, Champaign/Urbana.
- ROGER G. YOUNG
Professor Emeritus, Cornell University. PhD (Chemistry), University of Oregon.

Affiliated Faculty

- RANDALL S. BABCOCK, Associate Professor, Department of Geology.
- LOWELL T. CROW, Professor, Department of Psychology.
- MELVIN DAVIDSON, Professor, Department of Physics and Director, Computer Center.
- CONSTANCE FAULKNER, Professor, Fairhaven College.
- GARLAND F. GRABERT, Professor, Department of Anthropology.
- KATHLEEN J. HASELBAUER, Associate Professor and Science Librarian, Wilson Library.
- RAND F. JACK, Professor, Fairhaven College
- MAURICE L. SCHWARTZ, Professor, Department of Geology.
- DON C. WILLIAMS, Professor, Department of Biology.

ADMISSIONS

Huxley's upper-division degree program is normally undertaken by students at Western who have junior standing (90 or more quarter hours) and by transfer students from other colleges and universities who have similar academic standing. Admission to Huxley College is accomplished by (1) being admitted to Western Washington University; (2) declaring an environmental studies major in the official Blue Book that will be provided; and (3) completing a "Declaration of Major" form in the Huxley College office (Environmental Studies Center 539). A faculty adviser will be assigned (or a student may choose an adviser). Western students are urged to seek admission to Huxley College as soon as they become interested in Huxley's degree programs in order to obtain advisement and explore ways of participating in the activities of the college community.

Background Preparation — WWU Juniors

Western students pursuing an environmental studies major at Huxley College should complete as many of the following background courses as possible before beginning their upper-division studies. These courses are prerequisite to much of Huxley's upper-division work.

- Biol 121
- At least three additional Biology credits in a course numbered above 121
- Chem 115 or 121
- Geol 211 or 214
- Math 105
- Eng 201, 301 or 302 or demonstration of proficiency in English composition.
- Lib St 105 or Soc 202 or Anth 201
- Phil 112
- Econ 203

All of the specifically numbered courses shown above satisfy General University Requirements.

Students choosing the environmental science concentration leading to the B.S. degree need specific preparation in biology, chemistry and mathematics in addition to courses listed above.

Background Preparation — Transfer Students

Transfer applicants are encouraged, since Huxley's curriculum is mainly an upper-division program. The first step in being admitted to Huxley College is application and admission to Western Washington University. Upon admission to Western, students will be admitted to Huxley at their request.

Transfer applicants are evaluated by Western's Office of Admissions for transfer credit and for credit toward completion of the General University Requirements. Students who intend to major in environmental studies should so indicate on the "Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities, State of Washington."

Huxley faculty recommend that prospective transfer students complete as many of the following background courses as possible prior to transfer. (It may be helpful to discuss needed background courses with a Huxley adviser.)

- General biology: two college courses offered for science students; topics covered should include plant and animal biology. Transfer courses in principles of biology, general zoology, and general botany may be used toward this requirement.
- General chemistry: a college course offered for science students. Transfer courses in general chemistry or principles of chemistry are acceptable.
- Physical geology: a college course offered for science students. Transfer courses in physical or environmental geology are acceptable, as are five-credit courses in general geology.

- College algebra: a pre-calculus college algebra course. Transfer courses in college algebra, advanced algebra, pre-calculus or elementary functions can fill this requirement.
- English composition: a college course above the level of introductory composition, or demonstration of proficiency in English composition. Courses in reading and composition, rhetoric and composition, reading and argumentation, or advanced composition can fill this requirement.
- Behavioral studies: a college-level course. Courses in behavioral science, cultural anthropology, or sociology may fill this requirement.
- Philosophy: a college-level course, preferably one dealing with ethics or moral philosophy.
- Economics: one college-level course in micro-economics.

These courses may be one quarter, one semester or one trimester of work.

Background Preparation — Transfers from Washington State Community Colleges and Other Colleges

Students who have earned certain associate's degrees from community colleges in Washington State are considered to have completed the General University Requirements; prospective transfers should consult the WWU Office of Admissions for information on which degrees are accepted under this agreement. However, students holding associate's degrees from community colleges with which Western has no formal agreement must complete Western's General University Requirements.

Students holding a B.A. or B.S. degree from an accredited college or university who are working toward a second bachelor's degree will be considered as transfers who have completed the GUR.

DEGREE PROGRAMS

To achieve its purpose in undergraduate education, the College has developed an integrated set of three concentrations, each of which offers the student a number of options and emphases. These concentrations lead to a B.S. in environmental studies:

- Environmental Science
- Social Assessment and Policy
- Environmental Education

In addition, the College offers interested students the opportunity to pursue a more general B.A. in environmental studies; student/faculty designed concentrations; or a minor in environmental studies.

Requirements for Bachelor's Degrees

Besides the General University Requirements for graduation from the University, explained elsewhere in this catalog, Huxley College has the following specific requirements for baccalaureate degrees:

- A Huxley College concentration (B.S. program), student/faculty designed concentration, or the generalist environmental studies program leading to the B.A.
- At least one full year (45 quarter credits) as a member of Huxley College, including the final quarter before issuance of a degree.
- A cumulative grade average of 2.0 (C) or better, with no grades less than C- acceptable in Huxley background courses, or courses that define a student's major or minor.

Students interested in any of these degree programs should contact the Huxley office (Environmental Studies 539) for advisement on admission to Huxley College and selection of a faculty adviser.

BACHELOR OF SCIENCE — ENVIRONMENTAL STUDIES

Huxley students pursuing B.S. degrees will complete certain "com-

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mon requirements" and, in addition, specific course requirements for a concentration.

Huxley's concentrations are broadly conceived and allow students to elect coursework, seminars and independent learning experiences (called "Problem Series") in freshwater, marine, coastal and terrestrial ecology; air and water pollution; environmental chemistry; environmental toxicology; nutritional science; applied human ecology; teacher education; outdoor education and interpretation; mass communications; and environmental policy and administration.

A student whose interest lies in marine resources and problems of the marine environment, for example, may concentrate at Huxley in environmental science, with emphasis in such subjects as marine ecology, oceanography, estuarine ecosystems, and coastal ecosystems management, selecting coursework from Huxley offerings and those of other units at Western.

Students whose concerns are with the effects of environmental pollutants and toxins on living systems will find appropriate coursework among Huxley College offerings, as will those who plan to concentrate their efforts on the social and humanistic dimensions of environmental problems.

Huxley Common Requirements 32 credits

These requirements consist of five core courses, Huxley seminars, and Problem Series (student independent study projects):

Core Courses 18 credits

The core courses provide a common background of environmental concepts, knowledge and perspectives essential for understanding the role of man within an interdependent

physical, biological, social and cultural world.

Hux 301, 302, 303, 401, 402

Seminars 4 credits

Huxley seminars, which are one- or two-credit courses, serve as a meeting ground for faculty and students to work together on topics of contemporary or special interest. Typically, a seminar will be limited to 15 students to stimulate discussion and foster communication across disciplinary boundaries. Students are encouraged to initiate and, with faculty involvement, to conduct seminars. Recent seminars include:

- Survey of Toxic Substances
- The History of Resource Allocation in the Pacific Northwest
- Environmental Fluoride
- Behavior and Environment
- Environmental Problems in the Third World
- Writing a Research Proposal
- Freshwater Environments: A Resource for Environmental Education

Problem Series 4-15 credits

The Problem Series is comprised of one or more independent study projects designed to give students a chance to focus their energy, ideas, experience and training on a specific topic. The Problem Series, normally taken in the senior year, is a special project guided by a faculty adviser or advisers. This project may reflect a single study topic or form part of a major investigation. It may take the form of field work or laboratory, library or community research (Hux 498a), or it may be an internship experience (Hux 498b). All Problem Series work must be completed with a written, taped, filmed or graphically portrayed document describing the process and the outcome of the investigation or internship. Two bound copies of the final report are submitted by the graduating student; one of these is kept on file in the Huxley library. The Problem Series report

must be submitted in at least first-draft form by the third week of the student's last quarter of study.

Problem Series at Huxley consist of:

- Hux 498a, or Hux 498b (4 credit minimum)
- Additional credits of 498a or 498b (up to 6), for projects that are determined by the adviser to be complex or demanding beyond the four-credit norm, plus Huxley College electives to total at least 6 credits

or

Electives in Huxley College: courses to be selected under advisement, 6 credits.

Students whose full-time, quarter-long internships earn up to 15 credits will accumulate more than the required 32 credit hours of common requirements.

Recent examples of Problem Series:

- Mercury Levels in Pacific Halibut (*Hippoglossus stenolepis*) from the Gulf of Alaska and the Bering Sea
- A Water Quality Report of the Sammamish River at Bothell
- The Effects of Methylparathion on Starling Reproduction and Brain Acetylcholinesterase Activity
- A Passive Solar Church Design
- The New SEPA Rules: The Changes and Their Effect

Recent examples of internships include work with:

- U.S. Forest Service
- National Clean Air Coalition
- Washington State Department of Ecology
- Washington State Department of Game
- John Fluke Manufacturing Co.
- Padilla Bay-Breazeale Interpretive Center
- Whatcom County Water District 10
- State Legislatures
- Public Schools
- National Parks and nature centers

Specific Requirements for Huxley Concentrations

Environmental Science 100 credits plus supporting courses

The environmental science program emphasizes course work, seminars, independent study and research that focuses on the physical, chemical, biological and quantitative dimensions of environmental problems. Students pursuing this concentration will complete a "science core" of eight courses in addition to the all-College common requirements, and may choose electives in a number of specialized areas. Students who have completed this program have qualified for careers in air pollution control, hazardous waste management, water quality analysis, environmental health, environmental impact assessment, environmental toxicology and laboratory research, to name a few. Many students have pursued graduate studies at major U.S. universities. For a full spectrum of possibilities, students should consult the list of faculty advisers and their research interests below and the list of available courses which follows the program descriptions in this section.

Courses in the "science core" require the following preparation: three quarters of general biology; three quarters of general chemistry and a course in organic chemistry; and a course in calculus.

- Huxley common requirements - 32 credits
- Environmental science core - 38-40 credits
 - Biol 325; Hux 340, 358, 365, 436, 455, 462; two of the following three courses: Hux 321a, 361, 430
- Electives under advisement - 28-30 credits

Concentration advisers: David Brakke (limnology, watershed management), Ronald Kendall (environmental/wildlife toxicology), Thomas E. Lacher, Jr. (terrestrial ecology, behavioral ecology), Robin Matthews

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(stream ecology, watershed management), J. Richard Mayer (aquatic chemistry, groundwater studies), William Summers (marine ecology), Herbert Webber (marine and estuarine biology), Ruth Weiner (air quality, energy, science policy), Ming-Ho Yu (environmental nutrition, biochemical toxicology).

Huxley students also may elect programs in terrestrial ecology, marine biology or watershed studies (cooperative programs offered in conjunction with the Department of Biology).

Program in Terrestrial Ecology:

Cooperative Program 100 credits

- Huxley College common requirements - 32 credits: Huxley core (Hux 301, 302, 303, 401, 402); Problem Series (Hux 498a or b); Seminars (Hux 499)
- Required courses - 55-57 credits: two of Biol 210, 211, 212; 321; 323 or 403; 325, 404, 452, 490; Hux 340; Hux 361 or Chem 333; Hux 430, 431
- Electives selected under advisement - 11-13 credits
- Supporting courses (required but not counted in the 100-credit program): Biol 121, Math 124

Program in Marine Biology:

Cooperative Program 110 credits

- Background preparation (courses required but not counted in the 110-credit program): Biol 121, 122; Chem 121-123, 251; Physics 241, 242; Math 124; Geol 211
- The following courses (required and counted toward the 110 credits): Biol 210; Biol 211 or 212 (10 credits)
- Ecology Core - 13-15 credits: Hux 340; Biol 325; Hux 361 or Chem 333
- Marine Biology Courses - 25 credits: Biol 403, 456; 460 or 461; Hux 321a and b or Biol 406; Hux 421a and b or Biol 407
- Huxley College common requirements - 32 credits: Huxley core (Hux 301, 302, 303, 401, 402); Problem Series (Hux 498 a or b);

Seminars (Hux 499)

- Electives selected under faculty advisement - 28-29 credits
- One quarter's work in residence at Shannon Point Marine Center or similar facility

Program in Watershed Studies:

Cooperative Program 100 credits

- Background preparation (courses required but not counted toward the 100 credit major): Biol 121, 122; Chem 121-123; Math 124; Geol 211
- Background preparation - 21 credits (the following courses are required and count toward the 100-credit major): two of Biol 210, 211, 212; Chem 351-353
- Ecology Core - 14-15 credits: Biol 325; Hux 340; Hux 361 or Chem 333
- Freshwater ecology courses - 17-18 credits: Hux 430 or Biol 402; Hux 433 or Biol 433; Hux 432 or 434; Geol 472
- Huxley College common requirements - 32 credits: Huxley core (Hux 301, 302, 303, 401, 402); Problem Series (Hux 498a or b); Seminars (Hux 499)
- Electives under advisement - 14-17 credits selected from but not limited to the following topic areas:
 - Watershed Processes: Hux 438, 439, 445; Geol 310, 473; Geog 331, 431
 - Environmental Chemistry: Hux 456, 458, 462; Geol 460, 461
 - Ecology: Hux 421a and b, Hux 431; Biol 404, 407, 425; 379 or 403; 425, 452, 456, 462

Social Assessment and Policy

75 credits

The goal of Huxley's concentration in Social Assessment and Policy is to provide knowledge and tools for understanding the social and humanistic dimensions of environmental problems. Studies will focus on cultural premises, perceptions, and values both historic and contemporary, on social change necessary for environ-

mental problem solving and ways to accomplish it, and on social policy and planning and its short- and long-term environmental costs and benefits.

The concentration is a general one designed to give students experience in a wide area of inquiry. It touches on cultural ecology, the dynamics of human population, environmental ethics, political action, ecosystems, pollution, and assessment of environmental impacts, among other subjects. Competent Social Assessment and Policy graduates have little difficulty in finding employment in federal agencies, local service organizations and elsewhere. The background these students acquire serves them well when facing the variety of challenges in their chosen careers.

Graduate study is a second option open to students. Several excellent graduate programs in the U.S. provide a continuation of in-depth study in human ecology and related areas of study; or the student may enter graduate programs in fields such as anthropology, sociology, geography, political science or psychology. The concentration allows many opportunities for self-development in addition to professional and career preparation.

Concentration advisers: David Clarke (systems philosophy, environmental ethics), Ernst Gayden (human ecology, environmental design), Lynn Robbins (human ecology, social impact assessment), Ruth Weiner (environmental policy).

This concentration is based on two general objectives. Students choose most of their coursework from among courses meeting these objectives.

Objective I: Perspectives and Understandings of:

- (a) The social system and particularly the social and humanistic dimensions of environmental problems

- (b) The role of the social sciences in the analysis of environmental problems
- (c) The role of governmental structure and function in environmental problems and solutions

Objective II: Skills and Methods for:

- (a) Participating in environmental affairs, locally and generally
 - (b) Socio-environmental problem-solving and conflict resolution
 - (c) The logical and humane resolution of social and moral dilemmas related to environmental problems
- Huxley Common Requirements (32 credits)
 - Three courses meeting Objective I (10-12 credits) from the following:
Hux 308, 377, 410, 466, 467, 491
 - Three courses meeting Objective II (11-12 credits) from the following:
Hux 365, 371, 411, 412, 413, 415, 418, 436, 440
 - Electives, under advisement, from Huxley or other WWU colleges (19-21 credits)

Recommended preparation for Social Assessment and Policy includes at least one college-level course in history and courses in introductory sociology and political science. Interested students should seek advisement early concerning their lower-division preparation.

Environmental Education

The general objective of the concentration in environmental education is to provide students interested in educational roles of various types with an opportunity to obtain a basic understanding of the qualities of the environment in general and of the environmental education process in particular. Three options have been developed within the program which will allow students with varied interests opportunities to work toward diverse career goals.

The concentration consists of several

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distinct parts. First, students seek to acquire a synthetic and holistic understanding of the content of environmental studies. Second, students examine the process of education from the environmental perspective; i.e., how the environmental education process differs from other processes of education, what ideas and methods are central to the process and what specific techniques are available to facilitate it. Third, students investigate ways of applying environmental education content and techniques in the professional roles which they may pursue. Fourth, students participate in internships, a field practicum, or research.

Graduates of this concentration have found positions as teachers in public and private schools, as interpreters with resources management agencies, and as staff in programs for special populations such as juvenile offenders and the handicapped, among others.

Option I — Teacher Education — Elementary/Secondary 40 credits minimum plus Professional Studies Program.

The goal of this option is not to train a specialist in environmental studies but to assist in the training of teachers of one of the traditional subject areas. It is possible to complete this option in the normal four-year college program only if advisement begins in the freshman year.

- Huxley core of five required courses (18 credits)
- Huxley seminars (4 credits)
- Two environmental education courses (8 credits):
Hux 371, 472
- Electives under advisement to total 40 credits
- Students in secondary education are *required* to complete an additional academic major under advisement from the School of Education
- Students in elementary education are required to complete the

elementary education minor

- Professional studies program applicable to teaching level (see "Education" section of the catalog)

Option II — Outdoor Education and Interpretation 90 credits

The goal of this option is to prepare people to pursue environmental education careers in non-formal educational and recreational settings. Persons choosing this option will design programs of study to prepare them for work as outdoor education leaders and interpreters of various environments.

- Huxley common requirements (32 credits)
- Six courses (23 credits):
Hux 371, 372, 373, 375, 472, 473
- Electives, under advisement (35 credit hours)

Option III — Mass Communication and Environmental Education

90 credits

This option allows a student to combine his or her interests in education, environmental studies, mass communication, and/or media technology utilizing extensively coursework in other colleges at Western which specialize in various aspects of communications.

- Huxley common requirements (32 credits)
- Four courses (16 credits):
Hux 371, 377, 466, 472
- Electives, under advisement (42 credits)

Recommended preparation for Environmental Education: Interested students should seek advisement early in order to formulate a degree program within any of the above options.

Concentration adviser: John Miles (environmental/experiential education; humanities in environmental studies)

Student/Faculty Designed Concentration

Students who wish to design their

own concentrations in environmental studies should obtain information on guidelines from the Huxley College office (ES 539). The student-designed concentration should be developed with faculty advisement and must be approved by two faculty members and the Huxley College Curriculum Committee at least four quarters before the student's anticipated graduation.

BACHELOR OF ARTS

Major — Environmental Studies 70 credits

Huxley's Bachelor of Arts degree program is designed to help a student develop breadth in environmental studies. The basic college commitment to interdisciplinary study, concern for real-world problems and awareness of environmental values are stressed. By its nature, the B.A. program allows a student wide flexibility of choice among courses, many of which may be taken in other colleges at Western.

- Huxley background courses (selected with faculty advisement)
- Huxley core of five courses (18 credits)
- Huxley seminars (4 credits)
- Electives, under advisement, including at least 25 Huxley credits (48 credits)

Combined Major — Environmental Studies/

Journalism 83 credits

Students wishing to complete a combined major in environmental studies and journalism may do so by satisfying the requirements below. The Huxley background courses in biology, chemistry and mathematics are essential preparation.

Environmental Studies 37 credits

- Huxley core courses, consisting of Hux 301, 302, 303, 401, and 402 (18 credits)
- Hux 499 (4 credits)

- Electives from among Huxley courses: highly recommended are Hux 308, 418, 436 and 439 (15 credits)

Journalism 46 credits

- Journ 104 or 406 (3 credits)
- Journ 160, 204, 304, 340, 350, 404, 430, 470 and 480 (31 credits)
- Three staff courses from the following list "A": Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414 (6 credits)
- Three additional staff courses from the following list "B," or list "A": Journ 121, 122, 123, 124, 221, 222, 223, 224, 321, 322, 323, 324, 421, 422, 423, 431, 432, 433 (6 credits)

Some of the staff course requirements may be waived by substitution of equivalent professional experience. The journalism "outside concentration" requirement is satisfied by the environmental studies portion of the program.

Minor — Environmental Studies 24 credits

Huxley's environmental studies minor is open to all students at Western.

- Hux 110 and 202 (6 credits)
- Two Huxley core courses selected from Hux 301, 302, 303, 401, 402 (6-8 credits)
- Electives, under advisement (10-12 credits)

Interdisciplinary Nutrition Program

The interdisciplinary program in nutrition provides students with opportunities to pursue the area of nutrition at Western Washington University. The program is designed to prepare students for employment or advanced study in one of several professions and occupations including public health nutrition, nutritional science and consumer advocacy in nutrition. The nutrition program

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draws upon faculty and courses offered at Huxley College and throughout the University. See Home Economics Department, located in the College of Arts and Sciences section, for further information, or contact Dr. Ming-Ho Yu (676-3504) or Janice Peach (676-3370).

GRADUATE STUDY

The Huxley College graduate program draws upon graduate coursework in Huxley College and Western Washington University's science departments, and leads to the Master of Science in environmental science degree. Three areas of program emphasis are recognized: wildlife toxicology, applied ecology, and environmental chemistry (a cooperative program with the Department of Chemistry).

A cooperative graduate program with the Department of Biology leads to the Master of Science degree in applied biology.

Western Washington University is a member of the Western Interstate Commission for Higher Education (WICHE). This membership entitles out-of-state graduate students from participating western states to pay in-state tuition when enrolling in Huxley's M.S. in environmental science program. In addition, Huxley College cooperates at the doctoral level in the wildlife toxicology through an arrangement with the program in pharmacology/toxicology, School of Pharmacy, Washington State University.

Program options and requirements are listed in the Graduate Section of this catalog.

INSTITUTE FOR WILDLIFE TOXICOLOGY

Director: Ronald J. Kendall

Huxley College has established an Institute for Wildlife Toxicology to encourage research and education

on the effects of toxic substances on avian and mammalian species. While centered at Huxley, the work of the Institute is University-wide in scope, involving WWU faculty in several academic units. In addition, cooperative research in the Northwest region is underway with the Washington State Department of Game and the Corvallis Environmental Research Laboratory, EPA. Other research projects are underway in various parts of the United States.

Institute staff includes—in addition to the director—an administrative assistant, quality assurance officer, field research coordinator, and program and research assistants.

Current field and laboratory investigations include:

- Effect of methyl parathion on wild avian species in Washington and Florida.
- Full-scale field studies on impacts of corn insecticides on wildlife in Iowa.
- Impact of turf insecticides on waterfowl.
- Behavioral and biochemical toxicology of pesticides in wildlife.
- Uptake and impact of pollutants on Great Blue Herons in the Padilla Bay National Estuarine Sanctuary, Washington.

Funding is provided for research and development by federal and state agencies and private industry.

The Institute for Wildlife Toxicology provides opportunities for both undergraduate and graduate students to pursue independent studies, participate in on-going research projects and undertake senior-level thesis and post-graduate research through Huxley's graduate program in environmental science.

THE CENTER FOR APPLIED HUMAN ECOLOGY/ APPROPRIATE TECHNOLOGY

This Center serves faculty and stu-

dents interested in the technologies appropriate to applied human ecology.

Appropriate technologies meet human needs for basic goods and services with minimal environmental disruption. They include use of sun, wind, water and biomass for energy; use of greenhouses and organic farming for food; use of cooperatives for production and distribution; and development of settlement patterns appropriate for these uses.

Applied Human Ecology is the interdisciplinary effort of refitting human activities into an environment of finite resources and of returning government and economy to human scale.

The Center exists to encourage faculty members to share their research, ideas, information and points of view; and to help students design interdisciplinary programs of study.

COURSE DESCRIPTIONS

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 38 of this catalog.

Huxley courses and seminars are open to all students at Western. Students enrolled in other colleges and divisions at Western may apply credits earned at Huxley to their elective programs.

110 ENVIRONMENTAL STUDIES: A SCIENTIFIC APPROACH (3)

An introduction to environmental studies which stresses a scientific approach toward understanding the nature and scope of contemporary problems in man's environment. The course reflects application of physical, chemical, biological and geologic principles to define ecological change, both natural and man-made.

202 ENVIRONMENTAL STUDIES: A SOCIAL SCIENCE APPROACH (3)

An overview of the environmental macro-problem with emphasis on specific cases which reveal the complexity of environmental problems. Social, political, economic, humanistic and scientific issues in their environmental context. A basic introduction to environmental studies from the perspective of the social studies.

204 THE OCEANS: AN INTRODUCTION TO THE MARINE ENVIRONMENT (3)

Prereq: two quarters of college science courses. Structure, function and human use of the marine environment. The oceanic environment (resources from the sea, world fisheries, ocean circulation, oceans and weather, ocean basins, salinity). The coastal zone (coastal zone management, law of the sea, estuaries, waves, tides)

301 ENVIRONMENTAL SYSTEMS (3)

Prereq: two quarters of general biology; Geol 211. General systems theory, principles of natural systems; eco-systems structure, function and management. A Huxley core course.

302 ENVIRONMENTAL POLLUTION (4)

Prereq: Math 105, Chem 115 or 121; general biology. An introduction to the problems of air and water pollution, pesticides, radiation, hazardous substances and noise. A Huxley core course.

303 HUMAN ECOLOGY (4)

Prereq: Lib St 105, Soc 202, or Anth 201. Study of human interactions with the natural system as mediated by the social group with its shared norms, values, knowledge and technology; the evolution of cultural systems and the increasing human-environmental relations and problems; possible institutional solutions to pressing human ecological problems. A Huxley core course.

308 ENVIRONMENTAL AND ENERGY ISSUES (3)

Prereq: one of the following courses: Hux 110, 202, 301 or 302; or permission of instructor. Presentation and analytical discussion of current, ongoing environmental issues in the United States, and particularly in the Pacific Northwest. Each issue will be examined in depth and with reference to its place in, and contribution to, the development of environmental thought and the environmental movement in the U.S.

309 ENVIRONMENTAL STUDIES: COMPUTER APPLICATIONS (3)

Prereq: CS 101; junior standing. Application of microcomputer programs with the objective of integrating data management, data analysis and reporting into a technical report. Other microcomputer programs used in environmental studies will be introduced.

321a OCEANOGRAPHY (3)

Prereq: introductory biology and chemistry or permission of instructor. Principles of oceanography, with emphasis on a description of the marine environment as an entity. Physics, chemistry and biology of the ocean.

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321b PHYSICAL OCEANOGRAPHY LABORATORY (2)

Prereq: Hux 321a or concurrent. Introductory field and laboratory experience in the measurement and description of standard, physical oceanographic phenomena, such as waves, tides, currents and mixing events. Emphasis on coastal systems, including estuaries, especially in the north-east Pacific Ocean.

340 BIOMETRICS (5)

Prereq: Biol 121, 123, plus 10 credits from Biol 210, 211, 212, or permission of instructor. The design of biological experiments and appropriate statistical analysis of experimental data. Calculator required. Also listed as Biol 340.

352a,b PRINCIPLES OF NUTRITION: PRINCIPLES OF NUTRITION LABORATORY (4,1)

Prereq: general biology and one year of chemistry; or permission of instructor. Register concurrently for 352a,b. Introduction to the discipline of food and nutrition with emphasis on relationship between nutrition and health. Laboratory involves dietary survey and application of nutrition principles to evaluation of individual diet. Lab fee.

358 EVALUATING TOXIC SUBSTANCES IN THE ENVIRONMENT (4)

Prereq: general biology, general chemistry; Hux 302; or permission of instructor. Introduction to principles and methods of evaluating chemicals in the environment. Included are discussions on methods for identifying toxic substances, testing effects of these substances in non-human and human systems, techniques for analysis and monitoring of toxic substances and studies of transport of chemicals in ecosystems.

361 WATER QUALITY LABORATORY (4)

Prereq: general chemistry, Hux 301 and 302. (Hux 301 and 302 may be corequisite.) Basic theory and techniques of water quality analysis in the marine and freshwater environments, including nutrient analysis, dissolved oxygen and BOD, heavy metals, total and fecal coliforms. Techniques include spectroscopic analysis, titration, bacteriological assay, bioassay, and others. Lab fee.

365 ENERGY AND ENERGY RESOURCES (4)

Prereq: general physics or general chemistry or Hux 302; or permission of instructor. The study of the energy concept as it applies to the environment. Concepts of thermodynamics, entropy, chemical rates. Thermodynamics of evolution, energy flow in biological systems. Energy flow in primitive and industrial societies, energy legislation, rate structures; methods of power generation.

371 ENVIRONMENTAL EDUCATION (4)

The process of environmental education is explored through reading and discussion focusing on environmental perception, attitudes and values in behavior, the educational environment, and the qualities of the environmental education curriculum. An introduction to environmental education and a review of current thinking in this dimension of education.

372 OUTDOOR EDUCATION (4)

Prereq: Hux 371 or permission of instructor; concurrent enrollment in Hux 373, 375, and 473. Classroom and field study of outdoor education, an approach to environmental education. Traditional outdoor learning methods are reviewed. New developments and programs such as Outward Bound and adaptations thereof are reviewed. Field experience in various outdoor settings is included. Special fee.

373 EXPERIENTIAL LEARNING IN ENVIRONMENTAL EDUCATION (4)

Prereq: Hux 371 or permission of instructor; concurrent enrollment in Hux 372, 375, and 473. Potential of experiential learning for environmental education. Experiential learning theory and its application to specific settings. Simulation gaming, role playing, awareness exercises. Problems of evaluation of this type of learning are given special consideration. Fieldwork required. Special fee.

375 THE WRITINGS OF AMERICAN NATURALISTS AND OUTDOORSMEN (3)

Prereq: concurrent enrollment in Hux 372, 373, and 473. There is a tradition of writing about the outdoors in American literature. This course describes and explores that tradition. The writings of Thoreau, Burroughs, Muir, Leopold, Carson, Eiseley, Borland, Beston and others are read and discussed.

377 ALTERNATIVE FUTURES (4)

Prereq: Hux 303 or two 200-level courses in the social sciences. Taught in alternate years. Introduction to the growing field of future studies, utilizing the framework of human ecology to evaluate various projections and scenarios in future studies literature: exploration of the different ways of attempting to foresee the future, scientifically and imaginatively; the role of the individual in bringing about some desirable future.

- 401 ENVIRONMENTAL ETHICS (3)
Prereq: Phil 112, Eng 201, 301 or 302; 300-level Huxley core courses. An examination of philosophical dimensions of man-environment relations with emphasis upon ethical problems. Several contrasting views of man are considered and the influence of these philosophical positions upon environmental behavior examined. An attempt made to identify an environmental ethic which might be operable in modern society. A Huxley core course
- 402 ENVIRONMENTAL DECISION-MAKING (4)
Prereq: completion of social sciences GUR, to include Econ 203 and one of the following: Mgmt 271; Fair 211; Pol Sci 101, 250, or 311; 300-level Huxley core courses. An interdisciplinary investigation of the political, economic and technical forces that shape decisions on environmental issues; development of a typology of decision-making and its application through case studies; strategies for effecting improved environmental decision-making. A Huxley core course.
- 410 ENVIRONMENTAL PROBLEMS IN AGRICULTURE (3)
Prereq: senior standing Environmental problems in U.S. agriculture have their roots in the technologies and governmental policies applied to agriculture as an economic enterprise. Impacts of these problems may prove serious for future U.S. and world food supplies. Consideration given to alternative techniques and policies to promote energy, soil and water conservation for a sustainable agriculture.
- 411 ALTERNATIVE ENERGY SOURCES AND SYSTEMS (3)
Prereq: senior standing Energy as a means to social ends, identification of characteristics of alternative (non-conventional) energy sources and technologies and their applications for industrial, transportation, agricultural and domestic uses; alternative energy, appropriate technology and the decentralist alternative. Recommended preparation: general physics, general chemistry. Hux 365, Physics 207, 399.
- 412 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN I (4)
Prereq: Hux 303 or Tech 313, or permission of instructor Design of human settlements appropriate to post-industrial society living under conditions of energy scarcity/costliness Orienting houses and development patterns for solar access; low-energy transportation systems; opportunities for urban agriculture and increased natural amenities.
- 413 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN II (4)
Prereq: Hux 303 or Hux 377 or permission of instructor. Design of human settlements that are compatible and integral with the rural environment design of solar-tempered dwellings and other structures, the use of alternative energy sources and waste disposal systems, agricultural potential of the land, and the social structure of the rural subsistence community.
- 415 ENVIRONMENTAL DESIGN: PROCESSES AND PROBLEMS (4)
Prereq: senior standing. Taught in alternate years. Environmental design as a process of rational problem-solving and bringing about mutual adjustment of cultural and natural systems: design as a synthesis of conceptions of the environment and of society, the values and processes of society and the application of ethical criteria.
- 418 SOCIAL IMPACT ASSESSMENT (4)
Prereq: Soc 310; recommend Soc 315. An interdisciplinary approach to the effects of technology, industry, commerce and public and private policy on the lives of human beings. Social science techniques are used to assess and evaluate problems, issues and strategies. Case studies are used to illustrate central issues. Emphasis is on environmental legislation and policy in social impact assessment.
- 420 POLITICS, ADMINISTRATION AND ENVIRONMENT (4)
Prereq: Hux 202 or 303; Pol Sci 101 or 250. History of environmental problems and their cause. The administrative and political responses to them. Contemporary difficulties in formulating and applying environmental policy. Political and administrative changes needed to meet the environmental challenge. Taught in alternate years; listed jointly as Pol Sci 420.
- 421a FISHERIES ECOLOGY AND MANAGEMENT (3)
Prereq: one year of biology; course in oceanography or limnology. Course in ecology recommended Introduction to the management of fisheries with a view toward maximum sustained yield. Review of external dimensions of aquatic ecology, fisheries biology and the processes of human constraint relative to these resources. Commercial fisheries, sport fisheries, freshwater fisheries and aquaculture will be examined.

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- 421b FISHERIES MANAGEMENT LABORATORY (2)**
Prereq: Hux 421a or concurrent. Field and laboratory experience in typical fisheries management techniques. Especially directed toward marine and freshwater sampling, population identification and quantification, and estimation of management parameters.
- 422 ESTUARIES (5)**
Prereq: Biol 325, introductory chemistry, upper-division standing. Ecology and analysis of estuaries with emphasis on the physical, chemical and biological factors that affect productivity and function. Human utilization, impact and management. Laboratory and field studies of estuary structure and function. Offered at Sundquist Laboratory, Shannon Point. Special fee.
- 430 LIMNOLOGY (5)**
Prereq: Hux 301 or Biol 325; Hux 361 recommended. Ecology and analysis of lakes and standing water bodies, with emphasis on the physical, chemical and biological factors which determine biological productivity. Human impacts on lakes. Laboratory and field studies and perturbed lake systems. Special fee.
- 431 POPULATION ECOLOGY (5)**
Prereq: Biol 325, Hux 340, Math 105. Covers the study of ecology at the population and community level. Lecture emphasizes the development of theory and models; lab emphasizes both field and quantitative techniques.
- 432 STREAM ECOLOGY (5)**
Prereq: Hux 301 or Biol 325; Hux 361 and Geol 472 recommended. Ecology and analysis of streams with emphasis on physical and chemical properties in relation to biotic communities. Processing of organic matter by stream invertebrates and fish communities. Perturbation by high organic loading or chemical pollutants and recovery processes. Reservoirs as hybrid systems. Field and laboratory exercises in sampling and analysis of stream ecosystems. Lab fee. Offered alternate years.
- 433 WATERSHED AND LAKE MANAGEMENT (4)**
Prereq: Hux 430 or Biol 402; Hux 432 and Geol 472 recommended. Management of watershed units and interaction between land and water (stream and lake) environments. Lake management and lake restoration procedures and applications. Bio-manipulation as a management strategy.
- 434 ECOLOGY OF FRESHWATER COMMUNITIES (4)**
Prereq: Hux 430. Ecology of freshwater organisms and factors that regulate structure and dynamics of populations and communities.
- 436 ENVIRONMENTAL IMPACT ASSESSMENT (5)**
Prereq: senior standing, completion of analysis coursework, within majors or concentrations, or permission of instructor. Objective evaluation and formal description of a real natural system or geographic region. Class preparation of a unified document summarizing physical, biological and social aspects of a study area. Review of pertinent laws and EIS documents.
- 438 COASTAL ECOSYSTEMS MANAGEMENT (4)**
Prereq: Hux 301; Hux 422 recommended. Coastal zone management questions in the coastal ocean. Dredge and fill problems. Competing uses in estuaries, marine and port development, fisheries management, aquaculture.
- 439 CONSERVATION OF BIOLOGICAL DIVERSITY (4)**
Prereq: Biol 404 and Hux 431 or equivalent. Examination of evolutionary, biological, social and ethical questions concerning conservation and protection of endangered and threatened species. Conflicts arising in multiple-use management of terrestrial habitats, especially the tropics. Applications of genetics, ecology and behavior to conservation and preservation strategies.
- 440 CONFLICT RESOLUTION IN THE MANAGEMENT OF NATURAL RESOURCES (4)**
Prereq: Hux 302 and 436 or permission of instructor; Hux 401 or 402 recommended. An interdisciplinary approach to develop strategies for managing natural resources. Integration of a variety of environmental, socio-economic, legal and political goals into a unified implementation program. Development of effective presentation techniques.
- 446 AQUATIC CHEMISTRY (4)**
Prereq: Chem 123. The study of aquatic systems, particularly the structure and composition of water; the chemistry of oceans, lakes and streams, chemical equilibrium; colligative properties, metal ions and ligands; aquatic complexes; trace substances in water.
- 452 NUTRITIONAL BIOCHEMISTRY (4)**
Prereq: Hux 352a and Chem 371. Chemistry and biochemical role of essential nutrients and their inter-relationship; intermediary metabolism of nutrients.

- 453 **FOOD ANALYSIS LABORATORY (4)**
 Prereq: Chem 251 and Hux 352a. or equivalents. Basic laboratory techniques used in the analysis of various nutrients in food. Lab fee.
- 454 **ENVIRONMENTAL NUTRITION (4)**
 Prereq: introductory nutrition. Various current issues in nutrition including dietary sugar and fiber, vitamins C and E, food additives, obesity, vegetarianism, and nutrition and killer diseases.
- 455 **BIOLOGICAL EFFECTS OF ENVIRONMENTAL POLLUTANTS (4)**
 Prereq: Hux 302 and Chem 371 or permission of instructor. Physiological and toxicological effects of common pollutants found in man's environment. Mechanism of action of individual pollutants, including cellular damage at molecular level.
- 456 **ENVIRONMENTAL TOXICOLOGY (3)**
 Prereq: general biology; Biol 349, Chem 353, 371, Hux 302 and 358 or permission of instructor. The toxicology of exposure to environmental contaminants in human and non-human biological systems will be addressed at various levels of organization, including organismic, organ, tissue, cell, sub-cellular and molecular levels.
- 457 **ENVIRONMENTAL TOXICOLOGY LABORATORY (2)**
 Prereq: general biology, general chemistry, Hux 302, 358; or permission of instructor. Methods of experimentation with toxic substances in various test systems. Lab fee.
- 458 **WILDLIFE TOXICOLOGY (3)**
 Prereq: Chem 123, general biology, Hux 302, or permission of instructor. Effects of toxic substances on the reproduction, health and well-being of wildlife. Taught in alternate years.
- 462 **AIR POLLUTION (4)**
 Prereq: Hux 302; general chemistry. Types of air pollutants, their measurement and effects. Removal of air pollutants from gas streams. Air pollution meteorology and dispersion. Air pollution laws and standards. Air resources management.
- 466 **SYSTEMS THINKING, GOVERNMENT AND ENVIRONMENT (4)**
 Prereq: Hux 202 or permission of instructor. Systems thinking as an emerging world-view. Origins in biology, neurology, operational research, cybernetics, ecology, etc. Applications to environmental control and political process. The promise and dangers of an "information society." Also offered as Pol Sci 466.
- 467 **POLITICS, TRANSFORMATION AND ENVIRONMENT (4)**
 Prereq: Pol Sci 101 or 250. Incompatibility between the growth-oriented goals of contemporary political cultures and environmentally-derived "steady-state" imperatives. The politics of transformation and value change. Also offered as Pol Sci 467.
- 472 **THE ENVIRONMENTAL EDUCATION CURRICULUM (4)**
 Prereq: Hux 371. Critical review of curricula that have been developed. The need for environmental education is assessed, learning objectives are examined, and strategies for attaining these objectives studied. The qualities of the ideal environmental education curriculum are identified by each student, based on his research into the matter.
- 473 **ENVIRONMENTAL INTERPRETATION (4)**
 Prereq: concurrent enrollment in Hux 372, 373 and 375. A field-oriented course in methods, techniques and design of environmental education programs. Natural, historical, and cultural systems are interpreted. Special fee.
- 478 **TOPICS IN ENVIRONMENTAL STUDIES (variable credit)**
 Environmental problems of northwest Washington and related topics. A survey course that may include impact assessment, local and regional planning, pollution problems, problems of the environmental classroom. *This course is available only off-campus under the aegis of the University Extension Division. It is not available to Huxley majors. May be repeated for credit.*
- 491 **MULTINATIONAL CORPORATIONS AND GLOBAL ECOLOGY (4)**
 Prereq: Econ 203 or 204. The character, functions and values of multinational corporations. Assessment of the impacts of such companies on Third World economies and environments and the economy of the United States (labor force, capital flows, resource allocation). Analysis of existing and proposed systems of corporate regulation in the international marketplace.
- 498a **PROBLEM SERIES (4-15)**
 Prereq: permission of instructor. Problem-solving experience in environmental problems. May be repeated for credit.
- 498b **PROBLEM SERIES: INTERNSHIPS (4-15)**
 Prereq: permission of instructor. Internships in positions appropriate for the student's program. May be repeated for credit. S/U grading.

Huxley College

499a SEMINAR (1)

Prereq: senior standing or permission of instructor. Student-faculty interaction on topics of general interest. May be repeated for credit. S/U grading.

499b SEMINAR (2)

Prereq: senior standing or permission of instructor. Student-faculty interaction. May be repeated for credit. S/U grading.

499c SEMINAR (1)

Prereq: senior standing or permission of instructor. Student-faculty interaction on topics of general interest. May be repeated for credit.

499d SEMINAR (2)

Prereq: senior standing or permission of instructor. Student-faculty interaction. May be repeated for credit.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

The following courses are offered for graduate credit for persons enrolled in the Huxley College M.S. in Environmental Science Program, Huxley/Biology Cooperative M.S. option in Environmental Biology, Huxley/Psychology Cooperative Behavioral Toxicology option, Huxley/Chemistry option.

501 GRADUATE SEMINAR IN ENVIRONMENTAL SCIENCE (1)

Prereq: graduate standing. Repeatable for credit three times. Presentation of approaches to and selected topics in environmental science.

530 ECOSYSTEM PRODUCTIVITY: PROCESSES AND MEASUREMENT (4)

Prereq: 25 credits environmental science (biology courses, including ecosystem ecology). Primary productivity of the biosphere, including global productivity patterns and method of productivity measurement. Discussion of secondary productivity in aquatic and terrestrial environments. Laboratory and field analyses of primary and secondary productivity. Emphasis will vary with offerings; may be repeated for credit up to three times for different subject offerings.

531 SAMPLING DESIGN AND ANALYSIS (3)

Prereq: Math 341, 342 or Hux 340; at least 10 hours of ecology. Theory and principles of experimental design, quantitative sampling and data analysis. Includes random and systematic sampling, stratified random sampling, sample unit size, estimation of sample number, proportional allocation, and transformation. Also includes an introduction to numerical methods of analysis, including diversity, coefficients of association, clustering and ordination.

532 METHODS IN ECOSYSTEMS SAMPLING (2)

Prereq: Hux 531. Field methods in marine, freshwater and terrestrial ecological surveys. Emphasis is on methods used for population and community studies.

533 LAKE RESTORATION AND MANAGEMENT PRACTICUM (2)

Prereq: Hux 433 and Geol 472. Lake and reservoir classification, restoration and management. Design of monitoring programs, evaluation of restoration techniques and development of management plans.

534 ASSESSMENT METHODOLOGIES AND ECOSYSTEMS MANAGEMENT (3)

Prereq: graduate standing, Hux 436 or 536 and a course in economics. The role of environmental assessment methodologies in ecosystem management practices. The problem of expressing the importance of ecosystem values in resource allocation decisions. Evaluation of ecosystem assessment procedures used worldwide (UNEP, the World Bank, U.S. AID) as such procedures relate to problems of ecosystem management.



- 535 **COEVOLUTION OF POPULATIONS AND COMMUNITIES (3)**
 Prereq: graduate standing, Hux 301, and Hux 363 or Biol 325. Course will cover coevolutionary aspects of population and community ecology. Material covered will include population genetics, population processes, life-history evolution, food chain analysis, and the evolution of ecosystem structure and function. Emphasis on current empirical and theoretical research.
- 536 **ENVIRONMENTAL IMPACT ASSESSMENT PRACTICUM (4)**
 Prereq: graduate standing. Preparation of an objective assessment description of a real natural area including the search for public documentation, evaluation of coverage and specific new analyses. Coordinating role in task group data assembly and editorial review of draft project summaries. Experience directly related to professional responsibilities in the environmental field. Review of assessment utilization in the EIS format and of significant legislation.
- 538 **INTERDISCIPLINARY SEMINAR IN BEHAVIORAL TOXICOLOGY (2)**
 Prereq: graduate standing, Hux 456/556, or Psych 501, or permission of instructor. Assessment of the impacts of toxic environmental chemicals on various behavioral processes.
- 544 **APPLIED WILDLIFE TECHNIQUES IN ENVIRONMENTAL ASSESSMENT (4)**
 Prereq: Hux 431, 531. Lecture and field study concentrating on the application of wildlife ecology techniques to censusing and monitoring populations with regard to environmental assessment (pollution, toxic substances, other disturbances). Field work will be the principal component of the course.
- 551 **ENVIRONMENTAL BIOCHEMISTRY LABORATORY (2)**
 Prereq: Chem 371 or equivalent. Experimental techniques involved in the analysis of various pollutants in tissues; study of biochemical effects of several pollutants on living systems under laboratory conditions.
- 555 **NUTRITION AND POLLUTANT TOXICITY (4)**
 Prereq: Hux 302, 352a, and Chem 371 or permission of instructor. Physiological and biochemical effects of major pollutants found in the environment; influence of various nutrients on pollutant toxicity
- 556 **ADVANCED ENVIRONMENTAL TOXICOLOGY (3)**
 Prereq: general biology; Biol 349; Chem 353, 371; Hux 302 and Hux 358 or permission of instructor. The toxicology of exposure to environmental contaminants in human and non-human biological systems at various levels of organization, including organismic, organ, tissue, cell, subcellular and molecular levels.
- 557 **ADVANCED ENVIRONMENTAL TOXICOLOGY LABORATORY (2)**
 Prereq: general biology, general chemistry, Hux 302, 358, or permission of instructor. Methods of experimentation with toxic substances in various test systems.
- 558 **ADVANCED WILDLIFE TOXICOLOGY (3)**
 Prereq: Chem 351, Hux 301 or Biol 325, Hux 302, or permission of instructor. Effects of toxic substances on the reproduction, health and well-being of wildlife. Taught in alternate years.
- 561 **ANALYSIS OF TOXIC SUBSTANCES (3)**
 Prereq: analytical chemistry or permission of instructor. One hour lecture; four hours laboratory per week. Course includes theory of commonly used instrumental analytical methods (gas chromatography, UV-visible spectroscopy, etc.) and application of these methods to field problems. Sampling and monitoring methods included. Offered alternate years.
- 562 **ADVANCED AIR POLLUTION (4)**
 Prereq: graduate standing, Hux 302, general chemistry, two quarters of calculus. Types of air pollutants, their measurements and effects. Removal of air pollutants from gas streams. Air pollution meteorology and dispersion. Air pollution laws and standards. Air resources management.
- 563 **BIOLOGICAL ASSAYS OF AQUATIC ORGANISMS (5)**
 Prereq: Hux 302, 358, 361, or permission of instructor. Hux 340 recommended. Evaluation of the effects of toxic compounds on the aquatic environment through use of aquatic bioassays. Use of bioassays in biological monitoring, bioassay systems design, species selection and interpretation of bioassay results. Laboratory exercises in bioassay techniques.
- 690 **THESIS RESEARCH (1-12)**
 Prereq: permission of the thesis advisory committee. Thesis research in environmental science under faculty direction; an integral part of the environmental science M.S.

Seattle Urban Center

The Urban Center of Western Washington University is located in the middle of Seattle in the North Annex of Seattle Central Community College.

Western's campus-based academic units use the Urban Center as a service facility through which they offer selected degree programs plus other educational activities to Puget Sound area students bound to the Seattle area by work, family or other obligations.

PROGRAMS AT THE URBAN CENTER

The School of Education has three programs based at the center, while Huxley College of Environmental Studies offers independent courses on a regular basis.

Information regarding programs, courses and class schedules is available from the Director, Urban Center, 1801 Broadway, Room NP 101, Seattle, WA 98122, (206/464-6103 or SCAN 575-6103).

The School of Education programs are outlined below.

Department of Educational Administration and Foundations

Human Services Program — This major is an upper-division program within the Department of Educational Administration and Foundations leading to a B.A. degree. Curricular goals stress the continual interaction between theory and practice through purposeful integration of classroom concepts and field placement experiences.

For detailed information about this academic program, course descriptions and admission, refer to the Department of Educational Administration and Foundations section of this catalog.

School Administration (Elementary, Secondary, Learning Resources) - (M.Ed.) — The School of Administration program offers an M.Ed. in School Administration plus course work leading to principal certification (initial or continuing) or the Certificate of Advanced Study (CAS). The School Administration program is designed to prepare elementary and secondary school personnel to assume the leadership roles of the principal or vice principal.

For detailed information about these programs, course descriptions and admissions, refer to the Graduate School section of this catalog.

Department of Educational Curriculum & Instruction

Teacher Education and Certification Programs — The Urban Center provides a base through which supervised internships are coordinated. Careful advanced planning is essential to avoid delays in internship placement and to expedite completion of programs. Consult the internship supervisor at the Urban Center.

For detailed information about internships, refer to the internship section of the Department of Educational Curriculum and Instruction.

Continuing Certification Programs — Courses which meet the competencies for Continuing Certification are frequently offered through the Urban Center. For an up-to-date listing, consult the current schedule from the Center for Regional Services.

INTERDISCIPLINARY BACHELOR OF ARTS DEGREE

Required of All Students

- General University Requirements (*GUR courses are not offered at the Urban Center*)
- 50-60 required credits
- Urban Ctr 498

Social Services

Concentration 64 credits

The Social Services Concentration is designed to provide an understanding of helping and healing relationships, and of the agencies and organizations within which these relationships take place. It presents common casework situations and how to meet these, as well as the variety of cultural and community demands that are presented to workers in this area.

- Urban Ctr 321, 322, 323, 324, 331, 332, 333, 334, 418, 431, 432, 433, 441, 442, 443, 444
- Mgmt 302
- 6 credits of electives and/or independent study

Public Management

Concentration 74 credits

Admission to this concentration has been suspended indefinitely, effective with the fall of 1987.

The public management concentration is designed to provide in-depth instruction for students preparing for professional and managerial positions. The program encourages students to contrast practical management application and experience with various management principles, concepts and theories. It is for students who are interested in careers in the public sector such as management of social or governmental agencies, non-profit and other business-related fields. All students are required to take the Core and choose one specialization: human resources

management and organization or planning, urban policy, and law.

- Core Courses:
 - FMDS 356
 - Mgmt 302, 304, 322, 401
 - Urban Ctr 308, 309, 331, 335, 381, 410, 412, 420, 498
- Specialization Area (minimum of 20 credits):
 - Human Resources Management and Organization*
 - Mgmt 425
 - Urban Ctr 342, 395, 423
 - 5 credits of independent study
 - Planning, Urban Policy, and Law*
 - Urban Ctr 315, 317, 342, 345
 - Hux 335

URBAN CENTER COURSES

- 301 RHETORIC I (3)
Designed to improve writing ability with practice in the dynamics of language and basic writing skills
- 302 RHETORIC II (3)
Prereq: Urban Ctr 301 or placement. Writing of non-fiction prose. Informative and persuasive writing; the personal essay, biographical sketch, extended argument and other forms.
- 303 TECHNIQUES OF RESEARCH (3)
How to find, organize and report information. Use of the standard bibliographic sources and citation indexes. Writing research reports.
- 308, 309 INTRODUCTION TO URBAN LAW (3 ea)
An introduction to the areas of law with which many people are likely to come in contact in their day-to-day lives: housing, domestic relations, individual rights, criminal law and environmental law. Students will participate in a mock trial one quarter and a mock administrative hearing the other quarter.
- 315 INTRODUCTION TO URBAN PLANNING (3)
Fundamentals of physical and social planning in urban areas. Physical systems include transportation, sewers, water, energy, environment. Social systems include the delivery of education, health and welfare services.

Urban Center

- 317 **URBAN DYNAMICS (3)**
Focuses on the issues and experiences related to the major urban institutions, the family, the school, the polity, the economic base and social institutions.
- 321 **SOCIAL AND HEALTH AGENCIES (3)**
Nature and function of community social and health agencies. How organizations operate internally and in the community.
- 322 **CHILD DEVELOPMENT (3)**
Study of the normal development of the child or adolescent. Determination and diagnosis of abnormal development.
- 323 **FAMILY DYNAMICS (3)**
Patterns of family interactions, disturbed roles and communications within the family, scapegoating of family members, double-binds, etc.: work of Satir, Haley and others.
- 324 **ADULT DEVELOPMENT AND AGING (3)**
Prereq: Urban Ctr 322, 323. Interdisciplinary perspective stressing the interaction of psychological, social and physiological factors affecting the aging process. Examination of the developmental stages and tasks of adulthood, with emphasis on the conflicts and pressures of adulthood relative to the social service field.
- 331 **OTHER CULTURES, OTHER LIVES (3)**
Customs, conditioning values, attitudes in various cultures the caseworker may encounter. Similarities and differences of other cultures. Guest lecturers from different ethnic backgrounds.
- 332 **PSYCHOLOGICAL IMPACT OF POVERTY (3)**
Prereq: Urban Ctr 331. How impoverished families see themselves and the world around them and especially the agencies and workers setting out to help them. Life on welfare and difficulties in attitudes toward the legal system.
- 333 **PSYCHOLOGICAL INSIGHTS IN LITERATURE (3)**
Prereq: Urban Ctr 332. The use of literature to illustrate in a dramatic way some fundamental concepts in psychology and, conversely, the use of psychology to develop insights into works of fiction that would be overlooked by other methods of analysis.
- 334 **EXPLORATION OF THE SELF THROUGH ART AND LITERATURE (3)**
Increasing the prospective counselor's self-understanding through the appreciation of art and literature and through the experience of self-expression in drawing, painting and writing.
- 335 **MEDIA RELATIONS (3)**
Overview of government/media relations. Confidential information versus public disclosure.
- 341 **SOCIAL INSIGHTS IN AMERICAN LITERATURE (3)**
Major themes of the American experience as expressed through important and representative works of literature.
- 342 **SEMINAR IN PUBLIC ISSUES (3)**
Selected topics and problems in public issues.
- 343 **UTOPIAS (3)**
An examination of the writings of classical and modern authors on ideal social and political communities and of attempts to implement these ideas; the writings of Plato, Moore, Campanelli, Huxley, Skinner and others; the Oneida and Amana communities; modern communal and utopia experiments.
- 381 **MUNICIPAL BUDGETING (4)**
Prereq: introductory accounting series. Revenues, expenditures and debts of state, local and federal governments. Economics and legislative controls and problems of taxation.
- 395 **URBAN POLITICS (4)**
Review of current problems facing urban cities, such as housing, race relations, poverty, crime, welfare and citizen participation.
- 401 **CONCENTRATIONS (3-5)**
- 410 **PUBLIC POLICY ANALYSIS (3)**
Focuses on the methods of urban policy analysis as they relate to the family, education, housing, welfare programs, transportation, legal system and employment.
- 412 **PUBLIC POLICY AND ADMINISTRATION (4)**
Prereq: Mgmt 304. Current and future problems facing public organizations.
- 417 **SEMINAR IN BUSINESS (3)**
Prereq: permission of instructor. Selected topics in business. May be repeated for credit.
- 418 **SEMINAR IN SOCIAL SERVICES (3)**
Prereq: permission of instructor. Selected topics in social services. May be repeated for credit.
- 420 **LABOR MANAGEMENT RELATIONS (4)**
Prereq: Mgmt 322. Current trends in labor management relations. Statutory requirements for bargaining. Mediation and arbitration. Collective bargaining exercise.

423 MANAGEMENT IN THE PUBLIC SECTOR (4)

Prereq: Mgmt 302. Public sector versus private sector management. The role of the manager in a bureaucratic setting. Constraints and problems related to public management.

431 THEORIES OF PERSONALITY (3)

Presentation of the major theories in psychology today that attempt to explain why we think, feel and act as we do. Includes transactional analysis, gestalt therapy, psychoanalysis, radical therapy, existential-humanism, the work of B.F. Skinner and others.

432 THE HELPING RELATIONSHIP (4)

Prereq: Urban Ctr 431. Presents some ideas on how people help other people to change and grow. Includes common issues which arise in individual and family relationships, and how these can be dealt with to help others reach their goals and fulfill their potential.

433 THEORY AND PRACTICE IN HELPING (3)

Prereq: Urban Ctr 432. Integration of theory and specific helping techniques with individuals, families and groups.

441 TECHNIQUES OF CASEWORK (3)

Approaching the family, interviewing skills, clarifying goals, etc

442 ROLE OF THE CASEWORKER (3)

Prereq: Urban Ctr 441. Functions of case-workers in today's society; the tasks case-workers perform; their responsibilities.

443 CASEWORK THEORIES (3)

Prereq: Urban Ctr 442. Controversies and conflicts within the profession; aims and goals of casework.

444 THE JUVENILE AND THE LAW (3)

Prereq: Urban Ctr 321, 322, 323, 433, 443. Examination of the legal basis for special treatment of minors; values, assumptions and philosophies behind laws; regulations as well as laws; abortion; adoption; guardianship; dependency; child abuse; neglect; compensatory education; delinquency; treatment and corrections.

461 FUNDAMENTALS OF SOCIAL RESEARCH (3)

Prereq: Urban Ctr 303. Introduction to concepts and methods of social research techniques as they apply to community research. Use of statistical analysis and routines such as SPSS for problem solving.

471 TECHNIQUES OF COMMUNITY NEEDS ASSESSMENT (3)

Prereq: Urban Ctr 461. Practice in community needs assessment in Seattle neighborhoods; research paper required.

498 FINAL PROJECT SEMINAR (5)



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Associate Professor Emeritus of Foreign Languages and Literature. AA, Santa Ana Junior College; AB, Pomona College; AM, PhD, University of Chicago.
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- JOSEPH E. BLACK
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- ELIZABETH BOWMAN
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- LAURENCE W. BREWSTER
Professor Emeritus of Speech. BA, Yankton College; MA, PhD, University of Iowa.

University Personnel

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Associate Professor Emeritus of Education. BS, MA, University of Nebraska; EdD, Colorado State College.

WILLARD A. BROWN

Professor Emeritus of Physics/Astronomy. BS, University of Washington; MAT, Washington State University; EdD, University of Florida.

ROSCOE L. BUCKLAND

Professor Emeritus of Liberal Studies. BA, MA, University of Idaho; PhD, State University of Iowa.

WILLIAM C. BUDD

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RICHARD K. PETERSON (1966) Associate Professor and Special Collections Librarian. BA, University of Washington; BA in Ed, Western Washington College of Education; MA, PhD, MLib, University of Washington.

CYNTHIA S. RICHARDSON (1978) Assistant Professor and Catalog Librarian. BA, Whitman College; MSLS, University of Southern California.

MARIAN A. RITTER (1969) Assistant Professor and Music Librarian. BME, MLS, University of Portland.

WILLIAM H. O. SCOTT (1960) Associate Professor and Documents Librarian. AB, AM, AMLS, University of Michigan.

C. FRED WATERMAN (1967) Assistant Professor and Business Librarian. BS, MLS, University of Pittsburgh.

DEGREES AND CERTIFICATES

Degrees granted from August, 1985, to June, 1986, inclusive

Master of Education	110
Master of Arts	62
Master of Science	50
Master of Music	6
Master of Business Administration	17
Bachelor of Arts in Education	271
Bachelor of Arts	1,052
Bachelor of Science	369
Bachelor of Fine Arts	3
Bachelor of Music	26
Bachelor of Nursing	8
Total	1,729

Recommended for certification to the State Superintendent for Public Instruction — August 1985, to June, 1986, inclusive:

Initial Teaching Certificate	368
Standard Teaching Certificate	139



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Appendix A AFFIRMATIVE ACTION/ EQUAL OPPORTUNITY GUIDELINES

Equal Opportunity

It is the policy of the Board of Trustees of Western Washington University to provide equal employment opportunity for all employees and qualified applicants for employment, and equal access to programs and services for all students and members of the community regardless of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status. The Board of Trustees pledges that every effort will be made to provide the resources necessary for implementation of this policy.

It is the responsibility of each and every member of the University community to ensure that this policy becomes a functional part of the daily activities of Western Washington University.

The University will continue to cooperate with agencies of the federal and state governments in fulfilling its obligations under the laws of the United States and the State of Washington.

Affirmative Action

The objectives of the Western Washington University Affirmative Action Program are to eliminate discrimination and, in conformance with state and federal law, to develop a work force and student body which reflect an equitable distribution of minority group members, women, veterans and handicapped individuals at all levels of employment and throughout all departments of the University.

Applications for employment and student admission will be solicited from groups protected under federal regulations, and where such persons are under-represented in the work force and/or the student body.

It is the responsibility of each employment official to adhere to affirmative action procedures and to take positive steps to fulfill the affirmative action goals of the University.

Personnel Policies

The University recruits on the basis of qualifications without regard to race,

color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status, except where such is a bona fide occupational qualification.

Recruitment for graduate assistants and student employees shall be publicized so all eligible interested individuals have an opportunity to apply.

Program and Activity Policies

No qualified person shall, on the basis of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status, be excluded from participation in, be denied the benefits of or be subject to discrimination in any program or activity provided by the University, including the Associated Students. In addition, the University will not utilize off-campus facilities nor participate in activities or services which are operated in a discriminatory manner.

Counseling and guidance in making educational and career choices will be free of stereotyping. It is the policy of the University to encourage the elimination of stereotyping and bias in testing and other curricular material.

With limited exceptions, which shall be reviewed by the Affirmative Action Director, all classes, courses of study and other educational programs and activities offered by the University will be open to all persons.

The University will modify its academic requirements and procedures for evaluating student academic achievement as necessary to ensure that such requirements or evaluation methods do not discriminate or have the effect of discriminating on the basis of handicap against a qualified applicant or student. All University programs are accessible to mobility impaired students. The University assists in providing auxiliary aids for students with impaired sensory, manual, or speaking skills. It is the responsibility of the student needing these modifications or aids to request them. Informal requests for modifications or aids should be made with the Office of Student Life. If further assistance is needed in obtaining these modifications or aids, the Affirmative Action Office should be contacted.

A person who believes s/he has been discriminated against by the University because of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status is urged to utilize the internal grievance procedure provided by the University through the Affirmative Action Office as soon as possible after the alleged act of

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discrimination giving rise to the grievance. (See Appendix H.)

The Affirmative Action Office is located in Old Main 335, telephone 676-3306. Mary Robinson is the Affirmative Action Officer and is responsible for 504, Title IX, Title VII and all other affirmative action/equal opportunity laws.

Appendix B WWU POLICY ON SEXUAL HARASSMENT OF STUDENTS

It is the policy of Western Washington University to provide an environment in which students can work and study free from sexual harassment or sexual intimidation and exploitation. All students, staff and faculty should be aware that the University is concerned and prepared to take action to prevent and to eliminate such behavior and that the individuals who engage in such behavior will be subject to sanctions, including dismissal.

Sexual harassment occurs in a context of unequal power and is a form of sexual discrimination, and, as such, is a violation of Title VII of the 1964 Civil Rights Act and Title IX of the 1972 Education Amendments.

Sexual harassment of a student will be judged to occur at Western Washington University when an individual in an institutional position of power or authority over a student uses such power either implicitly or explicitly to promise, grant or withhold grades, evaluations or other academic or supervisory rewards in order to coerce that student into a sexual relationship; or to subject the student to unwanted sexual attention or to verbal or physical conduct of a sexual nature, when such conduct creates an intimidating, hostile or offensive educational or work environment.

Students who believe they may be experiencing sexual harassment may be uncertain that specific actions constitute sexual harassment, so University policy allows for two procedural stages. The first stage provides students with advice and counsel and is strictly confidential (Procedures, steps 1-4). The second stage involves a formal investigation, which proceeds only if the student is willing to allow the signed complaint to be given to the accused (Procedures, steps 5-9). The University will protect students from retaliation.

The procedures for dealing with sexual harassment are as follows:

1. Students may bring questions about procedure or seek informal advice relating to sexual harassment to the Office

of Student Affairs. If an individual desires to discuss personal thoughts and feelings, wishes to consider ways to deal individually with the incident(s) or explore procedural options, the Office of Student Affairs offers counseling and appropriate referral.

2. Specific complaints of sexual harassment should be made to the Assistant to the Vice President/Dean of Student Affairs or designee. In some cases, the Assistant to the Vice President/Dean of Student Affairs may discuss concerns with the person complained against without formal charges being filed.

3. If a student requests a formal investigation of the incident(s), a written complaint signed by the student identifying the accused individual(s) and the unwanted behavior should be submitted to the Affirmative Action Office. The Affirmative Action Officer will determine if the complaint falls under the provisions of the Sexual Harassment Policy and if the facts presented in the case warrant investigation.

4. If the Affirmative Action Officer determines that the alleged facts presented in the complaint do not warrant investigation, the student will be so informed in writing within five class days. The student may provide additional evidence within ten class days. If the complaint is concluded at that stage, no copy of the complaint is retained.

5. If the Affirmative Action Officer determines that the facts presented in the complaint warrant investigation, the Affirmative Action Officer will, with the student's consent, forward a copy of the signed complaint to the appropriate Vice President within 15 class days of the filing of the complaint. If the student declines, the investigation will not proceed and no copy of the complaint will be retained. If the student consents, the Vice President will forward a copy of the complaint to the accused and will investigate the complaint to determine whether reasonable grounds exist to conclude that sexual harassment has taken place. The investigation shall be concluded within 15 class days.

The University will protect students from retaliation and will provide for third-party evaluation of course performance when appropriate.

6. If the Vice President determines there is not reasonable cause to believe that sexual harassment did occur, the student and the accused shall be so informed within five class days of the end of the investigation. No further action shall be taken on the complaint, and no record of the complaint shall appear in the accused individual's file unless the accused requests it. However, the

student may appeal the decision within five class days and the matter would then proceed as provided in Section 8.

7. If the Vice President determines there is reasonable cause to believe that sexual harassment has occurred, the Vice President shall so inform the person against whom the complaint was made in writing within five class days. The communication will specify any recommended action and will inform the accused of his or her right to appeal (Section 8). If the accused does not request a hearing, a written statement shall become part of his or her file and the recommended action will be implemented.

8. The decision of the Vice President may be appealed within five class days to the Student Academic Grievance Board. (The Student Academic Grievance Board is described in Appendix F, Section B of the *General Catalog*. For the purpose of sexual harassment cases, there shall be in addition to the established pool of Board members, six classified staff appointed by the Staff Employees Council and six administrators appointed by the Administrators Association. In cases which involve administrators or classified staff, the three members from the appropriate pool will be used in lieu of the faculty members on the Board.)

9. If, after completion of the appeal process, action recommended by the Vice President is dismissal, then appropriate dismissal-for-cause proceedings in the *Faculty Handbook*, *Administrators Handbook*, *Higher Education Personnel Board Rules* or *Student Employment Regulations* will be initiated.

Appendix C STUDENT RIGHTS AND RESPONSIBILITIES CODE

WAC 516-22-005 Preamble. Western Washington University students enjoy the basic rights of all members of society. At the same time students have an obligation to fulfill the responsibilities incumbent upon all citizens, as well as the responsibilities of their particular roles within the academic community. The student is expected to respect University rules and federal, state and local laws. Those who are charged with a violation are assured of a fair judicial process and when found in violation assured of appropriate discipline. This chapter advises students of their rights

and responsibilities while enrolled at Western Washington University.

WAC 516-22-010 Disruptive Behavior. The educational mission of Western Washington University requires the freedom to teach, conduct research and administer the University. A student shall be subject to disciplinary action if he/she engages in any behavior which interferes with the rights of others or which materially or substantially obstructs or disrupts teaching, research or administrative functions.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-015 Repeated Incidents of Academic Dishonesty. Maintaining academic honesty is the joint responsibility of students and the faculty. Two or more incidents of academic dishonesty reported to the Office of the Provost (ref. "Academic Dishonesty Policy") shall make the student subject to disciplinary action.

Sanctions for repeated incidents of academic dishonesty are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-020 Forgery, Alteration or Destruction of Documents. Maintaining accurate and credible records and documents is necessary for the University to fulfill its educational mission and to assure the welfare of its students. Any student who alters, forges or destroys any official University document or record shall be subject to disciplinary action.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-025 Fraudulent Admissions Credentials. The integrity of Western Washington University's admissions process requires receipt of full, honest documents as requested by the Admissions Office. Submission of fraudulent admissions or residency credentials shall subject a student to disciplinary action at any time such act is discovered.

A student violating this section may not be granted transfer credits earned at a former institution if at the time of application to Western Washington University he/she did not provide official transcripts of all work at such institutions. Additional sanctions available through the University judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-030 Interference with Freedom of Expression. The rights of free-

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dom of speech, petition and assembly are fundamental to the democratic process. The United States Constitution guarantees these freedoms to all members of the Western Washington University community.

The University recognizes its obligation to protect students' freedom of expression while at the same time minimizing the impact of visual pollution and physical damage to University property. The University shall provide sufficient bulletin boards and shall permit other methods for disseminating information such as leaflets, handbills, posters and banners according to guidelines available through the Viking Union administrative office. All printed material may be subject to removal if the content is defamatory.

Any person may speak on the Western Washington University campus when invited to do so by a member of the University community. Use of University building spaces is subject to space and scheduling policies and procedures. The appearance of an invited speaker does not constitute an endorsement of the speaker's views by the University's faculty, administration, students or Board of Trustees. Public address or audio amplification equipment normally may be used only in the Viking Union Plaza and athletic fields subject to space and scheduling policies and procedures. Use of such equipment in other areas of the campus must be authorized by the Vice President for Student Affairs or the Vice President's designee. The essence of the right to speak is the freedom of the speaker to make his/her statement. Both the speaker and the audience are entitled to proceed without being subjected to physical interference or violence.

Students deliberately engaging in acts of violence, threats of violence or in other conduct which interferes with the rights of others or which materially or substantially disrupts the exchange of ideas on campus are subject to disciplinary action or prosecution under law. Sanctions available through the University judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-100 Judicial Structure. The Vice President for Student Affairs is responsible for administration of this Code. The Vice President shall assure that the University Judicial Board appointment process is initiated annually and shall assure that allegations of Code violations and appeals are properly referred.

A Conduct Officer, who shall have authority to adjudicate and administer sanctions for violations of this Code,

shall be appointed from the Student Affairs division by the Vice President for Student Affairs.

A six-member University Judicial Board shall be appointed prior to Fall Quarter: two faculty (appointed by the Vice President for Academic Affairs), three students (appointed by the Associated Students Board) and one member of the Student Affairs staff (appointed by the Vice President for Student Affairs). An alternate for each position shall be appointed at the same time by the same authority. All appointments shall be for one academic year. The Judicial Board shall have authority to adjudicate and administer sanctions for violations of this Code.

Should the need arise during Summer Session, an ad hoc Judicial Board shall be appointed subject to the same make-up and procedures as the academic year Judicial Board.

WAC 516-22-120 Initiation of Informal Proceedings. Any student, faculty or staff member of the University alleging a violation of this Code shall deliver to the Office of the Vice President for Student Affairs a written statement of the charges against the student. The Vice President shall ask the Conduct Officer to investigate the probity of the charge.

If in the Conduct Officer's judgment there is sufficient basis to consider the charge, the Conduct Officer shall meet with the student and those bringing the charges and shall weigh appropriate evidence. Within ten (10) business days, the Conduct Officer shall notify the student in writing of his/her decision, including the sanction if a violation is judged to have occurred. Written notification shall include a statement of the student's right to appeal to the University Judicial Board.

WAC 516-22-124 Appeal to the Judicial Board. An accused student may appeal an adverse decision of the Conduct Officer to the University Judicial Board. The appeal must be made in writing to the Vice President for Student Affairs within ten (10) business days of receiving the Conduct Officer's written decision. An extension of an additional ten (10) business days will automatically be granted upon the student's request. The appeal letter must state the basis for the appeal. The Vice President shall notify the Judicial Board Chairman of the appeal. No sanction may be invoked while an appeal is pending, except as provided in "Interim Suspension Permitted," WAC 516-22-150.

WAC 516-22-130 Appeal Hearing Procedures. The Judicial Board Chairman shall establish a hearing date and shall

request the student making the appeal to appear.

(1) Notification of the hearing shall include:

- (a) Time, date and location of hearing.
- (b) Provision of the "Student Rights and Responsibilities Code" which the student is alleged to have violated.
- (c) Nature and date of the alleged violation.
- (d) Copy of the Code and name(s) of University source(s) whose procedural advice can be sought.
- (e) Statement of the student's right to be accompanied by a non-lawyer advocate of his/her choice, to call witnesses and to speak on his/her own behalf.
- (f) Statement of the student's right to review written evidence prior to the hearing.

(2) Hearings shall be conducted in a manner which is informal and at the same time assures fundamental fairness of procedure. Hearings shall be open to the public unless the accused student requests a closed hearing.

- (a) No student who is charged with an offense shall be asked to give information or to answer questions concerning an alleged violation of this Code unless the student has received notification of a hearing in accordance with the notification provision above.
- (b) The student may bring witnesses, speak in his/her own behalf and may be represented by a non-lawyer advocate of his/her own choice
- (c) An accused student has the right to know who has alleged the violation of this Code, to review the written evidence, and to ask questions directly of the person(s) making the allegation and those who present testimony
- (d) The Judicial Board Chairman and the accused student may call any person to speak concerning the alleged violation. The Board Chairman may limit or exclude evidence which is irrelevant, immaterial or repetitious
- (e) Five members shall constitute a quorum of the Judicial Board. Actions by the Board require support by a majority of those members present at the time of the hearing and during presentation of the testimony. A Board member may be excused from listening to part of the testimony with the Board's approval if the testimony is preserved by tape re-

ording and the absence is due to extenuating circumstances. Any member of the Board who considers himself/herself unable to render an impartial decision in a particular case shall excuse himself/herself from the Board's deliberations in advance and may be replaced by an alternate.

(3) The Judicial Board Chairman shall notify the accused student in writing of the disposition of the case and of his/her right to appeal

WAC 516-22-134 Disruption of the Judicial Process. Student rights and responsibilities contained within this Code are assured through the orderly functioning of the judicial process. The failure of a student formally charged with a violation of this Code to appear before the Conduct Officer after receiving notice of a hearing shall make the student subject to disciplinary action. A student formally charged with a violation of this Code may not excuse himself/herself from judicial proceedings by withdrawing from the University and shall be prohibited from enrolling for subsequent quarters until such time as he/she does appear for a hearing.

WAC 516-22-138 Certain Sanctions Defined. Among those sanctions which the Conduct Officer or Judicial Board may invoke are:

(1) *Disciplinary Probation* — An official warning which is maintained in the student's conduct file for seven years. Should the student be found in violation of the Code again, the Disciplinary Probation status may result in a more serious sanction for the second violation.

(2) *Disciplinary Suspension* — Termination of a student's enrollment for a period of time or until certain specified conditions have been met.

(3) *Disciplinary Expulsion* — Permanent termination of a student's enrollment with no option for later re-enrollment.

WAC 516-22-142 Record of Proceedings. Records prepared by the Conduct Officer or Judicial Board shall be maintained in a conduct file in the Office of the Vice President for Student Affairs for six (6) years. All records shall be destroyed at the end of the period, which commences upon adjournment of the Conduct Hearing. If an accused student has been found not in violation of this Code, no record of either the charges or the proceedings will be entered into the conduct file.

The University shall not make the records of judicial proceedings or sanctions available to any member of the public except upon written consent of the student involved. Certain exceptions

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are authorized under the "Student Records Policy," WAC 516-26.

WAC 516-22-146 Right to Formal Hearing. Included with the notification of the Judicial Board's decision shall be a statement that the student has a right to a formal hearing pursuant to RCW 28B.19.110 and WAC 516-08.

WAC 516-22-150 Interim Suspension Permitted. In order to prevent danger to individuals, substantial destruction of property or significant disruption of teaching, research or administrative functions, the Vice President for Student Affairs or his/her designee may temporarily suspend a student for stated cause subject to such limitation as the Vice President shall deem appropriate.

In all cases, the student is entitled to a hearing before the appropriate Conduct Officer or Board as soon as such hearing can be held, but not to exceed five (5) school days after the beginning date of interim suspension unless the student should request an extension. During the interim suspension period, the student shall be allowed on University property only to the extent deemed permissible by the Vice President for Student Affairs.

WAC 516-22-200 Alternative Judicial Proceeding. In cases where a clear or present danger does not exist but where repeated behavior which interferes with the rights of others or which materially or substantially obstructs or disrupts teaching, research or administrative functions has occurred, and/or where there is a question as to whether the student's mental health is such that he/she can profit from a particular university experience, the case will be referred by the Dean of Students to the Vice President for Student Affairs.

(1) Prior to such referral, the Dean of Students shall have attempted to assist the student through counseling or referral to other agencies. There should be written indication that such attempts at assistance have been offered and that other students or faculty or the educational mission of the University has been adversely affected by the individual's behavior.

(2) The Vice President will confer with the student to determine whether there has been such repeated disruptive behavior, and to determine an appropriate course of action. A student may bring a non-lawyer advocate to speak in his/her behalf to the meeting with the Vice President. In the absence of such an advocate, the Vice President may appoint a person to assist the student before and during the meetings with the Vice President.

(3) If in the Vice President's judgment

there has been such repeated disruptive behavior and/or there is a question as to the student's mental health and his/her ability to profit from a particular university experience, the Vice President shall decide upon an appropriate action based upon one or a combination of the following:

- (a) Continued enrollment.
- (b) Treatment to be determined by the student with the Vice President's concurrence
- (c) Change of living environment.
- (d) Required medical leave of absence for a specified period. In the event of this action, the Vice President may require that the student provide reasonable evidence of readiness to cope with the University environment before he/she can be re-admitted.

(4) The alternative judicial procedure set forth here is an informal proceeding, and a student has a right to an appeal through a request for a formal hearing in accord with RCW 28B.13.110 and WAC 516-08.

WAC 516-22-210 Committee on Student Rights and Responsibilities. There is established a Committee on Student Rights and Responsibilities to be composed of four students: one appointed by Inter-Hall Council, one appointed by the President of the Associated Students, one appointed by the Associated Students Governing Board, and one selected at large from the student body; one member of the Student Affairs staff appointed by the Vice President for Student Affairs; one faculty member appointed by the Faculty Senate; the Dean of Students; and the Director of Public Safety.

(1) The primary purpose of the Committee on Student Rights and Responsibilities shall be to evaluate the University's "Student Rights and Responsibilities Code." The Committee may provide interpretations or may recommend changes in policy concerning student rights and responsibilities.

(2) The Committee shall act as appellate group for decisions by the Vice President for Student Affairs to withhold certain records from students; shall act as appellate group in accordance with WAC 516-26-060 if informal proceedings fail to resolve complaints of students; and shall provide the review and revision mechanism for recommending changes in the "Student Records Policy," WAC 516-26.

WAC 516-22-250 Fairhaven College Jurisdiction. Fairhaven College shall have jurisdiction over all violations

which occur within the College classrooms. It shall establish and maintain a judicial process which shall be published annually for Fairhaven College students. Violations of University policies by Fairhaven College students while on the main campus of Western Washington University shall be handled under the jurisdiction of the University judicial structure.

Appendix D ACADEMIC DISHONESTY POLICY AND PROCEDURE

1. Policy

Western Washington University students have an obligation to fulfill the responsibilities of their particular roles as members of an academic community. Honesty is essential to learning. Without it, fair evaluation for all is impossible. Academic integrity is demanded, and academic dishonesty at Western Washington University is a serious infraction dealt with severely. Students shall not claim as their own the achievements, work or thoughts of others, nor shall they be a party to such claims.

It is the responsibility of the faculty to prevent and to detect acts of academic dishonesty. It shall be the instructor's responsibility to confront a student and to take appropriate action if academic dishonesty, in the instructor's judgment, has occurred.

2. Academic Dishonesty

Academic dishonesty includes the following acts:

- (a) Giving unauthorized information to another student or receiving unauthorized information from another student during any type of examination or test.
- (b) Obtaining or providing without authorization questions or answers relating to any examination or test prior to the time of the examination or test.
- (c) Using unauthorized sources for answers during any examination or test.
- (d) Asking or arranging for another person to take any examination or test in one's place.
- (e) Plagiarizing, that is appropriating the literary composition of another or parts or passages of another's writing, or the ideas or language of the same, and passing them off as the product of one's own mind.

3. Procedures

- (a) An instructor suspecting an act of academic dishonesty shall discuss the matter thoroughly with the student involved. Arrangements for this discussion shall be made by the instructor within ten (10) class days after discovering the alleged violation. In the event the student is absent from campus, the instructor shall attempt to contact the student in writing at the most recent permanent address available in the Office of the Registrar. If the incident occurs at the end of a quarter, the instructor within ten (10) class days of the beginning of the following quarter or within a reasonable time thereafter shall arrange to discuss the matter with the student.

Following this discussion, the instructor shall determine whether or not an act of academic dishonesty has occurred. If in the instructor's judgment there has been a violation, the instructor shall assign a grade of "F" for the work involved or for the course and notify the Vice President for Academic Affairs. A record of the violation is maintained in the Office of the Vice President for Academic Affairs. Repeated acts of academic dishonesty shall make a student subject to disciplinary action—including possible dismissal—through the "Student Rights and Responsibilities Code," available from the Office of Student Affairs.

No student shall be allowed to withdraw from a course or from the University to avoid receiving a failing grade based upon academic dishonesty.

- (b) Appeal: A student who receives an "F" grade for academic dishonesty and who feels wrongly accused by an instructor may appeal to the dean of the school or college involved. The appeal must be lodged within ten (10) class days of receiving notice of the instructor's decision, and if not, any right of appeal is deemed waived. The dean shall make a decision based on the merits of the case. The reasons for the decision shall be in writing and shall be given to both the student and the instructor within ten (10) class days of receiving the appeal.

Either side may appeal a decision of the dean to the Student Academic Grievance Board and from the Board to the Academic Vice President, whose decision is final. Procedures followed shall be those provided in the "Student Academic Grievance Policy and Procedures" (Section B,

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Appeal to the Board), which is printed in Appendix F of the University's *General Catalog*.

Appendix E STUDENT RECORDS POLICY

WAC 516-26-010 Purpose. The purpose of this chapter is to implement Public Law 93-380, The Family Educational Rights and Privacy Act of 1974, by establishing rules and procedures to ensure that information contained in student records is accurate and is handled in a responsible manner by the University and its employees.

WAC 516-26-020 Definitions. For purposes of this chapter, the following terms shall have the indicated meanings:

- (1) "Student" shall mean any person who is or has been officially registered at and attending Western Washington University and with respect to whom the University maintains education records or personally identifiable information.
- (2) (a) "Education records" shall refer to those records, files, documents and other materials maintained by Western Washington University or by a person acting for Western Washington University which contain information directly related to a student.
(b) The term "education records" does not include the following:
 - (i) Records of instructional, supervisory or administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except a substitute;
 - (ii) If the personnel of the University's Department of Public Safety do not have access to education records under WAC 516-26-080, the records and documents of the department which are kept apart from the records described in WAC 516-26-020(2)(a) are maintained solely for law enforcement purposes, and are not made available to persons other than law enforcement officials of the same jurisdiction;
 - (iii) Records made and maintained by the University in the normal course of business which relate exclusively to a person's capacity as an employee and are not available for any other purpose; or
 - (iv) Records concerning a student which are created or maintained by a

physician, psychiatrist, psychologist or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained or used only in connection with the provision of treatment to the student and are not available to anyone other than persons providing such treatment, except that such records may be personally reviewed by a physician or other appropriate professional of the student's choice.

(3) "Personally identifiable information" shall refer to data or information which includes either (a) the name of a student, the student's parent, or other family member; (b) the address of the student; (c) a personal identifier, such as the student's social security number or student number; (d) a list of personal characteristics which would make it possible to identify the student with reasonable certainty; or (e) other information which would make it possible to identify the student with reasonable certainty.

(4) "Vice President for Student Affairs" shall refer to the Vice President for Student Affairs or his/her designee.

WAC 516-26-030 Access to Records.

(1) Except as provided in WAC 516-26-035, each student at Western Washington University shall have access to his or her education records. The right of access shall include the right to inspect, review and obtain copies of education records.

(2) The Vice President for Student Affairs shall prepare a list of the types of student education records which are maintained by Western Washington University.

(3) A student wishing access to his or her education records shall submit a written request for access to the Vice President for Student Affairs. A request for access shall be acted upon by the Vice President for Student Affairs within a reasonable period of time, not to exceed 20 days.

(4) The Vice President for Student Affairs shall provide students of the University with an opportunity for reasonable access to education records, provided that the Vice President for Student Affairs shall be responsible for taking appropriate measures to safeguard and ensure the security and privacy of the institution's records while being inspected by students.

(5) The Vice President for Student Affairs will inform in writing a student who has requested access to his or her

education records of the nature of any records which are being withheld from the student on the basis of the exceptions set forth in WAC 516-26-035. A student may challenge a decision by the Vice President for Student Affairs to withhold certain of the student's records by filing an appeal with the Student Rights and Responsibilities Committee.

(6) This section shall not prohibit the University Registrar from providing a student with a copy of the student's academic transcript without prior clearance from the Vice President for Student Affairs.

WAC 516-26-035 Access to Records — Limitations On Access.

(1) Western Washington University shall not make available to a student the following types of materials:

- (a) The financial records of the student's parents or any information contained therein.
- (b) Letters or statements of recommendation, evaluation or comment which were provided to the University in confidence, either expressed or implied, prior to January 1, 1975, provided that such letters or statements not be used for purposes other than those for which they were originally intended
- (c) If a student has signed a waiver of the student's right of access in accordance with subsection (2) of this section, confidential records relating to the following:
 - (i) Admission to any educational agency or institution;
 - (ii) An application for employment; or
 - (iii) The receipt of an honor or honorary recognition.

(2) A student, or a person applying for admission to the University, may waive his or her right of access to the type of confidential records referred to in subsection (1)(c) of this section, provided that such a waiver shall apply only if the student is, upon request, notified of the names of all persons making confidential recommendations, and such recommendations are used solely for the specific purpose for which the waiver has been granted. Such a waiver may not be required as a condition for admission to, receipt of financial aid from, or receipt of other services or benefits from the University.

(3) If any material or document in the education record of a student includes information concerning more than one student, the student shall only have the right either to inspect and review that portion of the material or document

which relates to the student or to be informed of the specific information contained in that portion of the material or document.

WAC 516-26-040 Right to Copy Records.

(1) The Vice President for Student Affairs shall, at the request of a student, provide the student with copies of the student's education records. The fees for providing such copies shall not exceed the actual cost to the University of providing the copies.

(2) Official copies of transcripts from other educational institutions, such as high school or other college transcripts, will not be provided to students by the University.

WAC 516-26-050 Challenges to Content of Records — to Release of Records — or to Denial of Access to Records.

(1) Any student who believes that inaccurate, misleading or otherwise inappropriate data is contained within his or her education records shall be permitted to have included within the record a written explanation by the student concerning the content of the records.

(2) A student shall have the right, in accordance with the procedures set forth in WAC 516-26-055 and 516-26-060, to:

- (a) Challenge the content of education records in order to ensure that the records are not inaccurate, misleading or otherwise in violation of the privacy or other rights of the student;
- (b) Have the opportunity to correct or delete inaccurate, misleading or otherwise inappropriate data contained within education records;
- (c) Challenge the release of education records to specific persons as contrary to the provisions of this chapter; and
- (d) Challenge a decision of the University to deny the student access to particular types of records.

(3) A student shall not be permitted under this chapter to challenge the validity of grades given in academic courses, except on the grounds that, as a result of clerical error, the student's records fail to accurately reflect the grades actually assigned by an instructor.

WAC 516-26-060 Challenges — Hearing Before Student Rights and Responsibilities Committee.

(1) If informal proceedings fail to resolve the complaint of a student, the student may file with the Vice President for Student Affairs a written request for a hearing before the Student Rights and Responsibilities Committee of the University.

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(2) Within a reasonable time after submission of a request for hearing, the Student Rights and Responsibilities Committee shall conduct a hearing concerning the student's request for corrective action

(a) The student and the University shall be given a full opportunity to present relevant evidence at the hearing before the Student Rights and Responsibilities Committee.

(3) If a student demonstrates that the student's education records are inaccurate, misleading or otherwise in violation of the privacy or other rights of the student, the Student Rights and Responsibilities Committee shall have authority to order the correction or deletion of inaccurate, misleading or otherwise inappropriate data contained in the records.

(4) If a student demonstrates that the release of the student's education records would be improper under this chapter, the Student Rights and Responsibilities Committee shall have authority to order that the records not be released.

(5) If a student demonstrates that the student is entitled to access to particular documents under this chapter, the Student Rights and Responsibilities Committee shall have authority to order that the student be permitted access to the records.

(6) The decision of the Student Rights and Responsibilities Committee shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.

WAC 516-26-070 Release of Personally Identifiable Information or Education Records. Except as provided in WAC 516-26-080, 516-26-085 or 516-26-090, the University shall not permit access to or the release of a student's education records or personally identifiable information contained therein to any person without the written consent of the student.

WAC 516-26-080 Release of Personally Identifiable Information or Education Records — Exceptions to Consent Requirements.

(1) The University may permit the access to or release of a student's education records or personally identifiable information contained therein without the written consent of the student to the following parties:

(a) University officials, including faculty members, when the information is required for a legitimate educational purpose within the scope of the recipient's official responsibilities with the University and will be used

only in connection with the performance of those responsibilities;

(b) Federal or state officials requiring access to education records in connection with the audit or evaluation of federally or state supported educational programs or in connection with the enforcement of federal or state legal requirements relating to such programs. In such cases the information required shall be protected by the federal or state officials in a manner which shall not permit the personal identification of students or their parents to other than those officials, and such personally identifiable data shall be destroyed when no longer needed for the purposes for which it was provided;

(c) Agencies or organizations requesting information in connection with a student's application for, or receipt of, financial aid.

(d) Organizations conducting studies for or on behalf of the University for purposes of developing, validating or administering predictive tests, administering student aid programs, or improving instruction, if such studies are conducted in a manner which will not permit the personal identification of students by persons other than representatives of such organizations, and the information will be destroyed when no longer needed for the purposes for which it was provided;

(e) Accrediting organizations in order to carry out their accrediting functions; or

(f) Any person or entity authorized by judicial order or lawfully issued subpoena to receive such records or information, upon condition that the student is notified of all such orders or subpoenas in advance of compliance therewith by the University. Any University employee or official receiving a subpoena or judicial order for education records or personally identifiable information contained therein shall immediately notify the Assistant Attorney General representing the University.

(2) Education records of a student or personally identifiable information contained therein which are released to third parties, with or without the consent of the student involved, shall be accompanied by a written statement indicating that the information cannot subsequently be released in a personally identifiable form to any other party without the written consent of the student involved.

(3) The University shall maintain a record, kept with the education records of each student, indicating all parties, other than those parties specified in WAC 516-26-080(1)(a), which have requested or obtained access to the student's education records, and indicating the legitimate interest that each such party has in obtaining the records or information contained therein. This record of access shall be available only to the student, to the employees of the University responsible for maintaining the records, and to the parties identified under WAC 516-26-080(1)(a) and (c).

WAC 516-26-085 Release of Information in Emergencies.

(1) The Vice President for Student Affairs or his designee may, without the consent of a student, release the student's education records or personally identifiable information contained therein to appropriate parties in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of the student or other persons.

(2) The following factors should be taken into consideration in determining whether records may be released under this section:

- (a) The seriousness of the threat to the health or safety of the student or other persons;
- (b) The need for personally identifiable information concerning the student to meet the emergency;
- (c) Whether the parties to whom the records or information are released are in a position to deal with the emergency; and
- (d) The extent to which time is of the essence in dealing with the emergency.

(3) If the University, pursuant to subsection (1) of this section, releases personally identifiable information concerning a student without the student's consent, the University shall notify the student as soon as possible of the identity of the parties and to whom the records or information have been released and of the reasons for the release.

WAC 516-26-090 Directory Information.

(1) The University may release "directory information" concerning a student to the public unless the student requests in writing of the Vice President for Student Affairs that the student's directory information not be released except as provided in WAC 516-26-070, 516-26-075, 516-26-80 or 516-26-85.

(2) The term "directory information" shall include information relating to the

student's name, local and home address, telephone listing, class schedule, dates of attendance, degrees and awards received, participation in officially recognized sports, and weight and height if a member of an athletic team.

WAC 516-26-095 Destruction of Student Records. Except as otherwise provided by law, the University shall not be precluded under this chapter from destroying all or any portion of a student's education records, provided that no education record to which a student has requested access shall be removed or destroyed by the University prior to providing the student with the requested access.

WAC 516-26-100 Notification of Rights Under This Chapter. The University shall provide reasonable notification to students of the rights of students under this chapter.

(1) Notice will be provided to students under this section at least annually, and shall include the following:

- (a) A statement of the types of education records maintained by the University;
- (b) The name and position of the employee of the University responsible for the maintenance of each type of record, the persons who have access to those records, and the purposes for which such persons have access;
- (c) A copy of the rules and procedures set forth in this chapter; and
- (d) A statement concerning the cost which will be charged to a student for reproducing copies of the student's records.

Appendix F STUDENT ACADEMIC GRIEVANCE POLICY AND PROCEDURES

1. Policy

Students have protection, through orderly procedures, against arbitrary or capricious actions or decisions by their instructors; students also have protection against erroneous actions or decisions by academic units. At the same time, students are responsible for achieving and maintaining the standards of academic performance and excellence which are established by their instructors and for complying with all relevant policies, standards, rules and requirements which are formulated by the University and the University's academic units. A student wishing to pursue an academic grievance must use the following grievance procedure once having received notice of the action or

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decision which gives rise to the grievance. The emphasis of the grievance procedures is on informal resolution of the grievance. Grievances which involve hearings before the Student Academic Grievance Board should be rare.

Students who do not meet the deadlines given in the procedures shall be deemed to have waived their right to appeal. If any officer of the University or the Board fails to meet the deadlines established, the student may continue to the next level in the procedures. The deadlines are set to provide a rapid resolution of the grievance. However, unforeseen circumstances such as illness or absence from the campus may result in an extension of a deadline. Such extensions shall be recorded in writing by the unit head, dean or secretary to the Board, as appropriate.

2. Academic Grievances

Academic grievances are limited to the following:

- (1) A claim by the student that an assigned grade is the result of arbitrary or capricious application of otherwise valid standards of academic evaluation, or
- (2) A claim by the student that the standards for evaluation are arbitrary or capricious, or
- (3) A claim by the student that the instructor has taken an arbitrary or capricious action which adversely affected the student's academic progress, or
- (4) A claim by the student that an academic unit has reached a decision not in keeping with University policy or taken an erroneous action which adversely affects the student's academic standing or academic career.

Note: Where an action is claimed to be in violation of affirmative action, a separate set of procedures are used (see Appendix H, Affirmative Action Student Grievance Procedures).

3. Procedures

A. Informal Resolution

A student with an academic grievance against an individual instructor shall first thoroughly discuss the matter with the instructor involved. The student must meet with the instructor within ten (10) days of receiving written notification of the action or decision which gives rise to the grievance. In the case of absence from the campus of either of the parties, the student shall inform the academic unit head, in writing, of the existence of the grievance and the unit head shall arrange for consultation between the parties concerned at the earliest possible

opportunity. Should the faculty member be on extended leave, or have resigned from the University, the unit head shall act for the instructor.

The instructor and the student should make a good faith effort to resolve the grievance. Grievances resolved at this stage do not require a written record unless the resolution involves a grade change. Grade changes require the approval of the department chairperson (or dean in Huxley and Farhaven), who then directs the Registrar to make the specific grade change. A copy of the memo to the Registrar will be sent to the student and faculty member.

If a resolution is not achieved between the student and the instructor within five (5) days after the first meeting between the student and instructor, the student has five (5) days to ask the academic unit head, or designee, to attempt to informally resolve the issue. The unit head, or designee, will meet with both parties to clarify the issues and attempt to resolve them. If the issue is resolved within five (5) days after the student has sought the assistance of the unit head, the unit head, or designee, shall prepare an informal agreement, in writing, for both sides to sign. No reasons need be given. Such an agreement, once signed by both parties, may not be appealed.

If an agreement cannot be reached within the five-day review period, and the student still wishes to pursue the grievance, the student shall request the unit head or designee to present the case to the dean of the college. The unit head has five (5) days to present the material to the dean. The material presented should include all of the documents relevant to the case and an analysis of the issues. The dean shall continue the process of seeking an informal resolution and collect more material as necessary. If a resolution can be reached, the dean shall prepare an informal agreement as above. Such an agreement, once signed by both parties, may not be appealed.

If the student has a grievance against an academic unit, the student shall first thoroughly discuss the matter with the unit head. The student must meet with the unit head within ten (10) days of receiving notification of the action or decision of the unit which gives rise to the grievance. If the grievance is not resolved within ten (10) days of the initial meeting between the student and the unit head, the student may request, in writing, further review by the dean of the college, following the procedures for grievance against individual faculty.

If the grievance against a faculty member or academic unit is not resolved at this

stage, the dean shall make a decision based on the merits of the case. The reasons for the decision shall be in writing and shall be given to both the student and the instructor. The dean's decision must be rendered and given to both parties within five (5) days of receiving the material. The written decision of the dean will include: (1) a statement of the grievance, (2) a statement of the efforts made to resolve the issue and (3) a statement of action, with reasons.

Either side may appeal a decision of the dean to the Student Academic Grievance Board. The appeal must be filed within five (5) days after the receipt of the dean's written decision.

B. Appeal to the Board

(1) *Composition of the Board.* The Student Academic Grievance Board shall consist of six (6) members: three students and three faculty. An administrator appointed by the Vice President and Dean of Student Affairs will serve as executive secretary to the Board and will be responsible for the arranging of meetings and the collection and maintenance of necessary documents. The Board, for any hearing, will be selected in the following manner:

- (a) The pool of Board members shall consist of six (6) faculty appointed by the Faculty Senate for three-year terms; six (6) undergraduate students and six (6) graduate students appointed by the Associated Students Board for one-year terms.
- (b) Each party to the grievance shall have the right to reject two faculty and two students from the list of the pool of Board members.
- (c) From the remaining members, the Vice President for Academic Affairs or designee shall select the Board members for the hearing, and shall appoint the chairperson. If the grievance involves a graduate student, at least two of the Board members must be graduate students.

(2) *Appeal Procedures*

(a) *Lodging appeal.* The party appealing to the Board shall present the appeal to the executive secretary of the Board within five (5) days after issuance of the dean's written decision. The letter of appeal shall state the basis of the appeal. The secretary will send a copy of the appeal to the second party to the grievance, who may respond in writing. All materials used at any stage of the grievance shall be made available to both parties and to the dean.

(b) *Mediation.* A mediator may be

appointed by the Vice President for Academic Affairs or designee from a list of four persons previously appointed by the Faculty Senate. The mediator has five (5) days from the time of appointment to attempt to resolve the issue to the satisfaction of both parties, otherwise the appeal proceeds to a hearing

(c) *Hearing.* A hearing shall be called within fifteen (15) days of the filing of the appeal unless both parties agree to a delay, or unless the grievance is resolved through mediation.

A quorum is four (4) members of the Board. Both the student and the instructor may be represented by an advocate.

Both the student and the faculty member shall be invited to present oral arguments which shall be restricted to matters already in the record. New causes for grievance may not be raised at the hearing. Members of the Board may question either party.

No testimony may be taken by the Board unless both parties are present, or have waived their right to be present.

At the conclusion of the hearing, the Board shall, in writing,

- (a) Request additional information, to be considered at a future hearing, or
- (b) Find that there is insufficient cause to overrule the dean's decision and recommend to the Vice President for Academic Affairs that it be upheld, or
- (c) Find that there is sufficient cause to modify or overrule the dean's decision and recommend appropriate action to the Vice President for Academic Affairs.

C. Appeal to the Vice President for Academic Affairs

Either party may appeal to the Vice President for Academic Affairs from a decision by the Board. Such appeal shall be made, in writing, within five (5) days after the issuance of the Board's written decision. The Board chairman has the right to make a written response to the appeal within five (5) days of filing the appeal. The Vice President may overrule or modify the decision of the Board only if that decision was arbitrary, capricious, based on insufficient information, or was beyond the scope of these procedures as defined in Section 2. The decision of the Vice President for Academic Affairs is final. Copies of the Vice President's decision will be sent to the student, faculty member, unit head, dean, chairperson and secretary of the Board

D. Maintenance of Records

All written statements and testimony

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considered in the grievance process and a copy of the final written decision of the Board or Academic Vice President shall be retained on file in the Academic Vice President's office for a period of one (1) year following final disposition of the grievance.

Where a resolution or decision results in a grade change, the unit head shall inform the Registrar of the grade change.

4. Definitions

These definitions are for the purposes of these procedures only:

(1) "Academic unit" is Huxley or Fairhaven college or a department within the colleges of Arts and Sciences, Fine and Performing Arts, Business and Economics, or School of Education.

(2) "Unit head" is the department chairperson, or, in the case of Huxley and Fairhaven colleges, the chairperson of the college personnel committee.

(3) The unit head "designee" can be any faculty member or administrator from the academic unit.

(4) Reference to "days" means "school days" and includes the registration period and the week in which exams are scheduled.

Appendix G CODE OF ETHICS FOR THE FACULTY OF WWU

This Code of Ethics was adopted by vote of the faculty of Western Washington University on April 15, 1983, and was endorsed for inclusion in the Faculty Handbook by the Board of Trustees on May 5, 1983.

Preface

Membership in the academic community and in the faculty of Western Washington University imposes upon faculty a range of obligations beyond that currently accepted by the members of the wider society. These obligations, which ensue from the faculty member's commitment to learning and to the role of teacher, include obligations to respect the dignity of others; to acknowledge the right of others to express differing opinions; to foster learning; to defend intellectual honesty, freedom of inquiry, learning and teaching; and to support freedom of expression on and off campus. An obligation to protest injustices and seek correction of inequities carries with it the corollary responsibility to do so in ways which do not intentionally, persistently or significantly impede the functions of the institution.

A professional faculty, as guardian of academic values, serves as the instrument of disciplinary action against unjustified assaults upon those values by its own members. The traditional faculty role of limiting participation in disciplinary action to assurance of academic due process is inadequate to protect the conditions enumerated in the 1940 AAUP Statement on Academic Freedom. This function must be preserved but must also be strengthened by faculty assumption of responsibilities in adopting, practicing and promoting adherence to those principles of conduct essential to academic endeavor.

In recognition of this responsibility, the faculty of Western Washington University have adopted this Code of Ethics as a guide for present and future members of the University faculty.

Section 1

Western faculty members, guided by a deep conviction of the worth and dignity of their role in the advancement and dissemination of knowledge, recognize the special responsibilities placed upon them as scholars. Their primary responsibility to their respective subjects is to seek and to state the truth as they, in consequence of their academic competence, perceive it. To this end faculty energies are devoted to developing and improving their scholarly competence. They accept the obligation to exercise self-discipline and judgment in using, extending and transmitting knowledge. They practice intellectual honesty. When subsidiary interests are followed, they must ensure that these interests do not seriously compromise freedom of inquiry nor the fulfillment of academic responsibilities.

Section 2

As teachers, the Western faculty encourage the free pursuit of learning by students, and demonstrate by example the best scholarly standards of their respective disciplines. The faculty respect students as individuals and adhere to their designated role as intellectual guides and counselors, make every effort to foster honest academic conduct and to assure that evaluations of students reflect their actual performance. The faculty avoid and condemn sexual harassment, intimidation, and exploitation of students. The confidential nature of the relationship between professor and student is respected, and any exploitation of students for private advantage is avoided by the faculty member who acknowledges significant assistance from them. Faculty strive to help students develop high standards of academic competency and respect for academic freedom.

Section 3

A teacher's mastery of his or her subject and scholarship entitles the teacher to a classroom and to freedom in the presentation of a subject. Faculty thus avoid injecting into classes material which has no relation to the subject and conscientiously develop the content of a course as announced to students and as approved by the faculty in their collective responsibility for the curriculum.

Section 4

As a colleague, the Western faculty member has special obligations that derive from membership in the community of scholars. These include respect for, and defense of, the free inquiry of associates and, in the exchange of criticism and ideas, the respect for the opinions of others. Faculty members acknowledge the contributions of their colleagues and strive to be fair in their professional judgment of colleagues. Each accepts his or her share of faculty responsibilities for the governance of this institution.

Section 5

As a member of this institution, each Western faculty member seeks above all to be an effective teacher and scholar. Although all regulations of the institution that do not contravene academic freedom are observed by the faculty, the right to criticize institutional regulations and to seek their revision is maintained. The amount and character of work done outside the institution is determined by the faculty member with due regard to the paramount responsibilities within it. When considering the interruption or termination of service, the faculty member recognizes the effect of such decisions upon the program of the institution and gives due notice of such intentions.

Section 6

As a member of a larger community, the Western faculty member maintains the same rights and obligations as does any other citizen. The urgency of these obligations is measured in the light of responsibilities to the discipline, to the students, to the profession, and to the institution. When speaking or acting as a private individual, each faculty member avoids creating the impression of speaking or acting for the University. As a citizen engaged in a profession that depends upon freedom for its integrity and welfare, the Western faculty member exercises a special obligation to promote conditions of free inquiry and to further public understanding of academic freedom.

Section 7

Academic freedom has traditionally included the instructor's full freedom as a citizen. Most faculty members face no insoluble conflicts between the claims of conscience and of social and political action, on the one hand, and the claims and expectations of students, colleagues and the institution on the other. If such conflicts become acute, and the instructor's attention to obligations as a concerned citizen precludes the fulfillment of academic obligations, he or she should either request a leave of absence or resign his or her academic position.

Section 8

The expression of dissent and the attempt to produce change on campus and in the larger society are legitimate, but they must be carried out in ways which do not violate academic freedom, injure individuals, disrupt the classes of colleagues, intrude on the individual rights of others or damage institutional facilities or private or public property. All members of the academic community and visitors to the University must be assured of the right to be heard in an atmosphere of free inquiry and in a situation devoid of violence.

Section 9

It is presumed that members of the Western faculty will find this Code of Ethics an adequate guide for the choices they must make in the fulfillment of their academic functions. If rules are needed to implement the principles inherent in this Code, they shall be developed by the faculty within the spirit of the Code, shall be in accordance with the 1940 AAUP Statement on Academic Freedom, and shall carry full provision for due process.

Appendix H AFFIRMATIVE ACTION STUDENT GRIEVANCE PROCEDURE

Persons who have questions or need assistance in processing a grievance should contact Mary Robinson, Affirmative Action Officer, Old Main 335, phone 676-3306.

A person who believes he/she has been discriminated against by the University because of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status is urged to utilize the internal grievance procedure provided by the University through the Affirmative Action Office as soon as

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possible after the alleged act of discrimination giving rise to the grievance. The grievant must indicate under what federal or state regulation or University equal opportunity policy he/she is alleging discrimination.

A. Informal Resolution

1. Any person may contact the Affirmative Action Office for informal discussion, advice and assistance. These contacts are kept confidential. The Affirmative Action Officer or designee shall act as facilitator upon request.

2. Affirmative action advocates are also available to assist the individual in understanding her/his options in seeking corrective or compensatory measures.

3. The grievant may choose to be assisted by an affirmative action advocate during informal procedures and throughout all steps of the formal grievance procedure. The names of the advocates are available through the Affirmative Action Office.

4. The Affirmative Action Officer or designee shall attempt to resolve the complaint informally by talking with concerned parties and suggesting an appropriate resolution. If the grievant is not satisfied with the resolution, he/she may proceed to the Formal Investigative Resolution or utilize complaint procedures with outside agencies.

B. Formal Investigative Resolution

1. Any person may file a formal grievance against any employee, department or unit of the University if he/she believes illegal discrimination has taken place by filing a written description of the alleged act of discrimination with the Affirmative Action Office on a form provided by the Affirmative Action Office. Statements should be as detailed and accurate as possible and must specify under what federal or state regulation or University Equal Opportunity policy he/she is alleging discrimination.

2. The grievant shall receive acknowledgement of the filing of the grievance, and the respondent and the Vice President in charge of the employee, department or unit of the University shall be notified of the grievance within three working days.

3. Within 10 working days the Affirmative Action Officer shall meet with the grievant and her/his advocate/observers and the respondent and her/his observer (if any) for further information gathering. The Affirmative Action Officer shall again attempt to resolve the grievance

with both parties. If within 10 working days of the meeting with both parties the resolution is not satisfactory to the grievant, the grievant may ask that her/his appeal rights be invoked.

4. If the individual appealing has appeal rights under WAC Chapter 516-08, the hearing procedure contained shall be utilized. Other appeals shall be heard by the five-member Adjudication Committee.

The Adjudication Committee shall receive the Affirmative Action Officer's report and case file.

The committee shall operate under hearing procedures filed with the Affirmative Action Office.

The Adjudication Committee shall hold its initial meeting within five working days and shall forward its written recommendations to the President with a copy to the grievant and the respondent within 15 working days from the initial meeting.

5. Within 15 working days of receipt of the recommendations the President shall indicate her/his intentions. The President may accept the recommendations of the Adjudication Committee, may reject the recommendations, or may modify the recommendations. If the recommendations are rejected, the President shall state in writing the reasons for such rejection. If the recommendations are modified, the President shall state in writing the reasons for such modification. The President may make a final decision for the University for payments of \$2,000 or less to the grievant or group of grievants; however, the Board of Trustees has reserved the authority to approve affirmative action awards for amounts in excess of \$2,000, and the President shall notify the Board of Trustees whenever the resolution of a complaint involves promotion, tenure, back pay or the initial appointment of an employee in order that the Board may take appropriate action consistent with the Board of Trustees Handbook.

6. Deadlines may be extended provided that the length of such extensions is agreed to in writing by both the complainant and the respondent.

Deadlines shall be extended by the Affirmative Action Officer when individuals who are required to participate at certain steps in the procedure are unavailable due to absence from campus during summer or periods between academic sessions.

C. Alternative Formal Resolution

The grievant may choose to utilize the formal grievance procedure of her/his

group such as the faculty, student or labor agreement procedure. A grievant choosing an alternative grievance procedure and not finding the satisfaction sought may not then turn to the formal affirmative action grievance procedures outlined in this document. It is the prerogative of the body creating the alternative grievance procedure whether it will entertain a grievance which has previously been heard under the affirmative action grievance procedures.

D. Handicap Grievance

A person denied access to a program or activity or employment because of a determination that that individual's handicap disqualifies her/him may appeal the decision to an ad hoc handicap grievance tribunal consisting of a student and an employee (faculty if the dispute concerns an academic program), one of whom is handicapped, and an expert in handicap rehabilitation to be appointed by the President.

A person who has been refused admission to Western Washington University and who believes his/her handicap has affected his/her grade point, test scores or other criteria for admission in a way not reflective of true ability may appeal the admission decision to the University Admissions Committee. When a person appeals an admission decision on the basis of handicap, a person, usually a member of the faculty, with expertise in the rehabilitation of the handicap manifest by the appellant will sit as a voting member of the University Admissions Committee to hear the appeal.

The decision of the tribunal is final unless overturned by the President.

E. Outside Agencies

A person who believes that s/he has been the subject of discrimination may choose to see a lawyer regarding civil redress or may choose to file a discrimination grievance with the following agencies. These agencies require grievances to be filed within 180 days of the alleged act of discrimination.

Washington State Human
Rights Commission
1516 Second Avenue Building
Seattle, WA 98101
Phone: (206) 464-6500

Office of Civil Rights,
Department of Education
2901 Third Avenue
Mail Stop 106
Seattle, WA 98121
Phone: (206) 442-1635

Office of Federal Contract Compliance
Room 3048 Regional Office or

Room 1079 Area Office
909 First Avenue
Seattle, WA 98174
Phone: (206) 442-4508

Equal Employment
Opportunity Commission
1321 Second Avenue
7th Floor, Arcade Plaza
Seattle, WA 98101
Phone: (206) 442-0968

U.S. Department of Labor, Wage
and Hour Division ESA
909 First Avenue, Room 1060
Seattle, WA 98174
Phone: (206) 442-4482

Appendix I PARKING AND TRAFFIC

It is recommended that vehicles not be brought to the campus unless absolutely necessary. The geographical location of the campus makes the parking currently available on and around the campus inadequate to cover the desires of the University community.

Western Washington University has established rules and regulations governing parking under Washington State Administrative Code 516-12. Although parking regulations are constantly under study and revision, all students who utilize parking facilities on campus are required to purchase a parking permit and register their car (or cars), motorbike or motorcycle at or before the time of official registration. Some free spaces are available on the extreme south end of campus. The current parking permit fees vary from \$14 to \$28 plus state sales tax per quarter depending on the location of the parking lot. Violators of parking regulations are towed away. For further information, contact the Parking Services Office on campus.

Appendix J SATISFACTORY ACADEMIC PROGRESS POLICY FOR FINANCIAL AID

Introduction

Section 484 of the Higher Education Act (HEA), as amended, requires that a student be maintaining satisfactory progress in the course of study that s/he is pursuing, according to the standards and practices of the institution in which s/he is enrolled, to receive financial aid under the financial assistance programs authorized by Title IV by the HEA. The state of Washington also requires satis-

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factory progress for receipt of Washington state student aid funds.

Statement of Policy

Students have a responsibility to progress at a standard rate toward a degree objective. To be eligible to receive aid, the student must be making satisfactory progress toward a degree or certificate, regardless of whether s/he has previously received financial assistance. While normal academic progress is defined as 15 credit hours per academic quarter for undergraduates (12 credit hours per quarter is considered normal progress for graduate students), the Department of Student Financial Resources is responsible for establishing and monitoring a standard of minimum acceptable progress for the continuation of financial aid eligibility. The standard of academic progress must include a student's total academic history at Western Washington University. Each student is also required to maintain a grade point average which meets the University requirements to allow continuation at WWU. The grade point requirements of the University are listed in the University catalog.

There are two major components to the University's satisfactory academic progress policy for financial aid.

A. Maximum Time Frame

1. An *undergraduate student* will be allowed to attempt credit hours equal to 125 percent of the minimum requirements for a degree or certificate in the student's field of study.
2. A *post-baccalaureate student in a certificate program* will be allowed to attempt up to 125 percent of the minimum credit hour requirements for his/her certificate program.
3. A *graduate student* will be allowed to attempt 125 percent of the minimum credit hour requirement for graduation in his/her master's degree program.

B. Minimum Credit Requirements

Full-time students must satisfactorily complete a minimum of 80 percent of normal academic progress to be considered in good standing and eligible for financial assistance. Progress will be monitored quarterly and annually. Normal full-time academic progress would require satisfactory completion of 45 credit hours per academic year. Financial aid policy requires 36 credit hours to be satisfactorily completed in each academic year for students not enrolled in master's degree programs. Graduate students in master's degree

programs must satisfactorily complete 80 percent of normal academic progress; however, normal academic progress at the master's level is defined as completion of 36 credit hours per academic year or 12 hours per quarter. Financial aid policy requires a minimum of 30 credit hours per academic year or 10 per quarter. (See exception below.)

Exception: In an attempt to allow students some flexibility during the academic year, Student Financial Resources will allow for dropping hours on a quarterly basis and making them up over the course of the quarters remaining in the academic year. As long as the student does not drop below six hours of satisfactorily completed course work in any one quarter (five hours for master's degree candidates), s/he may continue to be considered for student financial aid. However, after two quarters of the academic year, the student must have completed a minimum of 20 (18 for master's degree candidates) credit hours to receive the spring quarter disbursement. At the close of spring quarter, students will be monitored against the 80 percent requirement as outlined above.

Monitoring Progress of Part-Time Students

Satisfactory academic progress of part-time students will be based upon the appropriate percentage requirement for each level of degree and will be monitored against hours attempted. For example, an undergraduate student enrolled in eight quarter hours will be required to complete six hours to remain eligible for financial assistance. (Fractions of a credit hour will be rounded to the nearest whole number.) Maximum time-frame limits are also monitored.

Monitoring First-Time Financial Aid Applicants

First-time financial aid applicants will have their previous academic record measured for satisfactory completion of 80 percent of the credit hours attempted at Western. Students averaging the appropriate completion rates will be eligible to be considered for financial aid.

Consequences of Unsatisfactory Progress

A. Probation

Students placed on academic probation are also on financial aid probation. Probationary students may continue to receive financial aid. Full-time students not completing 80 percent of normal academic progress on a quarterly basis may be continued on aid if at least six

(five for graduate students) credit hours were completed satisfactorily. These students are considered to be on financial aid probation although there will be no formal notification.

B. Suspension

Students not meeting the appropriate standard will be placed on financial aid suspension. These students are not eligible to receive financial assistance by or through Western Washington University. Students who have been awarded financial aid will have all financial assistance canceled immediately.

C. Repayment of Aid

Due to time constraints, it is not always possible to cancel financial aid checks (for students who have lost continued eligibility) before a student is able to secure the proceeds. It is the responsibility of each University student to be aware of the academic progress standard which must be maintained for continued eligibility for receipt of financial aid. It is each student's responsibility to determine whether s/he has met or not met the standard established. Any student not meeting the required standard, who subsequently secures the proceeds of financial assistance for which s/he is not eligible, will be immediately required to repay such funds to the financial aid accounts. Students owing a repayment are no longer eligible to receive financial assistance.

Reinstatement of Eligibility

A. All students have the right to appeal, by petition, their suspension from eligibility for financial assistance. Appeals of probation status will not be considered. Petition forms are available from the Department of Student Financial Resources, Old Main 240.

Essentially, the suspended student needs to explain on the petition form why s/he was not able to complete the minimum number of credit hours required to retain financial aid eligibility. It is the student's responsibility to provide any documentation that will verify or support the claims made in the petition. For example, if a student received incomplete grades due to medical problems, s/he should submit a letter from a physician or the Health Center to verify the medical condition. It would also be appropriate to submit a statement from the instructor(s) regarding arrangements which have been made to complete the course work. The completed petition should be returned to the Department of Student Financial Resources. An Appeals Committee will review each appeal and make recommendations to the director or his

designee regarding disposition of the appeal. Students will be notified of the decision relevant to a petition in writing.

Any student whose financial aid suspension has been removed, following a petition, may be considered for financial assistance. However, any financial aid awarded to that student upon reinstatement will be based solely upon the student's eligibility and funds available at that time.

B. Any undergraduate student whose petition for reinstatement is denied may return to good standing by satisfactorily completing 15 credit hours in one quarter (12 credit hours if a graduate student). The student would have demonstrated the ability to perform at the normal full-time course load, would have met the minimum requirement for the additional quarter of attendance (12 credit hours), and would have made some progress toward the deficit which initially caused termination of eligibility. Upon completion of the 15 credit hours (or 12 credit hours if a graduate student), the student could then submit an additional petition for reinstatement to good standing.

A half-time student whose petition for reinstatement is denied may return to good standing by maintaining normal progress as well as making up the deficit identified as the reason for suspension. For example, a student whose deficit is two credits can be reinstated by completing nine credits in one quarter. The student has then met the minimum required progress (80 percent of nine equals seven credits) and has two hours to credit to the deficit. Once the entire deficit has been made up, the student can then file a petition for reinstatement to good standing.

C. Summer Quarter Attendance

It is possible for a student to use the summer quarter to make up the deficit created during the academic year, as follows:

1. If financial aid is received for full-time attendance summer quarter, the student is required to complete an additional 12 credit hours (10 for master's degree candidates) to remain in good standing. Any credit hours completed beyond 12 may be credited to make up the deficit.

2. If no financial aid is received for attendance summer quarter, all credit hours satisfactorily completed may be credited toward making up the deficit.

Definitions

A. Hours Attempted

Total hours attempted are defined as:

Appendices

1. Registered credit hours as of the add/drop deadline of each quarter, or

2. If the student received financial aid, the total hours attempted are defined as the minimum hours required for financial aid disbursement, or actual hours enrolled, whichever is higher.

3. In no case will the student be penalized for enrolling in more than the normal full-time course load. The normal full-time course load is 12 credit hours for master's degree candidates and 15 credit hours for all others.

To be included in hours attempted and hours completed, a course must be recorded on the WWU official transcript or transferred to Western through the International Student Exchange Program (ISEP). A repeated course will be counted as an attempted course each time the course is taken, however, college credit for the course will be counted only once.

B. Academic Year

The academic year established at WWU for the purpose of monitoring satisfactory progress will be fall quarter through spring quarter of each year.

C. Satisfactory Completion of a Course

The grades A, B, C, D, S and P identify successful completion of a course. An incomplete grade (K) will not count as completed course work until a final grade is awarded and posted by the Registrar.

D. Undergraduate Student

An undergraduate student is one who has not yet received a baccalaureate degree, or is pursuing a second undergraduate major. Students pursuing a second undergraduate major are not extended additional eligibility for full completion of the second major.

E. Post-Baccalaureate Student in a Certificate Program

A post-baccalaureate student in a certificate program is one who has received a baccalaureate degree and has been admitted to a program leading to certification.

F. Master's Degree Candidate

A master's degree candidate is a student who has received a baccalaureate degree and is admitted to a master's degree program at Western.

POLICY OF NON-DISCRIMINATION

Western Washington University is committed to assuring that all programs and activities are readily accessible to all eligible persons without regard to their race, color, religion, national origin, sex, age, marital status, or the presence of any physical, sensory or mental handicap. The laws under which the University operates include:

— Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color or national origin in any program or activity receiving federal financial assistance.

— Title IX of the Educational Amendments of 1972, which prohibits discrimination based on sex in all federally assisted education programs.

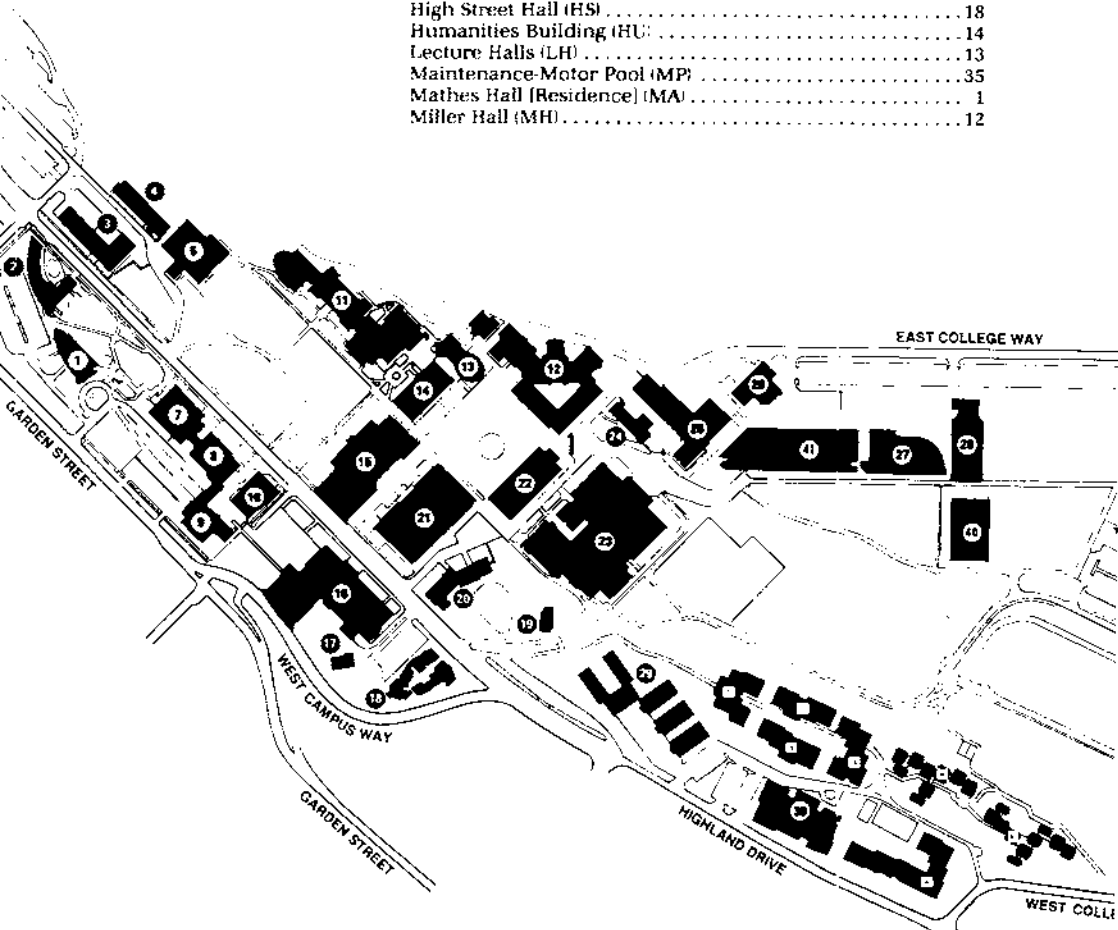
— Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against qualified persons having any physical, sensory or mental handicap by recipients of federal financial assistance.

— The Washington State Law Against Discrimination RCW 49.60, which prohibits discrimination because of race, creed, color, national origin, sex, marital status, age or the presence of any sensory, mental or physical handicap.

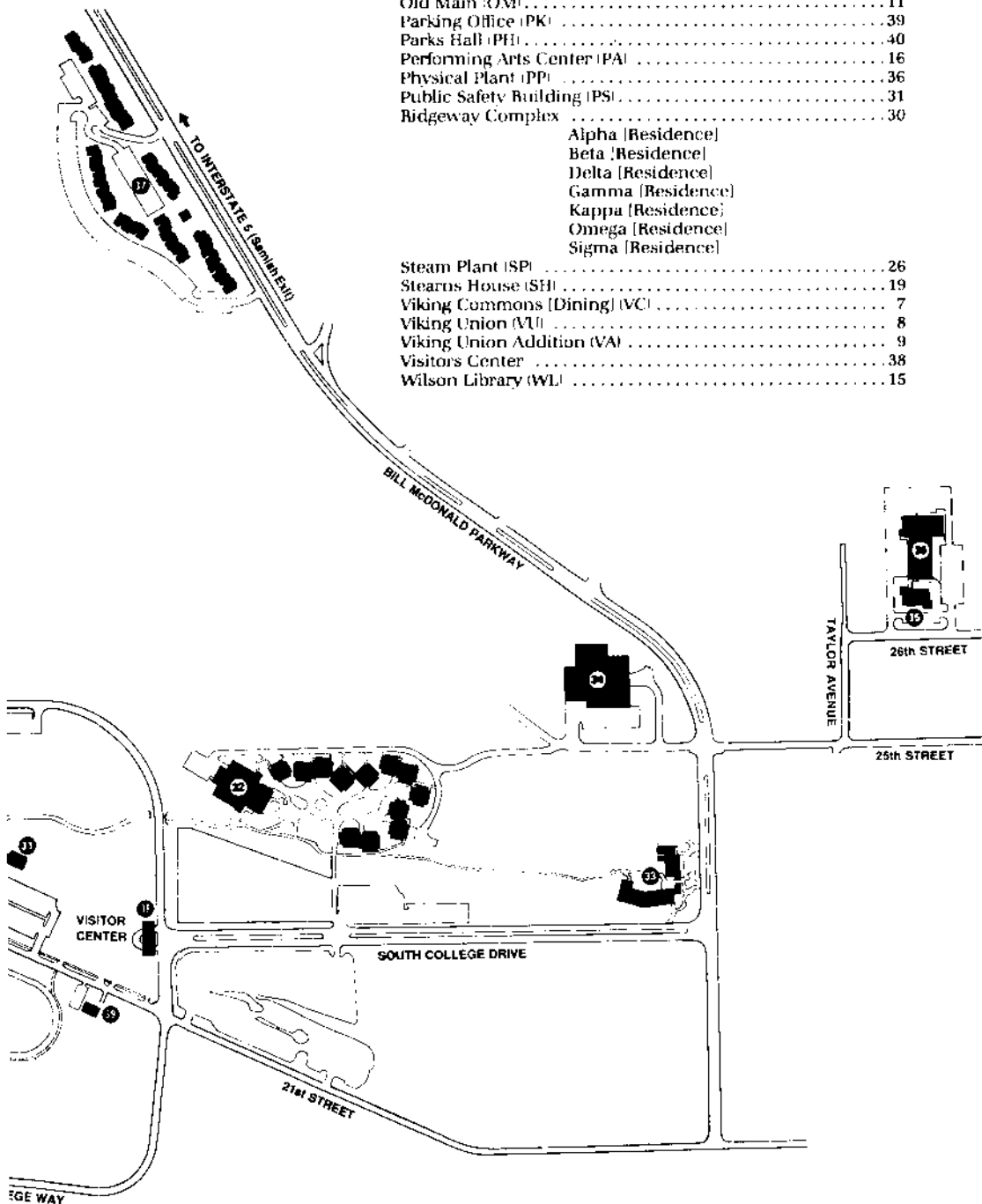
Persons having questions regarding University policies relating to these laws should contact Mary Robinson at the Affirmative Action Office, Old Main 335, (206) 676-3306.

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Arntzen Hall (AH)	27
Art Annex (AA)	24
Art/Technology (AT)	25
Birnam Wood [Residence] (BW)	37
Rond Hall (BH)	22
Bookstore (BK)	10
Buchanan Towers [Residence] (RT)	33
Canada House (CA)	17
Carver Gymnasium (CV)	23
College Hall (CH)	20
Commissary (CM)	34
Edens Hall (EH)	5
Edens Hall North [Residence] (EN)	4
Engineering Technology Building (ET)	41
Environmental Studies Center (ES)	28
Fairhaven College (FC)	32
Haggard Hall (HH)	21
Higginson Hall [Residence] (HG)	3
Highland Hall [Residence] (HL)	29
High Street Hall (HS)	18
Humanities Building (HU)	14
Lecture Halls (LH)	13
Maintenance-Motor Pool (MP)	35
Mathes Hall [Residence] (MA)	1
Miller Hall (MH)	12



Nash Hall (Residence) (NA)	2
Old Main (OM)	11
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Parks Hall (PH)	40
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